

# VET Teachers' Knowledge and Expertise

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## **Abstract**

*In an environment characterised by increasing complexity where teachers need to make sophisticated pedagogical decisions the minimum requirement for teaching in Australian Vocational Education and Training (VET) is a Certificate IV in Training and Assessment (CIV TAA). This paper asks: Does the CIV TAA provide opportunities for participants to develop the knowledge bases required of professional teachers? Competency outcomes of the CIV TAA and nationally endorsed learning resources are compared with twelve knowledge bases proposed by Turner-Bisset (2001) to conclude that the cognitive levels of knowledge development are consistent with description and application. There is an absence of critique, and, strong theoretical or conceptual foundations. VET teachers bring some knowledge bases to their practice and are provided with varying levels of opportunity to develop other knowledge bases in completing the CIV TAA. It is concluded that the potential for the development of pedagogical content knowledge that differentiates the novice from the expert is doubtful.*

## **Introduction**

Notions of the 'good teacher' are common in the field of education research but, by and large, they focus on teachers who work in school education. The idea of the 'good teacher' in vocational education and training is less evident – both in everyday popular experience and in research. (Palmieri 2004, p.1)

In Australia, there is no requirement for registration to teach in the Vocational Education and Training (VET) system. The minimum requirement for teaching and assessment is a Certificate IV in Training and Assessment (CIV TAA). This compares with the primary and secondary schools sectors where specialised university qualifications are required.

The notion of the 'good teacher' is common in the school sector and there is a substantial body of literature to demonstrate this (Palmieri 2004). Contemporary discussion about the requirements to teach in the VET sector has largely been limited to a critique of the Certificate IV in Assessment and Workplace Training (CIV AWT) which preceded the CIV TAA. Whilst there has been significant criticism of the capacity of these qualifications to prepare people to teach in VET and specific shortcomings have been identified there is an absence of critiques that are based on understandings of teachers' knowledge and expertise. The purpose of this paper is to rectify this gap.

Here, the focus is on teachers and teaching rather than instruction and training. That is, the knowledge and expertise of individuals whose primary responsibility is in the teaching and assessment of vocational studies. The term teacher rather than instructor or trainer 'better captures the complex array of practices which make up educational work in vocational contexts' (Billett, McKavanagh, Beven, Angus, Seddon, Gough, Hayes & Robertson 1999, p.121).

To inform understandings of what might constitute legitimate knowledge to underpin VET teaching, a brief description of VET history and policy is provided. The paper then draws from literature on the general topic of teacher knowledge which is concerned with primary and secondary teachers before moving to an exploration of teachers' knowledge in the VET sector.

## The VET Context

New vocationalism and new economics have resulted in the situation where the VET professional 'is confronted with a radical reconstruction, not only in terms of the new work VET professionals are expected to perform but also in terms of the new ethos and professional modes of conduct that have emerged out of diversifying sites of professional practice' (Chappell 2000, p.68).

The purpose of this paper is not to provide a detailed historical critique of the VET system. However, some history is essential in understanding the current context in which teaching occurs and provides a basis upon which to consider the knowledge bases of teachers that is legitimised by policy.

Originating in the technical secondary school system, Technical and Further Education (TAFE) in the 1960s and 1970s was a 'complex and uneven mix of traditional vocational education pragmatism and instrumentalism, professionalism through collegiality, teacher-shaped curricula and democratic participation in institutional decision-making, and broad process-based and student-centred life-long learning' (Rushbrook 1997, p.100). The fledgling TAFE system retained much of the culture associated with education departments but with a strong expectation that teachers would bring to TAFE significant relevant vocational industry experience.

From the mid 1980s the national economy became a key factor in directing TAFE's future and a series of Commonwealth Government policy statements changed the trajectory of vocational education and training in Australia. The Commonwealth Government's desire to establish a national system of vocational education and training resulted in an agreement between the Federal, State and Territory Governments to establish the Australian National Training Authority (ANTA), which began formal operations in 1994. This was the first time that a national approach to vocational education and training had occurred in Australia.

A centrepiece of these reforms was the emergence of competency based training (CBT). However, curriculum and program delivery policy were not the only changes to occur from the late 1980s. There were also significant changes in the balance of public and private provision of vocational education and training which aimed to improve institutional efficiency through increased diversity and competition. There was an almost continuous reduction in real-term funding levels. The system of vocational education in Australia became known as the Vocational Education and Training (VET) sector, as opposed to TAFE, in recognition of expanded competition and activity of private providers.

These reforms influenced not only vocational teachers' teaching practices but their role more generally. The changes challenged the 'traditions, strategies, norms, assumptions and pedagogies historically constituting teacher-practitioner culture' (Rushbrook 1997, p.100). In particular they represented a challenge to the liberal education discourses which had constructed a particular institutional identity (Chappell 1998). Generally, CBT required teachers and trainers to become more multi-skilled in an environment characterised by self-paced approaches to teaching and learning resulting in a change from 'up-front teachers' to 'facilitators of learning' (Smith, Lowrie, Hill, Bush & Lobegeier, 1997, p.xi). Teachers' work roles broadened and intensified to include greater levels of administration, curriculum and learning materials development, and, teaching and assessing in a broader range of locations. These changes have been characterised as standardisation and diversification (Billett et al. 1999).

More recent commentaries suggest that the spectrum of teachers' work in VET continues to increase (Corben & Thomson 2001; Chappell, Hawke, Rhodes & Soloman 2003; Palmieri 2004) and there appears to be a continued need for VET teachers to accommodate to change. The *Enhancing the capability of VET professionals project. Final report* describes a workforce where 'employees are expected to have a broader range of content and skills; and where the nature of learning has changed to a focus on work-based, informal learning in groups and teams' (Dickie, Eccles, Fitzgerald & McDonald 2004, p.3). A range of skills and capability requirements for the near future are identified as the continuous upgrade of skills and knowledge, self-management of careers and development, accommodation of identity shifts, the development of pedagogical expertise, learner focus and industry currency knowledge and skills (Dickie et al. 2004).

From 1996, the CBT model which consisted of provider-developed curriculum based on industry endorsed national competency standards was replaced with a system of Training Packages. This reform saw the removal of curriculum as officially funded and recognised documents, and also closer links of national competency standards with assessment criteria. The endorsed parts of these national documents are national competency standards, which continue to be developed with industry input, assessment guidelines and a description of the qualifications possible. The development of Training Packages is funded by the Commonwealth government. Whilst facilitating the assessment of competencies in a workplace environment, the Training Package arrangements are more problematic for vocational teachers involved in teaching and assessment in educational institutions, which are dominated by the TAFE colleges.

Whereas industries and enterprises might be primarily concerned with ensuring that employees are able to demonstrate competencies to ensure production, safety, adaptability and efficiency, the outcomes expected of people attending educational institutions has traditionally been broader. There is an expectation of not simply developing the skills required for current employment but also skills, knowledge and attitudes that provide opportunities for personal and career development over a lifetime. In 2004 between 20% and 25% of vocational students, dependent on age of respondents, were studying for personal development (NCVER 2005). In 2002, more specific data shows that 35% of respondents indicated that they had enrolled in TAFE for reasons other than those related to getting a job, or their existing job. These reasons related to starting a new business, accessing a different career or another course of study, or for interest or personal reasons (NCVER 2004).

Some commentators have argued that CBT has resulted in vocational teachers being de-professionalised (Donaghy 2000; Down 2000), under-valued (Thomas 2001; Palmieri 2004) and marginalised from decision-making (Robinson 1998). Some have argued that the links between Training Packages and VET pedagogy are tenuous (Chappell et al. 2003). That, Training Package arrangements 'were not designed to replace curricula [or] to support pedagogical decision-making' (Chappell et al. 2003, p.14). As a consequence, some argue that Training Packages provide VET teachers with the opportunity to apply their professional expertise in pedagogical skills and knowledge (Down 2000; Paton 2000; Scollay 2000). However, if this professionalisation is to be achieved

It requires practitioners who have a sophisticated appreciation of the pedagogical choices that are not only available to them but which are also consistent with the context, clients and a pedagogical orientation that they are able to deploy to meet the increasingly diverse requirements of clients. (Chappell et al. 2003, p.13)

Whatever the impact of these reforms on the professional status of VET teachers it is reasonable to conclude that there is an expectation that VET teachers will use professional judgement in the implementation of Training Packages. Further, it is clear that the professional knowledge bases upon which these decisions are made in an increasingly complicated VET marketplace are not simple. When it is observed that the VET system has 'underinvested in human capital, spending less than half the level of other high-performing industries and organisations' (Dickie et al. 2004, p.6) one is prompted to ask how such knowledge and skills are to be developed. The next section of this paper describes policy on VET teacher education since the 1970s. This is followed by an examination of the general literature on teachers' knowledge and the nature of VET teachers' professional knowledge.

## **A Survey Of Policy On VET Teacher Education**

With its origins in the technical secondary school sector and consistent with the tradition of secondary school teacher training requirements, TAFE teachers in the 1970s and 1980s were required to complete either a suitable university-based Diploma or Graduate Diploma in Education as part of their employment conditions. The participation of individual teachers in these programs was often funded by State and Territory governments, until the mid 1980s. In recognition of the importance of industry experience teachers were also expected, if not required, to have a minimum of five years industrial experience.

As TAFE developed a sectoral identity separate from the school sector, and what had been traditionally a behaviourist curriculum evolved into a CBT approach, the possibility of tertiary teaching qualifications was augmented by a custom designed 'Workplace Trainer Category 2' Award which was nationally endorsed in 1994. This Australian National Training Authority credential was aimed primarily at people who carried out assessment in the workplace rather than institutional based teachers (Smith & Keating 2003). Whilst university based programs for people wishing to work in TAFE have persisted, and there are differences among States and Territories in their requirements, there was no national requirement for university based qualifications. Smith and Keating (2003) attribute this change to budgetary constraints and the increased autonomy of TAFE institutes so that decisions about teacher training became decentralised.

In 1998, the Workplace Trainer Category 2 competencies were replaced by the Training Package for Assessment and Workplace Training, whose Certificate IV level qualification was adopted as the minimum requirement for TAFE teachers (Smith & Keating 2003). In implementation, the Certificate IV in Assessment and Workplace Training (CIV AWT) became known for the variable quality of delivery and assessment practices amongst training providers. In some

cases people could achieve the CIV AWT over a weekend, in other cases the program of learning and assessment was much more thorough. Under national recognition arrangements, the CIV AWT was ANTA endorsed and carried the same weight irrespective of the quality of the training and assessment through which it was attained. Completion of the CIV AWT required the demonstration of eight competencies: Train small groups; Plan and promote a training program; Plan sessions of training; Deliver training sessions; Review training, Plan assessment; Conduct assessment; and, Review assessment.

The CIV AWT has been subject to general criticism in respect to the capacity of a CBT teacher training program to develop the range of skills required of a VET teacher (Donaghy, 2000). Importantly, for teachers in an educational institutional environment, the Training Package for Assessment and Workplace Training was specifically designed for trainers and assessors in a workplace environment rather than those working in educational and training in TAFE colleges. Whilst it is possible to argue that Training Packages allow for customisation to meet the needs of particular groups, this potential is limited in a competitive marketplace where the minimum requirement for training and assessment is recognised irrespective of quality.

On balance, it is reasonable to suggest that academic commentary of the CIV AWT has been of a negative tone. However, other research has sometimes been less critical. For example, a collection of 16 case studies found that the CIV AWT promoted a learner-centred understanding of teaching and learning based on adult learning principles. Attention to learning styles and the diversity of learners led to participants' awareness of learners' needs and characteristics. Weaknesses of the program were a lack of critique and the need to emphasise the importance of learners building on and making sense of their experiences (Simons, Harris & Smith 2006).

Whilst it would be unreasonable to suggest that the CIV AWT was a theory free zone it is true to say that the assessment was largely instrumental in nature and participants were not required to make explicit their decision-making processes or underpinning knowledge. In response to criticisms, the CIV AWT was replaced by the Training and Assessment Training Package and the minimum qualification became a Certificate IV in Training and Assessment (CIV TAA) in 2007.

The Training and Assessment Training Package is designed, like all Training Packages, as a cascading structure. Each unit of competence is divided into a number of elements of competence which are further divided into Performance Criteria. If the unit of competence is described as the function one performs as part of a job, then the elements of competence can be described as the tasks which go to make up a function. The Performance Criteria form the standards of performance required in the workplace. In the case of applied skills, these

are often reminiscent of a checklist of events. Version 2.1 of the Training and Assessment Training Package includes 39 units of competency. The units are grouped into eight fields: Learning Environment; Learning Design; Delivery and Facilitation; Assessment; Training Advisory Services; Coordination, Management and Quality of Training and/or Assessment Services; Language Literacy and Numeracy Practice; and, Imported units (National Training Information Service, 2008a).

The Certificate of IV in Training and Assessment requires the completion of 12 core competencies and two elective competencies. These are divided into four streams: the Learning Environment; Learning Design; Delivery and Facilitation; and, Assessment (see Table 1). This is an increase by four units of competency compared with the preceding CIV AWT.

Stream	Unit of Competence
Learning Environment	<ul style="list-style-type: none"> <li>* Work effectively in Vocational Education and Training</li> <li>* Foster and promote an inclusive learning culture</li> <li>* Ensure a healthy and safe learning environment</li> </ul>
Learning Design	<ul style="list-style-type: none"> <li>* Use Training Packages to meet client needs</li> <li>* Design and develop learning programs</li> </ul>
Delivery and Facilitation	<ul style="list-style-type: none"> <li>* Plan and organise group-based delivery</li> <li>* Facilitate work-based learning</li> <li>* Facilitate individual learning</li> </ul>
Assessment	<ul style="list-style-type: none"> <li>* Plan and organise assessment</li> <li>* Assess competence</li> <li>* Develop assessment tools</li> <li>* Participate in assessment validation</li> </ul>

Table 1: Summary of Certificate IV in Training and Assessment: Streams and Competencies (National Training Information Service, 2008b)

The *Certificate IV in Training and Assessment Flexible Learning Toolbox* (hereafter referred to as the Toolbox) and associated trainer’s guide have been developed to support delivery of the Certificate IV in Training and Assessment. This online learning resource is endorsed by the National Training Quality Council (NTQC) which is also charged with endorsing Training Packages that are developed by industry. Utilising scenarios based on a fictional organisation which offers training and assessment services the Toolbox is designed to support a whole training course, small sections, or single units of competence. It can be used to assist in face-to-face teaching or for remote or online learning (Australian Flexible Learning Framework n.d.).

Trainers using the Toolbox are advised that they are required to supplement the content with practical tasks and workplace contexts. Learners take on the role of the trainer/assessor for a fictitious organisation, carry out specific tasks, and complete a structured project for each unit. This may be achieved through a range of activities including actual tasks, demonstrations and/or scenarios (Australian Flexible Learning Framework n.d.). Projects embedded in the Toolbox are described as ‘substantial and challenging and when successfully completed will provide evidence of learner’s progress towards competency level in relation to many of the required outcomes for the unit’. This statement is qualified by stating that the Toolbox is ‘**not** (authors’ emphasis) designed as an assessment tool, but may be used as support material for your assessment process’ and that it is the training providers responsibility to ensure that assessment is compliant with the required assessment standards (Australian Flexible Learning Framework n.d., p.9). Despite this qualification, given the endorsed nature of the Toolbox, the content and activities embedded is a reasonable guide to what is required of participants in the CIV AWT.

## A General Survey Of Teachers’ Knowledge

It is reasonable to suggest that no theorist has been more influential in understanding teachers’ knowledge than Lee Shulman who described seven categories of teachers’ knowledge (at a minimum) as: content knowledge; general pedagogical knowledge; curriculum knowledge; pedagogical content knowledge; knowledge of learners; knowledge of educational contexts; and, knowledge of educational ends (Shulman 1987).

Pedagogical content knowledge (PCK) is described as an amalgam of content knowledge and general pedagogical knowledge. Largely developed on-the-job when teachers work in different contexts over a period of time (Gudmundsdottir 1995) PCK differentiates the novice and expert teacher and is ‘the category that most likely distinguishes the understanding of the content specialist from that of the pedagogue’ (Shulman 1987, p.8).

Building on Shulman (1987), Turner-Bisset (2001) proposes 12 knowledge bases and explains how these interact in ‘the professional work of the teacher’ (Turner-Bisset 2001, p.13). In this case, PCK is a unifying concept, an ‘overarching knowledge comprising all of the knowledge bases’ (Turner-Bisset 1999, p.47). When Turner-Bisset’s and Shulman’s categories are compared we see that Shulman’s knowledge of learners is differentiated into cognitive, and, empirical or social aspects. Turner-Bisset (2001) adds three categories of knowledge not identified by Shulman. These are knowledge/models of teaching also described as beliefs about teaching; knowledge of self; and, beliefs about subject knowledge. A brief description of each is found in Table 2.

Subject knowledge: Substantive	Content knowledge associated with facts, concepts, models and frameworks
Subject knowledge: Syntactic	The ways through which propositional knowledge is generated and established.
Beliefs about subject	Relates to the way in which the teacher understands the history and purpose of the subject or discipline.
Curriculum knowledge	A broad concept that incorporates knowledge of programs and resources developed by government, commercial interests and others.
General pedagogical knowledge	Generic and largely procedural knowledge about teaching that is gained from and is likely to develop with practice.
Knowledge/models of teaching	Described as beliefs about what constitutes good teaching practice which is derived from one's own experience as a learner.
Knowledge of learners: Empirical	Relates to criteria such as age, interests, social nature and behavioural patterns.
Knowledge of learners: Cognitive	Relates to knowledge of learning theories which inform practice, and contexts specific knowledge of how a particular group of learners respond and behave.
Knowledge of self	Combines the personal and the professional. Is important in shaping the way that teachers' perceive their identity and critical to reflection on personal teaching practice.
Knowledge of educational contexts	Knowledge of the settings in which teaching occurs. In the VET system these include fee for service and government funded programs, classroom based, workplace based, face to face, online, and by flexible approaches.
Knowledge of educational ends, purposes and values	Based on the premise that teaching is a purposeful activity expert teachers are able to make educational ends, purposes and values explicit. In the VET system, officially legitimised statements of ends, purpose and values are embedded in policy and associated documents. For example, competency based training that is manifest in the nationally endorsed Training Packages, quality assurance processes detailed in the Australian Quality Training Framework (AQFT), recognised qualifications according to the Australian Qualifications Framework (AQF).
Pedagogical content knowledge (PCK)	Shulman (1987) describes PCK as an amalgam of pedagogical knowledge and content knowledge. Turner-Bisset (2001) describes PCK as that knowledge which embeds all other knowledge bases. PCK cannot develop in the absence of any other knowledge base. There is a common view that PCK is the knowledge base which differentiates the novice from the expert teacher.

Table 2: Turner-Bisset's (2001, pp.13-19) 12 knowledge bases

Given that the school and VET sectors are characterised by differing institutional identities it needs to be asked if the knowledge bases of teachers in each sector should be the same (Chappell 1995). As shown earlier, the vocational system is characterised by competency based training, diversity in learner characteristics, and diversity in learner location. Further, vocational teachers come to the occupation of teaching following experience in another vocational discipline (Chappell 1995) and have a dual identity (Palmieri 2004). Despite

these differences, I propose that it is unwise to ignore research that relates to school teachers' knowledge bases when considering the knowledge bases of VET teachers. Ultimately, across both sectors teachers are drawn to teaching by 'the passion they share for learning and for helping others to learn and reach their potential. Beliefs in the transformative nature of education and about the privilege of 'touching peoples lives' are common amongst this group' (Corben & Thomson 2003, p.2 cited in Palmieri 2004).

A source of guidance on vocational teachers' knowledge is the vocational teacher training literature. For example, published as a response to the 'dearth of Australian writing on adult education and training' (Foley 1995, p.vii) *Understanding adult education and training* describes the scientific, interpretive and critical paradigms. Also 'designed for use by students participating in initial or graduate level vocational education and training courses' (Blunden 1997, Preface) *Teaching and learning in vocational education and training* describes behaviourism, humanism, constructivism, situated learning and distributed cognition. Whilst these publications provide a scan of dominant paradigms of teaching and learning, they provide little specific commentary on the knowledge bases required of the professional vocational educator and there are few studies that explore the knowledge bases of VET teachers specifically.

One such study found evidence that vocational teachers do use content knowledge, pedagogical knowledge, pedagogical content knowledge, knowledge of learners, knowledge of environment and knowledge of self (Chappell 1995). Another, based on 18 interviews with expert teachers in a large rural TAFE Institute in New South Wales shows that professional teachers do draw on 'a rich and complex knowledge base' (Corben & Thomson 2001, p.1) including: learner focus, including individual needs and learning styles; technical knowledge and currency; expertise in teaching methodologies (learning theories); personal attributes, beliefs and values; and, the influence of teacher networks. These findings are consistent with the idea that 'conceptualising teaching as either knowledge, or skill, or process is inadequate' (Turner-Bisset 2001, p.10).

The next section of this paper conducts a critique to evaluate the possible contribution of the CIV TAA to the development of VET teachers' knowledge bases. Analysis in this paper is limited to the 12 core competencies of the CIV TAA and two sources of information are used as evidence in these analyses: competencies detailed in the Training and Assessment Training Package, and the *Certificate IV in Training and Assessment Flexible Learning Toolbox* and the associated trainers guide.

## **Analysis of Certificate IV in Training and Assessment against Teachers' Knowledge Bases**

This examination of whether the CIVTAA is likely to develop the knowledge bases of a professional VET teacher is conducted according to the knowledge bases described by Turner-Bisset (2001). Here, this analysis is limited to the 12 core units of competency. The analysis shows that demonstration of competency in the core units of the CIVTAA provides participants with a varying level of opportunity to develop specific knowledge bases.

### ***Content Knowledge: Substantive and Syntactic***

As shown earlier, vocational teachers have a dual identity. Firstly, as a vocational discipline expert (e.g. plumbing, business or design) and secondly as a VET teacher. Given that vocational teachers are usually required to have a number of years of industrial experience before entering the VET teacher workforce it is assumed that they will have a strong knowledge base in their primary vocational discipline. That is, both substantive and syntactic content knowledge as related to their primary discipline are assumed. Here, participants' discipline based knowledge is taken as a given and further discussion is restricted to the remaining ten teachers' knowledge bases.

### ***Curriculum Knowledge, Knowledge of Educational Contexts and Educational Ends***

Participants in the CIV TAA are provided with substantial opportunities to develop and demonstrate *curriculum knowledge, knowledge of educational contexts, and, knowledge of educational ends, purposes and values* as these relate the VET system and the associated CBT approach. Largely represented in the Learning Environment, Learning Design and Assessment streams the CIV TAA provides comprehensive exposure to, and assessment of, the knowledge and application of policy, regulations and guidelines associated with teaching in the VET system. However, there is a complete lack of critique of this system or exposure to alternative approaches.

For example, the Learning Environment stream is composed of three core competencies. *Work effectively in vocational education and training* is concerned with knowledge of and ability to work within established systems of laws, policy, regulations and guidelines. *Foster and promote an inclusive learning culture* is concerned with access and equity. *Ensure a safe and healthy learning environment* is related to occupational health and safety. A review of the Toolbox supports a conclusion that all three units of competency are unambiguously associated with the knowledge required for compliance related to policy, procedure and benchmarks in VET, access and equity, and, occupational health and safety.

The Learning Design stream contains two core unit of competence, *Use Training Packages to meet client needs* and *Design and develop learning programs*. The former is concerned with the analysis, interpretation, contextualisation and use of competency standards, assessment criteria and assessment guidelines which are the endorsed parts of Training Packages. The later requires participants to define the parameters of the learning program, generate options, develop the learning program content, design the structure of the learning program and review the learning program. The Toolbox assignment for *Use Training Packages to meet client requirements* requires participants to select an appropriate Training Package, review the Assessment Guidelines and Qualifications Packaging Rules and to write a report on how the qualifications framework is used to meet the client's needs for an occupational health and safety training course. The report is required to explain the reasons for choosing particular units of competency and to identify the dimensions of competency involved. There is also a requirement to detail English language, literacy and numeracy requirements. This might be seen as moving beyond simple compliance requirements to involve high levels of judgement. However, further examination of the Toolbox contents reveals only superficial and general advice in respect to English language, literacy and numeracy. Suggestions found in the Quick Guides section of the Toolbox include: 'People with low literacy language and numeracy skills and people with learning difficulties may require additional support in a training environment'; and, 'Use visual aids (graphics, photos) when possible to support written material'. The Recommended Reading section of the Toolbox provides a link to the document *FAQs on literacy and numeracy in the Australian Quality Training Framework (AQTF)*. This resource explains the responsibilities of the Registered Training Organisation with relation to the AQTF which is the governmental quality assurance framework for VET in Australia, and provides some practitioner level suggestions for assistance but there is no evidence of conceptual foundations.

*Design and develop learning programs* requires that the generation of options for designing the learning program should be based on a knowledge and evaluation of the program participants' preferred learning principles. When content and assessment from the Toolbox is considered we find a set of checklists and flowcharts which support an engineering approach to the design and development of learning programs. Resources associated with learning styles are included but are limited to brief descriptions of visual, auditory and kinaesthetic classification, Honey and Mumford learning styles, and, left and right brain models. To the extent that learning theories are considered this is limited to short descriptions, of behaviourist, cognitivist, constructivist, humanist, and critical theories. Links to additional websites are also provided. The requirement to review the learning program requires practitioners 'use an appropriate evaluation tool' to generate feedback which is 'summarised and analysed to enhance the quality of the content'. The Toolbox does not provide guidance on how this review should be undertaken.

The Assessment Stream requires participants to plan, organise, and assess competence, develop assessment tools, and participate in assessment validation. In all cases these activities are expected to be completed in a manner that is consistent with the requirements of the nationally endorsed CBT approach. Participants must follow processes that can be audited against quality assurance processes as detailed in the AQTF. The importance of this compliance is found in the Toolbox product which contains numerous checklists, templates, and protocols that can be used in the assessment of competencies.

The Learning Environment, Learning Design and Assessment streams all provide a significant but uncritical opportunity to develop and demonstrate an applied understanding of the officially legitimised VET curriculum. Units in the Learning Design Stream require knowledge, application and analysis against given benchmarks. *Use Training Packages to meet client needs* is clearly referenced against Training Package rules and guidelines. *Design and develop learning programs* requires the application of limited conceptual frameworks associated with learning styles, learning theories and review processes. The Toolbox promotes a strong reliance on the use of checklists and templates. The CIV TAA Training Package and the associated Flexible Learning Toolbox provide the flexibility for teaching and assessment to meet the needs of the participants across a range of contexts and at a descriptive level acknowledges the diversity of the VET context. However, the assessment of individual participants does not reflect a need to develop an understanding of the implications of this complexity for their own practice. Development of knowledge of educational ends is limited to the officially legitimised purpose of VET. It is reasonable to conclude that the CIV TAA requires an applied and uncritical demonstration of curriculum knowledge, knowledge of education contexts, and knowledge of educational ends.

## Knowledge of Learners and General Pedagogical Knowledge

Turner-Bisset (2001) describes two categories of *Knowledge of learners* as empirical or social, and, cognitive knowledge. *General pedagogical knowledge* is 'generic knowledge about teaching gained from practice' (Turner-Bisset 2001, p.15). Evidence of the level of development and assessment of these two knowledge bases is found across all four learning streams of the CIV TAA.

One might expect that knowledge of learners and general pedagogical knowledge would be developed in the unit of competence *Foster and promote an inclusive learning culture* which is concerned with access and equity. The Flexible Learning Toolbox identifies the categories of age, gender, partner status and family, health, cultural background, religion, personality and, literacy, language

and numeracy as diversities that should be considered. However, content in the Toolbox is limited to a few simple suggestions without consideration of conceptual frameworks that might underpin a suitable approach. For example: 'Some learners may need to leave the room to pray during a training session. You may need to have a prayer room set aside for them'; and 'Some religions require adherence to specific dietary guidelines, you should take this into account when planning catering'.

A similar expectation might be associated with units of competency in the Learning Design stream. However, as shown in the previous section, an examination of Toolbox resources suggests the development of superficial and general knowledge in respect to a knowledge of learners and general pedagogical knowledge. There is no evidence of critique or conceptual foundations.

Within the Delivery and Facilitation Stream there are three core competencies. *Plan and organise group-based delivery* requires participants to interpret the learning environment and delivery requirements, prepare session plans and prepare resources needed for teaching delivery. The activity for this unit of competence in the Flexible Learning Toolbox requires participants to complete a delivery plan, session plans, and to design four group-learning activities. Templates for the delivery plan, session plan are provided.

*Facilitate work-based learning* requires participants to establish an effective work-based learning environment; develop, implement and review a work-based learning pathway; and monitor learning to address barriers to effective learning participation. Performance criteria for this unit identify issues of access and equity, learner profile and characteristics, learner readiness and transferability of skills. However, there is little if any evidence of conceptual development of these themes in the resources or recommended assessments examined in the preparation of this article. *Facilitate individual learning* requires participants to identify individual learning facilitation requirements, establish/maintain and develop a learning/facilitation relationship, and, evaluate the effectiveness of the learning/facilitation relationship. Here again, examination of the Flexible Learning Toolbox content and assessment suggests that the achievement of both competencies requires the application of limited conceptual frameworks associated with learning styles, learning theories and review processes. Participants are provided with templates which are effectively checklists for practice. Assessment requires participants to peer-review an individual learning session for a colleague. There is no explicit evidence of conceptual frameworks for evaluation or self-evaluation which would raise the achievement of competencies to a level of cognitive development consistent with evaluation, synthesis or creation of new ideas.

The Performance Criteria for the four core competencies of the assessment stream of the CIV TAA are essentially performance checklists. Content in the Flexible Learning Toolbox for this stream of competencies largely revolves around the need to ensure compliance against competency standards assessments. These

must be achieved within established guidelines. Content for these units of competence covers principles of assessment, sources of evidence, and a range of assessment strategies. However, there is a complete absence of critique of CBT assessment or consideration of other assessment models. The importance of meeting quality assurance requirements as defined by the AQTF is stressed. Templates and checklists to assist in meeting this requirement are provided.

It is reasonable to conclude that the competencies of the CIV TAA provide graduates with an opportunity to develop knowledge of learners that is largely limited to superficial, descriptive and applied concerns. There is no evidence of the development of critique or conceptual understandings. For example, in respect to accommodating a diversity of language, literacy and numeracy needs, low level practical suggestions are provided but no underpinning conceptual foundations. In respect to meeting the needs of individual learners, there is limited exposure to learning styles, learning theories and evaluation processes. The resources examined here provide significant and useful resources in the form of policy and regulations, processes, checklists and templates. For the beginning teacher these are very useful but not designed to develop higher level cognitive capabilities.

There is also evidence of opportunity to develop general pedagogical knowledge as it relates to competency based training. For example, the Delivery and Facilitation Stream requires participants to organise and facilitate group based and individual learning. Participants are required to review and evaluate effectiveness of delivery. In the Assessment stream participants are required to review the assessment process, review and trial assessment tools, and contribute to validation outcomes. These outcomes require a level of evaluation of personal practices as they relate to the CBT approach. For a person teaching in the Australian VET system this knowledge is essential to meet quality requirements, the templates and checklists provided by the Toolbox are a valuable resource in implementation. What remains in question is whether graduates of the CIV TAA are likely to be able to apply their knowledge in a range of contexts, and in both routine and non-routine circumstances.

## **Knowledge of or Beliefs about Teaching, Knowledge of Self, Beliefs about Subjects**

Examination of the CIV TAA Training Package and the Flexible Learning Toolbox show that there is no explicit evidence of the development of *Beliefs about subjects, Beliefs about teaching (Knowledge/models of teaching)* and *Knowledge of self* in the Learning Environment, Learning Design or Assessment streams. To the extent that any development of these knowledge bases might occur it is in the Delivery and Facilitation stream which requires participants to engage in self-evaluation.

The element *Review and evaluate effectiveness of delivery* within the unit *Facilitate group-based learning* and the element *Evaluate the effectiveness of the learning/facilitation relationship* within the unit of competence *Facilitate individual learning* requires that practitioners evaluate the program delivery plan for effectiveness and reflect on their own performance. One might expect that self-evaluation requires a high level use of knowledge. The Flexible Learning Toolbox provides clarification in this regard. Activities for these units of competence requires participants to peer review a colleague's group activity or individual learning/facilitation and to recommend improvements. However, the resources do not provide assistance with the ideas of self-evaluation or reflection. There is no evidence of conceptual frameworks for evaluation or self-evaluation which would raise the competencies to the evaluation or creation levels.

It might be argued that examination and beliefs and knowledge of self are implicitly embedded in the completion of programs such as the CIV TAA. And, it would be ungenerous to suggest that personal development beyond the requirements of assessment criteria associated with competency statements does not occur. However, a minimum requirement of the CIV TAA is demonstration of the required competencies. Therefore any achievement beyond this is neither assessed nor recorded. The conclusion here, is that examination of beliefs about subjects, beliefs about teaching and knowledge of self are not explicitly addressed in minimum requirements of either delivery or assessment in the CIV TAA.

## **Pedagogical Content Knowledge (PCK)**

This paper makes the assumption that new teachers employed in TAFE come with a high level of expertise in their primary discipline and therefore a high level of both substantive and syntactic content knowledge. It has also been shown that the CIV TAA provides the opportunity to develop a descriptive and applied level of general pedagogical knowledge. If, as Shulman (1987) proposes, PCK is an amalgam of pedagogical knowledge and content knowledge the component elements of PCK may be in place. Even so, this is likely to be at a novice level and limited to the CBT approach.

Turner-Bisset (2001) proposes that PCK embeds all other all knowledge bases

and that all knowledge bases need to be developed in order for PCK to be enabled. The analysis provided here leads to the conclusion that the CIV TAA provides strong opportunities for participants to develop curriculum knowledge, and knowledge of educational contexts and ends as related to the officially legitimised practice of competency based training. There is some opportunity to develop knowledge of learners' cognitive and empirical requirements. However, this is largely limited to practical knowledge and lacks a theoretical or conceptual foundation. General pedagogical knowledge can be developed as it relates to policies and procedures of CBT in the Australian VET system. Throughout the CIV TAA there is an absence of critique, examination of alternatives, or a strong theoretical or conceptual foundation. This is a finding that is consistent with Simons et al. (2006) who found that weaknesses of the CIV AWT (which preceded the CIV TAA) program were a lack of critique and the need to emphasise the importance of learners building on and making sense of their experiences.

The analysis presented also concludes that knowledge of teaching, knowledge of self and beliefs about subjects are not explicitly developed in the CIV TAA. Therefore, any development of these knowledge bases is either accidental or at the discretion of the specific training provider. Again, one is led to conclude that the potential for the development of pedagogical content knowledge that differentiates the novice from the expert is doubtful.

Finally, when one considers that the development of PCK requires experience and reflection the potential of the CIV TAA is also limited. A web-site search by the author, in 2007 and again in 2008, of CIV TAA programs offered by public (TAFE) and private providers revealed that typically completion of the program requires between 11 and 18 days of face-to-face contact plus additional self-directed study over a period of a single semester. It would be entirely optimistic to suggest that such a knowledge base can be developed in this timeframe.

## Discussion

The primary question addressed in this paper is: Does the Certificate IV in Training and Assessment provide opportunities for participants to develop the knowledge bases required of professional teachers? The word 'teacher' has been used deliberately. I am concerned with the knowledge bases required by individuals whose primary responsibility is in the teaching and assessment of vocational studies rather than an instructor or trainer. The ideas of responsibility and identity go to the core of this distinction. In the case of the teacher, primary responsibility is for teaching and assessment. On balance, one would expect the identity of the individual to be more aligned to that of a professional teacher than a practitioner in their primary discipline. In comparison, the primary responsibility of the trainer is associated with workplace production. On balance, such a trainer's identity might be expected to be aligned with that of the primary vocational discipline rather than that of the educator.

Given that the CIV TAA is an entry level program for vocational teachers one might ask if the development of the knowledge bases required of a professional teacher is a realistic expectation of such a qualification. However, the CIV TAA is the minimum requirement for teaching in both industry and educational institutions. Therefore, if one is to expect VET teachers with the minimum required qualification to complete the work of a professional teacher then the question of whether this qualification provides the opportunity to develop such skills is a pertinent one.

This paper has shown that there is general agreement that the VET teacher works in an increasingly complex environment. VET teachers are expected to work in a diversity of environments with a diverse group of learners. As facilitators of learning VET teachers need to make sophisticated pedagogical decisions that are consistent with the needs of learners and clients. It is my proposition that professional VET teachers require a full complement of teachers' knowledge bases in order to be able to practice at an expert level in routine and non-routine situations. Such abilities are consistent with the development of pedagogical content knowledge (Shulman 1987; Turner-Bisset 2001). Given the identified complexity of the VET system and the role of VET teachers within that system, it is reasonable to suggest that there is an expectation that VET teachers will use professional judgement in their practice. Further that the professional knowledge bases upon which these decisions are made in an increasingly complicated VET marketplace is not simple. This proposition is consistent with the findings of Corben and Thompson (2001, p.1) who studied the practices expert VET teachers to conclude that 'excellence in teaching extends far beyond competence in a set of practical skills'.

If the reference point is a VET teacher who can work in a way that is compliant with required policy, regulations and guidelines in an environment in which he or she feels comfortable, with support from others and in contextually routine circumstances then it is likely that the CIV TAA is adequate for the purpose. The qualification may also provide a foundation upon which further professional development can occur. This sort of approach is consistent with the idea that teacher training in VET should be a two level structure. Initially providing opportunities to develop practical skills followed by learning at a conceptual level (Corben & Thomson 2001).

However, if the VET sector is to meet the diverse requirements of learners in a diverse range of contexts which are characterised by frequent requirements to work autonomously and to address non-routine issues then the CIV TAA is not suitable for the task.

## Conclusion

The Certificate IV in Training and Assessment is the minimum qualification required for teachers in the Australian VET system. Using the endorsed set of competencies and associated Flexible Learning Toolbox resources this paper has conducted a detailed analysis of the outcomes of the Certificate IV in Training and Assessment against teachers' knowledge bases as proposed by Turner-Bisset (2001). The analysis shows that VET teachers bring some knowledge bases to their practice from previous experiences in industry. Participants are provided with substantial opportunities to develop some knowledge bases, particularly as they relate to the officially legitimised competency based training approach and quality assurance provision in the VET system in an uncritical manner. More limited opportunity is provided to develop a knowledge of learners and general pedagogical knowledge. This opportunity is largely of a descriptive and applied nature with minimal conceptual foundations. There is no explicit opportunity to develop other knowledge bases which require a high level of reflection and self-evaluation. As a consequence, the Certificate IV in Training and Assessment does not provide the opportunity to develop pedagogical content knowledge.

It is concluded that the Certificate IV in Training and Assessment may provide the opportunity to develop the applied skills of a novice but not expert teacher. If the Certificate IV in Training and Assessment is seen as initial training to provide teachers with some basic level skills to teach in a supported environment then it may constitute a useful prelude to further education of a more substantial nature. However, the Certificate IV in Training and Assessment does not embed the opportunity to develop the suite of knowledge bases required for autonomous teaching in diverse and complex environments. If one was to take a more critical view one might agree that

The confluence of behavioural learning theory and bureaucratic organizational theory in the early 1990s led to simultaneous efforts to deskill and control teaching by limiting both teachers' autonomy and their levels of education ... Limited training for teachers was seen as an advantage for the faithful implementation of newly designed "scientific" curricula ... The less educated teachers were, the more they allowed and encouraged greater simplification and routinization of teaching tasks. (Darling-Hammond 2006, p.78)

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