Articulation between VET and Higher Education qualifications: enhanced pathways and professional outcomes

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Abstract

Students undertaking qualifications within the Vocational Education and Training (VET) sector at times seek to have their award recognised and contributing to qualifications within Higher Education. Conversely, students within Higher Education may also seek VET qualifications part way through their studies for professional enhancement and acknowledgment of their knowledge and skills as an interim to completion of their qualification.

The recognition of equivalent learning content and assessment within these educational frameworks is a recurring concern for students, VET teachers and Higher Education lecturers. This situation becomes problematic where Registered Training Organisations (RTO's) and Universities have no shared understanding of the scaffolding and accompanying knowledge and skills within similar qualifications in VET and Higher Education that comprise a particular discipline area, or how the learning and assessment occurs.

As a recently formed regional dual sector provider of training and education, CQUniversity has embarked on a number of articulation arrangements embracing a shared knowledge between its VET and Higher Education qualifications, through seeking commonalities in knowledge, skill and closely aligned Australian Qualifications Framework (AQF) levels in various discipline areas. In the area of Occupational Health and Safety (OHS) within the School of Health, newly introduced recognition processes for completed VET qualifications provide articulated pathways into Higher Education studies.

Another initiative has involved reverse articulation, providing Higher Education students with VET qualifications part way through their degree, thereby extending opportunities for them to be more marketable and confident in using newly acquired VET qualifications to seek employment in their relevant field whilst continuing completion of their Higher Education studies.

These initiatives benefit students, training and educational institutions, regulators and industry through earlier entry into the job market and the utilisation of both vocational skills, academic foundation skills and graduate attributes. Articulation and reverse articulation coordinated through the same institution provides an assuredness of the scaffolding of knowledge and skill addressed as preparedness for embarking on a Higher Education degree. However, such a process should not preclude other Higher Education institutions and VET providers from developing similar partnerships and shared arrangements.
Keywords:
Articulation, Competency, Credit Transfer, Award, Dual Sector University, Graduate Attributes, Higher Education, Registered Training Organisations (RTO's), Reverse Articulation, Training Package, Vocational Education and Training (VET).

Introduction

Education frameworks for VET and Higher Education have been established through legislation within Australia to provide consistent, high quality services for users; that is its students. These systems should provide mobility by acting as ‘stepping-stones’ to continuing education, with learning pathways recognising studies previously completed and assisting the acceleration and broadening of the students’ potential, as well as contributing to career opportunities. However, some of these ideals are challenged by Australia’s post-secondary training and education systems which operate within a highly organised and regulated framework.

These education and training frameworks are guided by the AQF, which provides descriptors for learning outcomes within each AQF level. Further, two differing items of legislation govern the frameworks: the National Vocational Education and Training Regulator Act 2011 and the Tertiary Education Quality and Standards Agency Act 2011.

Both items of legislation contain legislative instruments that respectively prescribe standards for the functioning of RTO’s and standards for the provision of education by Higher Education providers. Although similarities exist within these governed frameworks, differences between the two are plentiful and require consideration by training and education providers when considering qualification pathways between VET and Higher Education.

One objective of the AQF is to support ‘the development and maintenance of pathways which provide access to qualifications and assist people to move easily and readily between different education and training sectors’ (AQF Council 2013b, p.8). Recognition processes need to exist for this movement to be possible.

Recognition processes operate in a number of ways.

1. Articulation, where students are able to progress from one qualification to another with the provision of some credit (AQF Council 2013, p. 92) and ‘from one education and training sector to another’ (Standards for VET Accredited Courses 2012, p. 4). Admission is provided into another program and credits granted towards studies in the other qualifications being sought, possibly through an established articulation agreement.

2. The process of Credit Transfer, requiring ‘identified equivalence in content and learning outcomes’ for components of a qualification (AQF Council 2013, p 94). Credit Transfer can operate as a subset of articulation, where the granting of credit transfer is captured in an articulation agreement.

3. The process of Recognition of Prior Learning, an assessment process that ‘assesses an individual’s non-formal and informal learning to determine the extent to which that individual has achieved the required learning outcomes, competency outcomes, or standards for entry to and/or partial or total completion of, a qualification’ (National Quality Council 2010). The process of RPL is outside the scope of this paper and hence will not be discussed.

Increasing interest in credit transfer and articulation between VET and Higher Education Institutions has generated a number of initiatives to improve these processes (VETASSESS 2001; AQF Council 2009; PhillipsKPA 2006). In 2005 the Ministerial Council on Education, Employment, Training and Youth
Affairs (MYCEETA) endorsed a series of initiatives to enhance outcomes in credit transfer and articulation from VET to Higher Education by providing policy, principles and operational guidelines. The AQF National Policy and Guidelines on Credit Arrangements (AQF Council 2009) replaced a number of initial draft documents, incorporating separate publications and providing some agreed terminology on credit and articulation arrangements and considerable practical guidance for adoption by VET and Higher Education institutions.

In 2005, the Department of Education, Science and Training (DEST), acting on behalf of MYCEETA, commissioned a study by PhillipsKPA (2006) on credit transfer and articulation. The research consisted of a literature review, case studies and the examination of national and international developments in this area. A number of identified factors driving the demand for credit transfer included government policy, economic efficiencies, Higher Education institutional goals and competition for students, and finally an increasing union of VET and Higher Education sectors.

Increased demand for credit transfer was also identified in a review of Australian Higher Education (Bradley, Noonan, Nugent & Scales 2008). Interestingly, both this review and the study conducted by PhillipsKPA (2006) identified structural and systems barriers contributing to low rates of credit transfer between VET and Higher Education Institutions. Common barriers included funding differences between the two sectors, differing regulatory frameworks impinging on curriculum, differing cultures and associated attitudes held by staff in each sector and burdensome administrative tasks compounded by disparate education frameworks. Organisational and sectoral barriers were again identified in later research (Walls & Pardy 2010), with discussion by these authors providing a more detailed analysis of the differing educational frameworks of VET and Higher Education.

Such barriers are continuing to contribute to a deterrence for institutions to actively systematise and promote credit transfer. Recent research indicates that the use of vocational pathways varies substantially between educational institutions (Watson, Hagel & Chesters 2013; Fredman 2012). Pathways may also be restricted by low participation levels in Diploma and Advanced Diploma qualifications (Langworthy, Johns & Humphries 2011, p. 42) leading to a relatively smaller pool of graduates eligible for or seeking articulation. A lack of effective articulation pathways is a recurring concern for students and educators in regards to duration, quality and quantity of learning (Walls & Pardy 2010). This lack of confidence and clarity can hinder articulation arrangements between sectors and institutions.

Coordination and links between these sectors resulting from the facilitative efforts of federal and state education authorities between 2005 and 2009 have not transpired as effectively as anticipated (Fredman 2012). However, sufficient structures and resources exist within guidelines, standards and research literature to address these issues and gain momentum, in turn to improve the processes of articulation and credit transfer between VET and Higher Education institutions. The addressing of cultures and attitudes between staff in each sector is a necessary foundation, followed by the examination of organisational processes. The structural practices underpinning articulation and reverse articulation will be discussed now, followed by a case study highlighting an approach taken by Central Queensland University.

Articulation as a two way process

Articulation is largely used to map training and education equivalencies from VET into Higher Education, providing pathways into Higher Education studies. However, articulation can also consider units undertaken in Higher Education that may have some equivalence with VET qualifications, and is referred to as reverse articulation (Stanwick & Frazer 2013). Therefore, recognition processes can provide pathways into Higher Education studies or in the case of reverse articulation, acknowledgement of current skills and knowledge covered in alternative training or education.
Articulation from VET to Higher Education

Articulation arrangements from VET to Higher Education typically occur between Diploma and Bachelor qualifications due to their proximity in the AQF level classifications (Walls & Pardy 2010). Articulation can benefit students by recognising equivalent learning content and assessment of units previously studied that do not need to be repeated in order to award a grade. Credit can be awarded where satisfactory coverage of the learning outcomes within Higher Education units has been achieved within the learning and assessment context of the VET units of competency. Credit is sometimes referred to as Advanced Standing (Australian Qualifications Framework Council 2013, p. 92; Stanwick & Frazer 2013, p. 7) and can be interpreted by some institutions as where credit is granted for the complete first year of a Bachelor degree (Symons, Kremer & Rendell 2015, p. 24).

The Higher Education Standards Framework (Threshold Standards) 2015 govern Higher Education degrees, and prescribe ‘credit’ and ‘recognition of prior learning’ together as follows.

1.2 Credit and Recognition of Prior Learning
1. Assessment of prior learning is undertaken for the purpose of granting credit for units of study within a course of study or toward the completion of a qualification, such assessment is conducted according to institutional policies, the result is recorded and students receive timely written advice of the outcome.
2. Credit through recognition of prior learning is granted only if:
   a. students granted such credit are not disadvantaged in achieving the expected learning outcomes for the course of study or qualification, and
   b. the integrity of the course of study and the qualification are maintained. (Higher Education Standards Framework 2015, p. 3)

The granting of credit by a Higher Education institution will depend on consideration for the discipline area (Fredman 2012, p.7; Fitzallen et al. 2015, p 1) and the depth of comparisons made between various qualifications. Higher Education institutions must have substantial grasp of the VET framework for articulation to work. A fundamental knowledge of the VET framework, credit arrangements within the qualification/s found in the training package (National Skills Standards Council 2013, p. 3) and the relevant competencies is paramount, but not always fully understood by Higher Education institutions (Beddie 2015). If the essential elements of the VET framework are not examined, students progressing into a Higher Education degree may be at a distinct disadvantage, where the learning outcomes have not been sufficiently addressed through coverage of course content, scaffolded learning and assessment.

Conversely, VET students may not have the true worth of their study recognised in terms of content and how the learning and assessment has occurred (Walls & Pardy 2010) by Higher Education institutions that are not familiar with the VET framework. Challenges arise where barriers exist between VET and Higher Education institutions in regards to their core objectives; for VET to provide training to expected industry standards and for Higher Education to meet its standards of disciplinary knowledge and skills (Keating 2008), and to address professional standards in disciplines such as in teaching or nursing. Inconsistencies between VET and Higher Education frameworks are many, not providing the seamless transition in articulation that may have been expected of them since the creation of the AQF in 1995 (Coles et al. 2014). However, institutions can work together to bridge these gaps.

Comparison of a VET competency framework found in the Standards for Training Packages (National Skills Standards Council 2013, p. 3) against the respective framework for the Higher Education unit in question can address these challenges. Such a comparison will include the VET based performance criteria and required knowledge and skills, the latter two being replaced in some more recent qualifications by
performance evidence and knowledge evidence. Using CQ University as an example, the Higher Education unit framework would draw on the ‘Unit Profile’ that is essentially a subject profile created for individual units within a qualification. Elements within the Unit Profile that are commensurate with the VET competency framework include the overview for the unit, learning outcomes, pre-requisites, prescribed assessment tasks, a sequencing of the content, and an alignment of graduate attributes to the learning outcomes and assessment tasks. See appendix 1 for an illustrative example of the VET competency framework as a comparison to the CQ University unit framework.

This comparison between the VET competency framework and a Unit Profile requires shared knowledge between educational staff. The comparison facilitates a solid appraisal of the educational outcomes, learning design and assessment, and contributes to satisfying or negating established equivalence in the coverage of content and assessment between Higher Education study and VET qualifications (Standards for Registered Training Organisations 2015, s. 3.5). The established equivalence is largely determined within the comparison between elements, performance criteria, required knowledge and skills/performance evidence and knowledge evidence and assessment conditions against the Higher Education unit. This offers a much more thorough assuredness and confidence in satisfying or rejecting equivalence, when compared to models incorporating assumed volume of learning time such as a Credit Matrix (Walls & Pardy 2010) or credit values (AQF Council 2009, p. 13). Credit is not universal across all programs; however, the offer of some unspecified credit with unmatched components may be an exception to these principles.

Another influential factor in deciding on the readiness for VET students to commence a Higher Education degree is the applicant’s capability to undertake Higher Education studies in the context of academic preparation and proficiency in literacy to facilitate academic progression. These skills are addressed in part within the AQF levels through a scaffolded approach, with qualifications accompanied by descriptors that ‘define the relative complexity and depth of achievement and the autonomy required of graduates to demonstrate that achievement’ (Australian Qualifications Framework Council 2013, p. 11).

Additionally, a number of VET qualifications express employability skills or the more recent foundation skills, developed from the Core Skills for Work Framework and the Australian Core Skills Framework (IBSA 2015b). Foundation skills prescribe core skills for successful performance in the workplace, and focus on building and adapting skills to new contexts and technologies (Innovation & Business Skills Australia 2012). In order to better prepare learners to develop the required Foundation Skills through training in VET qualifications, these are now embedded and prescribed in each competency within recently endorsed qualifications, and most importantly, are mapped to individual performance criteria. Foundation skills reflect an increased focus on contextualising skills for emerging industry needs, in order to develop not only competence, but greater capabilities in VET students.

Considerable discussion has emerged recently in relation to the limitations of ‘competence’ when compared to the concept of capability. Competence is ‘the ability to perform particular tasks and duties to the standard of performance expected in the workplace’ (Stanwick & Fraser 2013, p9), whereas Pryor (2015) provides a persuasive argument that capability involves the use of knowledge and skills in professional contexts that can vary, change or become more complex. Capability becomes a driver to adapt and manage change, and can be used as a vehicle to seek alternative solutions to problems not solved using established approaches (Borys, Else & Leggett 2009), in what may be an expansive occupational field that relies on the use of knowledge to resolve new or less predictable issues (Wheelahan & Moodie 2011). Graduates are increasingly required to analyse and apply knowledge to the contexts of ‘occupational clusters’ (Beddie 2015, p 23), thereby using critical thinking and analytical skills more associated with capability than competence. Such increased demands placed on VET graduates have close parallels with Higher Education frameworks.
While AQF levels can be readily compared for similar academic outcomes in consideration for eligible credit, it is challenging to compare foundation skills to similar structures and processes within Higher Education as each university will have its own frameworks prescribing a classification of key attributes and accompanying criteria. Using an illustrative example in Appendix 2, CQUniversity prescribes ‘Graduate Attributes’ that detail expected levels of academic performance and achievement across three levels that correspond to the first, second and third year of an undergraduate qualification (CQU 2014a). Graduate Attributes prescribe and integrate skills required of graduates to achieve success while studying as well as in their careers and ‘reflect progress in the quality and level of achievement throughout an undergraduate degree program’ (CQU 2009, p1), with their creation based on a framework designed from the Revised Bloom Taxonomy of Learning Domains (Anderson & Krawhwohl 2001).

The comparison between VET based foundation skills and the higher education based Graduate Attributes is useful for making an evaluation and judgement about credit transfer. The preparedness and relative capability for students completing particular units of competency that are considered equivalent to, for example a unit of study within a first year undergraduate program can be examined in a broader context in conjunction with the VET competency framework and university’s specific unit profile.

Therefore, when considering articulation and progression of studies from VET to Higher Education, training and education institutions would need to collaborate in examining the composition of specific training packages and competencies against the specific learning and assessment content and context within the Higher Education units of study. For VET graduates, English language, literacy and foundation skills should also be considered in conjunction with deliberation for the specific demands and expected entry points for Higher Education study in the desired field. Such arrangements can also foster a shared knowledge for trainers and educators working within their course disciplines in VET and Higher Education.

Reverse Articulation: Higher Education studies contributing to VET outcomes

The process of reverse articulation examines units undertaken in Higher Education that may have equivalence with units within VET qualifications. Reverse articulation acknowledges current skill sets that have a vocational focus, and has been growing in importance as a vehicle for higher education students to validate skills required in particular workplaces (Bradley, Noonan, Nugent & Scales 2008, p 212). At its simplest level, reverse articulation could compare and contrast unit titles within qualifications. However, this would be fraught with problems, as no consideration for the complexity of the educational standards, for example a comparison between performance criteria and learning outcomes, or between foundation skills and graduate attributes would lead to omissions and oversights.

Reverse articulation requires a thorough, detailed comparison and analysis of the equivalence of Higher Education study completed against the VET competency standards in order to satisfy the requirements within a VET suite of competencies or qualification. Reverse articulation can become problematic where a university has no shared understanding with the RTO regarding the composition and frameworks underpinning the qualifications being compared. Collaboration between these institutions is essential for accurate comparisons to be made.

Reverse articulation agreements are made collaboratively within institutions and between different institutions to recognise equivalent learning content and assessment between VET and Higher Education educational frameworks, thus formalising the process of recognition between qualifications. Articulation agreements can be supported by documentation reflecting a detailed mapping between the identified qualifications or competencies.
Cases may be raised against the viability of reverse articulation, where comparisons between VET qualifications and Higher Education units identify different learning outcomes, learning domains (i.e. vocational focus compared to academic focus) and student cohorts. If this is the case, then reverse articulation may not be a reasonable proposition, but these facts are unlikely to emerge without a reasonable attempt at detailed mapping and dialogue between participating institutions.

Conversely, if some equivalence is identified, but insufficient breadth exists across an abundant number of Higher Education units, it may be possible for the Higher Education institution to create additional content in the form of units of study to bridge this gap. This ability is confined to Higher Education institutions as RTO’s are required to follow the prescribed structures defined in a Training Package in order to issue a nationally accredited award. The scenario of creating additional units of study by a Higher Education institution is discussed as a case study in the remainder of this paper.

**Case Study: An illustration of articulation and reverse articulation**

CQUniversity Australia and the Central Queensland Institute of TAFE merged to form Queensland’s first dual-sector university on 1 July 2014. The university aims to provide a full range of post school education and training, with one goal being to increase articulation into undergraduate programs (CQU 2016b). After merger, an integrated ‘School’ model was implemented in order to align disciplines and staff within the same or similar discipline streams, supporting this goal. Some opportunities to align various programs though articulation were sought immediately after merger. Two particular schools (School of Education and the Arts and secondly Human, Health and Social Sciences) commenced working on articulation arrangements in their VET and Higher Education programs, within the programs of Early Childhood (to Education degrees) and Work Health and Safety (to OHS/Accident Forensics degrees). Others followed in Business, Human Resource Management, Digital Media, Accounting and Nursing.

Within the School of Human, Health and Social Sciences, the Transport and Safety Sciences team commenced work on examining the possibility of formalising an articulation and reverse articulation agreement between the Diploma of Work Health and Safety and the Bachelor of Occupational Health and Safety (BOHS) and Bachelor of Accident Forensics (BAF) degrees. The latter degree shares common core units with the BOHS in its first year.

**Articulation from Diploma to Bachelor degree**

Discussion and collaboration commenced between Discipline Leads and Heads of Programs responsible for coordinating the BOHS and BAF qualifications and VET trainers conducting the Diploma of Work Health and Safety. The objective was to establish a well-devised mapping that would ensure equivalence, or identify gaps between the qualifications. A comparison was made between the suite of competency units from the qualification BSB51315 Diploma of Work Health and Safety (IBSA 2015a) against a number of units within the first year of the BOHS and BAF. The VET qualifications competency framework consisting of elements, performance criteria, performance evidence, knowledge evidence, foundation skills and assessment tasks and conditions were compared to each relevant unit from the BOHS and BAF through a process of rigorous mapping, using respective Unit Profiles. Appendix 3 demonstrates a sample of the mapping undertaken.

The volume of learning within the two qualifications was examined, with regard for the required minimum time as specified in the Volume of Learning Indicators (ASQA 2015c). Consideration for the depth and breadth covered within the required time investment for all learning activities, teaching events and assessment tasks undertaken by students was made, along with industry based guidelines provided by the Safety Institute of Australia (SIA 2015), the peak professional organisation within Australia for OHS professionals and practitioners.
Another factor underpinning the content covered within tertiary programs in OHS across Australia is the *Core Body of Knowledge for Generalist OHS Professionals* (BOK), a thirty nine-volume publication providing current collective knowledge on the discipline of OHS (HaSPA 2012). The BOK provides OHS educational institutions with a basis for the development of OHS education programs and is used as a focus point for the accreditation of programs by the Australian OHS Education Accreditation Board, auspiced by the SIA. The use of the BOK within the content of the BOHS and BAF qualifications had limited the congruence with some key content of the Diploma of Work Health and Safety due to a lack of alignment.

Additionally, the collaborators found sufficient differences in terms of additional content and assessment within the Higher Education qualifications to warrant the lack of exact parallels between some of the nine VET units of competency and comparable Higher Education units offered. The content within the Higher Education qualifications were sufficiently different to result in partial credit transfer outcomes, where two core first year units from the BOHS/BAF and two electives could be granted. Consequently, the ‘Articulations Details Listing’ within CQU’s Articulations System (CQU 2015) displays the granting of these credits as contributing to the completion of four units, with another twenty requiring completion for the Bachelor qualifications.

*Reverse articulation from Bachelor degree to Diploma*

The potential for BOHS and BAF students to receive an interim award of a Diploma of Work Health and Safety was an exciting and challenging prospect discussed at the time immediately prior to merger between CQUniversity Australia and the Central Queensland Institute of TAFE. Higher Education students also expressed interest in obtaining a VET qualification part way through their studies that reflected studies undertaken within their Bachelor degree, and the ability to actively seek employment opportunities and career progression while completing the remainder of their BOHS/BAF.

The prospect of reverse articulation was also discussed during the collaboration and rigorous mapping of the qualifications. A number of gaps were identified when mapping a number of units from the BOHS and BAF to the Diploma of Work Health and Safety. Despite earlier discussions regarding the voluminous BOK, some content areas existed within the Diploma of Work Health and Safety that were not addressed in the same way within the BOHS and BAF. The university has a strong focus to provide students with an educational and marketable advantage. The benefits of reverse articulation, coupled with the potential for broadening the skill sets of students undertaking the BOHS or BAF led to the creation of a new Higher Education unit to bridge this gap.

The creation of the unit ‘OCHS11027 OHS Fundamentals’ included additional content on OHS management systems, OHS consultation, specific OHS risks and emergency management. A ‘Course Proposal’ was created with purposeful consideration for the content and competency framework in order to align and map assessment tasks, and included the following the rationale (CQU 2014b).

As a response to the opportunity to consolidate new learning pathways with CQUniversity’s move to become a comprehensive university, it was found that the addition of this course will enable students to gain recognition of the competencies required to attain the Diploma of WHS at the completion of the first year of the program. Although these learning outcomes are currently covered at a higher level in other parts of the program, this opportunity also enables scaffolding to those higher level learning outcomes.

Following CQUniversity requirements for the creation of new units, the Course Proposal was submitted to the school’s program committee, followed by the Higher Education Coursework Committee and finally the Academic Board. Approval to conduct the unit was granted in December 2014 and delivery
commenced in February, 2015. The application for reverse articulation was approved in May 2015 and supported by Articulation Agreement AP000053-008 (CQU 2015) which includes all mapping and supporting documents.

This experience illustrates that if a case for reverse articulation from Higher Education to VET exists, the Higher Education institution may create additional courses/units to bridge shortfalls and in doing so provide and promote employment ready graduates while also enhancing the scaffolding of learning outcomes. An additional and considerable benefit available to CQU as a dual sector university in undertaking this initiative was the collaboration between institutional staff that contributed to the improved quality of teaching and learning. Teaching and learning methodologies employed across the VET and Higher Education units were examined and improved with changes made to teaching strategies and student engagement. Such an opportunity, whereby the ‘teaching, learning and skill development associated with qualifications … is key to whether they help individuals in processes of upskilling, reskilling and progression’ as proposed in Brown (2011, p 40) is something that should be shared within and between institutions.

**The viability of articulation**

The benefits of articulation and reverse articulation are many, but can be met with resistance from trainers and educators in VET and Higher Education institutions. Barriers including industry benchmarks, volume of learning indicators, the rigidity of VET qualifications and the time investment required to undertake detailed mapping can all contribute to criticism of the process. The qualification frameworks that VET and Higher Education Institutions work within have been described as ‘not strong scaffolding for systems but rather weak agreements representing consensus among powerful lobbies or actors’ (Coles et al. 2012, p 40). However, institutions can work to strengthen their use of the frameworks for the ultimate benefits of their students.

As mentioned earlier in this paper, one objective of the AQF is to support pathways to assist student movement between different qualifications and sectors. This requires the full support of training and education institutions. The onus is on individual institutions to collaborate and lead the way in establishing articulation arrangements.

Articulation processes are likely to vary considerably in terms of their potential for comparable courses of study. Some disciplines may reveal divergent paths between VET and Higher Education while others may divulge a surprisingly similar alignment of content and outcomes. This can only be firmly established and evaluated through rigorous and comprehensive mapping of the training and education frameworks. The articulation process should not however encroach upon or decrease the academic integrity of qualifications nor the autonomous approaches of VET and Higher Education institutions in evaluating the credit to be allocated to various programs of study (AQF Council 2009).

Articulation becomes an attractive proposition when considered from a student perspective, in terms of entry into higher qualifications, or in the case of reverse articulation, the demonstrable skills to be of immediate use to current or potential employers. This implies, and students may unknowingly expect that a scaffolding of content and learning outcomes between VET and Higher Education Institutions is present. This scaffolding is not easily expressed or defined in Higher Education and VET training systems as they operate in different frameworks, with the AQF descriptors only providing a generic ‘taxonomy of learning outcomes (AQF 2011, p11).

However, institutions can undertake work to help bridge these gaps, evidenced by recent projects trialling cross-sector work on improved pathways (Fitzallen et al. 2015). Additionally, some scaffolding is supported in particular industry sectors. For example, the recent release of the *OHS Professional*
Capability Framework (Pryor, Hale & Hudson 2015), generated as an industry benchmark by an international consortium of OHS professionals, defines the roles, functions and minimum competencies for OHS practitioners and professionals. The OHS Professional Capability Framework provides role profiles and the detailing of professional parameters, knowledge and skills in an overarching structure that promotes capability, a higher order need that industry requires of OHS practitioners and professionals. The ‘Core Position Profiles’ contain capability statements that can help to provide congruence with the foundations for VET and Higher Education qualifications, in a framework that can be used by students, practicing professionals and employers. Other similar frameworks should exist in order to support articulation across many other disciplines.

Conclusion

Many constraints and barriers to articulation between VET and Higher Education qualifications are highlighted in the first part of this paper. Regulatory, institutional, administrative and cultural issues all contribute to stifling momentum within and between VET and Higher Education institutions. However, sufficient structures exist within the education frameworks to make a sound analysis and evaluation of the viability of articulation for particular qualifications and disciplines. Collaboration and shared knowledge are required to facilitate the analysis, which in turn can achieve enhanced pathways and professional outcomes for students studying within or approaching these institutions.

The recognition of equivalent learning content and assessment within the educational frameworks of VET and Higher Education, both for articulation and reverse articulation is a favourable proposition for many disciplines. Students benefit from the endorsement of prior knowledge and skills, and the granting of credit accelerates opportunities for employability, promotes the valuing of current studies and the seeking of strategic opportunities to continue their learning, growth and development.

Articulation arrangements can foster a shared knowledge between VET and Higher Education educators when supported by collaboration, dialogue and rigorous mapping, leading to assurances in learning and assessment methodologies. These arrangements are demonstrated in the explicit detailing of learning pathways and opportunities provided to students, through the provision of multiple entry, interim and exit points nested in programs at various levels.

Articulation arrangements consequently translate into a broader impact for more marketable graduates, and for employers in acknowledging scaffolded qualifications that contribute to increasing usable skill sets from their employees, in turn adding value to their organisation as students proceed through the completion of their education. The promulgation of such transportable arrangements across industry can only benefit the congruence between industry and educational institutions.
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Legislation


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Appendix 1

Comparison of Vocational Education and Training (VET) Unit of Competency to University ‘Unit’

<table>
<thead>
<tr>
<th>VET Unit of Competency</th>
<th>Additional notes</th>
<th>Higher Education ‘course’</th>
<th>Additional notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Code</td>
<td></td>
<td>Unit Code</td>
<td></td>
</tr>
<tr>
<td>Unit Title</td>
<td>Describes the unit outcome</td>
<td>Unit Title</td>
<td></td>
</tr>
<tr>
<td>Application</td>
<td>Describes application in industry and contexts. Formerly titled ‘Unit Descriptor’</td>
<td>Overview</td>
<td>Includes subcategories; Career Level, Course Level, Credit Points, Student Contribution Band, Fraction of Full-Time Student Load</td>
</tr>
<tr>
<td>Prerequisite Unit (Optional field)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competency Field (Optional field) &amp; Unit Sector (Optional field)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elements</td>
<td>Elements each have a number of allocated performance criteria</td>
<td>Learning Outcomes</td>
<td>Learning Outcomes</td>
</tr>
<tr>
<td>Performance Criteria</td>
<td>Describe required performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foundation Skills</td>
<td>Language, literacy, numeracy and employment skills. Contextualised to the competency and industry.</td>
<td>Graduate Attributes</td>
<td>Note: These are also mapped to the Learning Outcomes</td>
</tr>
<tr>
<td>Range of Conditions (Optional field)</td>
<td>For example, different work environments or conditions that may impact on performance.</td>
<td>Alignment of Assessment Tasks to Graduate Attributes</td>
<td></td>
</tr>
<tr>
<td>Unit mapping</td>
<td>Specific code &amp; title of any equivalent competencies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Links</td>
<td>Link to companion volume</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assessment Requirements

<table>
<thead>
<tr>
<th>Title</th>
<th>Title of competency used here</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Evidence</td>
<td>Specifies product &amp; process evidence (linked to performance criteria)</td>
<td></td>
</tr>
<tr>
<td>Knowledge Evidence</td>
<td>Specifies what must be known to perform work task (linked to performance criteria)</td>
<td>Assessment Tasks</td>
</tr>
<tr>
<td>Assessment Conditions</td>
<td>Specific conditions for assessment</td>
<td>Assessment Tasks to Learning Outcomes</td>
</tr>
<tr>
<td>Assessment Tasks: Note this is developed by the RTO. Structure will vary within each RTO and cannot be specified here.</td>
<td>Alignment of Assessment Tasks to Learning Outcomes</td>
<td></td>
</tr>
<tr>
<td>Volume of Learning</td>
<td>Class Timetable / Schedule</td>
<td>Alignment of Graduate Attributes to Learning Outcomes</td>
</tr>
<tr>
<td>VET provider policies</td>
<td>CQ University Policies</td>
<td>Alignment of Assessment Tasks to Graduate Attributes</td>
</tr>
<tr>
<td>Student Feedback</td>
<td>Previous Student Feedback</td>
<td></td>
</tr>
</tbody>
</table>

Appendix 2

A comparison of VET based Foundation Skills and Higher Education based Graduate Attributes

<table>
<thead>
<tr>
<th>Skill</th>
<th>Performance Criteria</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>1.1, 1.2, 1.3</td>
<td>Organizes, interprets, evaluates, and critiques ideas and information in relation to WHS risk management</td>
</tr>
<tr>
<td>Writing</td>
<td>3.1, 3.2, 3.3, 3.4</td>
<td>Uses industry specific terminology and appropriate formats to draft and develop risk control plans and procedures</td>
</tr>
<tr>
<td>Navigate the world of work</td>
<td>2.1, 2.2, 3.4</td>
<td>Respects rights of all stakeholders in relation to WHS risk management</td>
</tr>
<tr>
<td>Interact with others</td>
<td>3.1, 3.2, 3.3</td>
<td>Colleagues with others to achieve joint outcomes, playing an active role in facilitating effective group interactions and taking a leadership role where expected</td>
</tr>
<tr>
<td>Get the work done</td>
<td>1.2, 1.3, 3.1, 3.2, 3.3</td>
<td>Uses logical processing, planning, and communication to anticipate outcomes and avoid risk, and to identify and evaluate strategies and responses for risk management planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sequence and schedule complex activities, monitors implementation, and manages relevant communication in relation to risk management planning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uses systematic, analytical processes in complex, non-linear situations, setting goals, gathering relevant information, identifying and evaluating options against agreed criteria</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Uses common digital systems and tools to locate and store information</td>
</tr>
</tbody>
</table>

Source:
Figure 1a: Innovation and Business Skills Australia 2015(a)
Figure 1b: Central Queensland University, 2016, Unit Profile: OCHS11025 - Health and Safety Risk Management, Term 1, 2016, Central Queensland University, Rockhampton.
Appendix 3

Example of mapping between unit BSBWHS504 Manage WHS hazards and risks and units OCHS11027 OHS Fundamentals and OCHS11025 - Health and Safety Risk Management.

<table>
<thead>
<tr>
<th>BSBWHS504 Manage WHS hazards and risks</th>
<th>1. Access information and data on WHS hazards and risks</th>
<th>OCHS11027 OHS Fundamentals Portfolio 1, Part B Portfolio 2, Part A OCHS11025 - Health and Safety Risk Management Assessment 2, Part 1 &amp; 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Identify sources of information and data on WHS hazards and risks</td>
<td>OCHS11027 OHS Fundamentals Portfolio 1, Part B Portfolio 2, Part A OCHS11025 - Health and Safety Risk Management Assessment 2, Part 1 &amp; 2</td>
<td></td>
</tr>
<tr>
<td>1.2 Obtain information and data to determine the nature and scope of hazards and risks, the range of harms they may cause and how these harms happen</td>
<td>OCHS11027 OHS Fundamentals Portfolio 1, Part B Portfolio 2, Part A OCHS11025 - Health and Safety Risk Management Assessment 2, Part 1 &amp; 2</td>
<td></td>
</tr>
<tr>
<td>1.3 Obtain information and data to determine techniques, tools and processes to assess risk associated with identified hazards and risk control techniques</td>
<td>OCHS11027 OHS Fundamentals Portfolio 2, Part A OCHS11025 - Health and Safety Risk Management Assessment 2, Part 1 &amp; 2</td>
<td></td>
</tr>
<tr>
<td>2. Prepare to manage WHS hazards and risks</td>
<td>2.1 Apply knowledge of the organisation’s WHSMS and WHSIS to identify requirements for managing WHS hazards and risk</td>
<td>OCHS11027 OHS Fundamentals Portfolio 1, Part B Portfolio 2, Part A OCHS11025 - Health and Safety Risk Management Assessment 2, Part 1 &amp; 2</td>
</tr>
<tr>
<td>2.2 Apply knowledge of WHS legislation to identify duty holders and legislative requirements for managing WHS hazards and risks</td>
<td>OCHS11027 OHS Fundamentals Portfolio 2, Part A OCHS11025 - Health and Safety Risk Management Assessment 2, Portfolio 2</td>
<td></td>
</tr>
<tr>
<td>3. Develop and implement WHS hazard and risk management processes</td>
<td>3.1 Apply techniques, tools and processes to assess risks associated with hazards and risk control plans</td>
<td>OCHS11027 OHS Fundamentals Assignment 2 Portfolio 2, Part A</td>
</tr>
</tbody>
</table>