TAFE teacher's knowledge bases: Analysis of the Diploma in VET Practice

Ian Robertson, RMIT University

Abstract

In a recent article, Robertson (2008) used twelve knowledge bases proposed by Turner-Bisset (2001) to show that completion of the Certificate IV in Training and Assessment does not guarantee development of the full set of knowledge bases required of a professional teacher. In Victoria, under a state-wide agreement, TAFE teachers seeking unhindered progression through salary scales are required to complete the Diploma in Vocational Education and Training Practice (or equivalent). The current paper extends the analysis described above to evaluate if completion of the Diploma in Vocational Education and Training Practice is likely to allow vocational teachers to develop the knowledge bases required of professional educators.

Introduction

The Certificate IV in Training and Assessment (CIV TAA) is a nationally endorsed qualification. It is the minimum requirement for teaching and assessing against the nationally endorsed Training Packages in the Australian Vocational Education and Training (VET) system. Using 12 knowledge bases proposed by Turner-Bisset (2001) a recent analysis of the CIV TAA competencies finds that '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 [teacher] is doubtful' (Robertson, 2008, p.1).

The current paper extends the analysis of Robertson (2008) to the Diploma in Vocational Education and Training Practice (Dip VET Practice) (21697VIC). Using Turner-Bisset's knowledge bases as a benchmark it asks, does the Dip VET Practice provide participants with the opportunity to develop the knowledge bases required of professional teachers? A brief description of the VET context, a survey of policy on VET teacher education and descriptions of Turner-Bisset's knowledge bases are provided in the previous paper (Robertson, 2008). This background information is only repeated in the current paper to the extent that these are necessary to clarify the question that is the focus of the paper.

CIV TAA and Dip VET Practice

The first version of the Dip VET Practice (15560VIC), incorporating the Certificate IV in Vocational Education and Training (CIV VET) was accredited in the state of Victoria in 1999. A number of key reforms in the VET sector impacted on TAFE teacher education in Victoria including the negotiation of the TAFE Teaching Staff Multi Employer Agreement (MECA) which established the qualification requirements that entitle TAFE teachers to progress to the top of the incremental salary scale. This requires employees to have completed a course of teacher training accredited at AQF5 'which includes supervised teaching practice and studies in teaching methodology, or equivalent' (State of Victoria, 2009, p.10). These influenced the development of version 2 of the Dip VET Practice (21697VIC) which was accredited in January 2009 (State of Victoria, 2009). Given that the CIV TAA had become the minimum requirement for teaching and assessing against nationally endorsed Training Packages the CIV VET was not reaccredited.

Version 2 of the Dip VET Practice incorporates a combination of new modules/units and some imported from other course curriculum. Prerequisites for entry include completed the CIV TAA plus the elective TAADEL402A *Facilitate group-based learning* or equivalent. The primary target group for this course are 'TAFE Teachers who are principally concerned with the delivery of vocational education and training, and who,

under minimal or no guidance organise and carry out a range of functions involving learning and assessment' (State of Victoria, 2009, p.12). Award of the Dip VET Practice requires completion of: seven core modules/units, five in a Training Package format with two in modular format; four elective modules/units from a total of eight modules/units, five in a Training Package format, and three in modular format; plus 200 hours of supervised teaching practice incorporating a minimum of 50 hours direct supervision of the participant's teaching.

Turner Bisset's Knowledge Bases

Turner-Bisset (2001) builds on the work of Shulman (1987) to propose 12 knowledge bases (Table 1) and how these interact in the professional work of the teacher. Pedagogical content knowledge (PCK) differentiates the novice and expert teacher, it is a unifying concept, an 'overarching knowledge comprising all of the knowledge bases' (Turner-Bisset, 1999, p.47).

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 incorporating knowledge of programs and resources developed by government, commercial and other interests.
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:	Relates to knowledge of learning theories which inform practice,

Cognitive	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.
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.
Pedagogical content knowledge (PCK)	That knowledge which embeds all other knowledge bases. PCK cannot develop in the absence of any other knowledge base.

Table 1: Turner-Bisset's (2001, pp.13-19) 12 knowledge bases

Overview of core modules/units

Maintain and enhance professional practice (TAAENV501B) requires participants to: model high standards of performance that are consistent with organisational goals and objectives, legal, ethical and inclusive requirements; reflect on and evaluate professional practice through research and consultation with colleagues; determined personal development needs; and participate in relevant professional development. This requires knowledge of VET and organisational policy and objectives. Whilst participants are expected to evaluate their own professional development needs there is no evidence of participants being required to critique system or organizational policies, regulations or goals.

Design and develop learning strategies (TAADES501B) addresses the competencies required to develop learning strategies for both Training Package qualifications and course-based qualifications. Learning strategy is described as an overview or outline

only. Specific and detailed goal evidence is provided through the content of specific learning programs. Participants are required to: identify the purpose of learning; characteristics and needs of the target group; develop options with consideration of appropriate learning strategies and instructional design principles; devise the content; structure and review the learning strategy. Participants are expected to apply knowledge of the main branches of adult learning theory, instructional design, assessment, cultural sensitivity, occupational health and safety, and other relevant policy, legislation, codes of practice and national standards. Specific reference is made to Training Packages, AQTF, AQF, industry and enterprises

Design and develop learning resources (TAADES502B) requires the demonstration of competency in the context of meeting the outcomes documented in Training Packages using instructional design principles and processes that are well established in the VET system. Participants are required to: research and interpret the learning resource requirements; design the learning resource and plan the content; develop and review the learning resource; and evaluate the design and development process. There is a need to demonstrate a sound knowledge of the VET system, instructional design processes and principles, the main branches of learning theory, learning styles and principles, cultural awareness and language literacy and numeracy issues.

Facilitate e-learning (TAADEL501B) requires participants to establish the environment, introduce, guide and facilitate, monitor and review e-learning. Performance criteria include the need to demonstrate knowledge of learner styles and characteristics, and to assess the suitability of e-learning. *Facilitate action learning projects* (TAADEL502B) requires participants to prepare for, introduce, facilitate, identify ongoing group purpose and sustainability, facilitate group evaluation, and to reflect on personal facilitation skills. Participants are expected to demonstrate a knowledge of learning principles, styles and modes, general and workplace action learning principles.

The module *Innovation in education and training* (VBN389) is designed to meet the needs of a broad range of functions including teaching and learning, learning support, learning services such as student administration, technology support, planning and quality systems, marketing and promotion. It requires the participant to: examine the current role of innovation in improving educational outcomes; analyse factors that influence successful innovation; establish internal and external partnerships to develop and sustain innovation within an education and training organization,

Facilitate learning in complex environments (VBP892) requires participants to create 'a conceptual and experiential framework of professional practice that synthesises applied knowledge of learning theory and practical demonstration in a variety of teaching methodologies and delivery practice to suit different learner needs and learning contexts. It requires the trainer/facilitator to determine the conditions and constraints associate with complex learning environment and to adjust practice accordingly' (p.33). The participant is expected to demonstrate competency across a number of delivery and facilitation methods and modes to support individual and group learning. Competency requires reflecting on experience with the inclusion of critical questions about the participants own ability, reviewing records and journals, and critically evaluating personal performance.

Overview of elective modules/units

Undertake organizational training needs analysis (TAATAS501A) requires participants to: identify organizational/client needs; conduct training needs analysis (TNA); and provide advice to clients. There is a need to have knowledge of: competency standards and Training Packages; industry and enterprise knowledge; a range of research methods for TNA; relevant policy, legislation, codes of practice and national standards. *Research and develop competency standards* (TAADES505B) requires participants to develop competency standards with consideration to work functions, work processes work roles and work-related vocational outcomes. *Build client relationships and business networks*

(BSBREL402A) requires participants to establish, maintain and improve client relationships to actively participate in networks to support key business actions.

Research and design e-learning resources (TAADES503B) requires participants to: research and interpret e-learning resource requirements; generate options for e-learning resource; create and finalise the e-learning design concept. *Develop and evaluate e-learning resources* (TAADES504B) requires the participation in the development, trial and evaluation of an e-learning resource prototype, and collaborate in developing the full e-learning resource. For both units there is a need to have knowledge of: information technology and e-learning; instructional design for electronic materials; the differences between face-to-face and e-learning; project management and relevant policy, legislation, codes of practice and national standards.

Develop assessment tools for differentiating performance (VBP893) requires participants to: establish the need and the theoretical framework for differentiating performance; develop the task specifications; review and validate the assessment tools in a competency based assessment system. There is a need to have knowledge of: the purposes and principles of assessment including quality assurance; assessment and developmental learning theories; competency standards. *Integrate generic skills into teaching practice* (VBP894) requires participants to source information, plan for the inclusion, integrate and review generic skills within vocational competencies. Completion of this unit requires knowledge of generic competencies and the VET system with a sound knowledge of learning theories, delivery modes and VET pedagogy.

Cognitive Skills (VBP632), *Metacognition* (VBP633), *Critical Thinking* (VBP634), *Creative Thinking* (VBP635), *Decision-making* (VBP637) and *Visual communication and spatial reasoning* (VBP638) are sourced from (21678VIC) *Course in Developing Higher Order Cognitive Skills for VET Practitioners*. These courses are designed to help participants to develop knowledge and skills required to assist learners to develop the abilities identified in the module titles (e.g. cognitive skills). Underpinning knowledge

associated with each module are related to transfer of skills, communication, critical reflection, analysis, synthesis and evaluation.

Analysis and Discussion

Robertson (2008) concludes that the CIV TAA may provide the opportunity to develop the applied skills of a novice but not expert teacher. Given that the CIV TAA is an entry level program for vocational teachers he asks if the development of the knowledge bases required of a professional teacher is a realistic expectation of such a qualification. This question is less pertinent in the case of the Dip VET Practice which requires the CIV TAA (or equivalent) as a prerequisite and aims to assist participants 'to adjust their practice in light of the complex needs of their students and the environments in which they learn; to include new learning technologies in their delivery and assessment and to fully explore the theoretical bases of good teaching practice so that they have the tools they need to review and build upon their performance' (State of Victoria, 2009, pp.12-13). Graduates at an AQF5 should: have developed a broad knowledge base incorporating theoretical concepts with substantial depth in some areas that can be applied to analyse and plan approaches to technical problems or management requirement; be able to evaluate information and use it to forecast for planning or research purposes; be able to transfer and apply theoretical concepts and/or technical or creative skills to a range of situations; take responsibility for their own outputs in relation to specified quality standards: and, take limited responsibility for the achievement of group outcomes (Australian Qualifications Framework (AQF) Advisory Board, 2007).

As was the case in the analysis of the knowledge bases in the CIV TAA (Robertson, 2008) it is assumed that participants will have already developed a strong knowledge of content (substantive and syntactic) in their primary vocational discipline. Analysis of the Dip VET Practice shows that there are ample explicit or implicit opportunities for the development of knowledge bases associated with curriculum, educational contexts, educational ends, learners (empirical and cognitive), and general pedagogic knowledge as

they relate to the official requirements of the VET system in all core modules/units (Table 2). As concluded for the CIV TAA (Robertson, 2008) there is little if any opportunity for critique of this context within the minimum requirements. Opportunity to develop beliefs about teaching, self as teacher or beliefs about subjects is limited to *Facilitate learning in complex environments (VBP892)* where participants are required to develop a conceptual and experiential framework of practice with critical evaluation of one's own performance. This provides an opportunity to make high level decisions in complex environments and the demonstration of pedagogical content knowledge. To the extent that there may be evidence of such development in other modules/units this is limited to participants being able to demonstrate reflection and review of their own in performance within the requirements of the VET system.

The Dip VET Practice also requires completion of four elective modules/units. Analysis finds that development of knowledge of curriculum, educational contexts and educational ends are either explicit or implicit in all elective modules (Table 2). As before, there is little if any opportunity for critique. Opportunity for continued development of knowledge of learners (empirical and cognitive) and general pedagogic knowledge is most explicit in *Research and design of e-learning resources, Develop and evaluate e-learning resources, Develop assessment tools for differentiating performance, Integrate generic skills into teaching practice* and the suite of modules including *Cognitive skills, Critical thinking skills etc*. Development of beliefs about teaching and subjects, and self as teacher is limited to suite of modules including *Cognitive skills, Critical thinking skills etc*.

Consistent with the *Guidelines on Teaching Qualification Requirements for Victorian TAFE Teachers* completion of the Dip VET Practice requires a total of 200 hours of 'teaching activity' that includes a minimum of 'fifty hours in which the teaching practices of the teaching candidate are observed and evaluated by a teacher educator of the institution conferring the teacher qualification or by a fully qualified teacher who agree to act as a supervisor/s of the teaching candidate' (State of Victoria, 2009, p.11). This must involve delivery in at least classroom-based instruction and preferably other modes of

delivery. These are required to be documented and evaluated by the supervisor. The level at which this evaluation is conducted is unclear.

Based on the analysis conducted here it is reasonable to conclude that the minimum requirements of the Dip VET Practice do provide the possibility of the development of the full suite of knowledge bases described by Turner-Bisset (2001), including PCK. It can be concluded that, if implemented with rigor, the Dip VET Practice provide the opportunity to develop the knowledge bases required of professional teachers. However, PCK is not developed quickly, it requires experience and reflection. The question remains as to whether one core module of 50 hours nominal duration plus 50 hours of supervised teaching practice without a requirement for high level analysis and reflection is adequate to ensure that a solid foundation of PCK. In the elective stream, *Cognitive skills, Critical thinking skills etc* provides a second opportunity to develop higher cognitive level skills of critical reflection and synthesis in respect to their beliefs about teaching and subjects and self as teacher that are consistent with the development of PCK. And, it is likely that the completion of an elective that reinforces the development of PCK will be of benefit.

One further observation is made. The courses that provide these opportunities are in a modular rather than competency unit format. This analysis shows that none of the units that are based on Training Package arrangements require or invite participants to critique existing standards and norms within the VET sector and none provide explicit opportunities for participants to engage in the sorts of activities that will develop an understanding of themselves as a teacher. It should be considered as to whether the Training Package development approach is consistent with the development of professional practice. It should be acknowledged that the skills developed in the elective modules of the Dip VET Practice are likely to be of utilitarian value. However, as others have observed, teacher's values and beliefs are central to their teaching practice and those who fail to address these in teacher development programs do so at their peril (Errington, 2001; Marland, 1998; Robertson, 2005).

Conclusion

It is concluded that completion of the required coursework and practical placement of the Diploma in Vocational Education and Training Practice provides opportunities for the development of the full suite of knowledge bases, including pedagogical content knowledge, described by Turner-Bisset (2001) and therefore, the opportunity to develop the knowledge bases required of professional teachers.

This conclusion is qualified with the observation that pedagogic content knowledge requires experience and reflection, and, questions whether the limited opportunities for participants to develop knowledge of beliefs about teaching, self as teacher and beliefs about subject within the Diploma in Vocational Education and Training Practice is substantial enough to develop more than a foundation for pedagogic content knowledge. Suggestions for improvement are made. It is also observed none of the units that are based on Training Package arrangements and questions whether such a program development approach is consistent with the development of professional practice.

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| Module/Unit Code | Module/Unit Title | Nominal Hours | Source of module/unit | Content (Substantive & Syntactic) | Knowledge of … | | | | | | Beliefs about Teaching | Knowledge of Self | Beliefs about Subjects | Pedagogic Content Knowledge |
					Curriculum	Educational Contexts	Educational Ends	Learners (Empirical)	Learners (Cognitive)	General Pedagogic				
Core:	*All seven (7) must be completed*													
TAAENV501B	Maintain and enhance professional practice	40	TAA04 Training and Assessment Training Package		+/-	+	+	+/-	+/-	+/-	-	-	-	-
TAADES501B	Design and develop learning strategies	40			+/-	+/-	+/-	+	+/-	+	-	-	-	-
TAADES502B	Design and develop learning resources	50		Assumed to be developed prior to employment	+/-	+/-	+/-	+	+	+	-	-	-	-
TAADEL501B	Facilitate e-learning	30			+/-	+	+/-	+	+	+	-	-	-	-
TAADEL502B	Facilitate action learning projects	30			+/-	+	+/-	+	+	+	-	-	-	-
VBN389	Innovation in Education and Training	60	21532VIC Graduate Certificate in Innovation in Education and Training		+/-	+/-	+/-	+/-	+/-	+/-	-	-	-	-
VBP892	Facilitate learning in complex environments	50	Purposely developed for the Dip VET Practice		+	+	+	+	+	+	+	+	+	+

Electives:	Four must be completed			Assumed to be developed prior to employment										
TAATAS501A	Undertake organizational training needs analysis	40	TAA04 Training and Assessment Training Package		+	+	+	+/-	+/-	-	-	-	-	-
TAADES503B	Research and design e-learning resources	40			+/-	+/-	+/-	+	+	+	-	-	-	-
TAADES504B	Develop and evaluate e-learning resources	40			+/-	+/-	+/-	+	+	+	-	-	-	-
TAATAS505B	Research and develop competency standards	30			+	+	+	-	-	-	-	-	-	-
BSBREL402A	Build client relationships and business networks	50	BSB07 Business Training Package		+/-	+/-	+/-	-	-	-	-	-	-	-
VBP893	Develop assessment tools for differentiating performance	60	Purposely developed for the Dip VET Practice		+	+	+	+/-	+/-	+/-	-	-	-	-
VBP894	Integrate generic skills into teaching practice	15			+	+	+	+	+	+	-	-	-	-
VBP632	Cognitive Skills	60	21678VIC Course in Developing Higher Order Cognitive Skills for VET Practitioners		+	+/-	+/-	+	+	+	+/-	+/-	+/-	+/-
VBP633	Metacognition													
VBP634	Critical Thinking													
VBP635	Creative Thinking													
VBP637	Decision-making													
VBP638	Visual communication and spatial reasoning													

Table 2: Summary of Dip VET Practice. Modules/units and knowledge bases (Key: + = explicit evidence, +/- = implicit evidence; - = no evidence)