

# BUILDING FUTURE CAPABILITIES FOR VOCATIONAL EDUCATION



Why high-level teaching  
qualifications matter  
for TAFE teachers

## Authors

Chris Corbel  
Leesa Wheelahan  
**University of Melbourne**

Pat Forward  
Stephen Darwin  
**Australian Education Union**

This project was funded by the Australian Government Department of Industry, Innovation, Science, Research and Tertiary Education through the National Programs, VET National Support Program.

The project was carried out by the Australian Education Union and the Education Policy and Leadership Unit of the Graduate School of Education at the University of Melbourne.

The support and cooperation of the CEO, management and staff of the Canberra Institute of Technology and Holmesglen Institute are gratefully acknowledged, as are the contributions of Dr Kirsten Moore of the National Ageing Research Institute and Mr Philip Blackwell of Regent Forestry Services.

The views expressed in this document are those of the authors and project team and do not necessarily reflect the views of the Australian Government, state or territory governments, or participating institutions or contributors.

Apart from any use permitted under the Copyright Act 1968, no part of this publication may be reproduced by any process without written permission from the Australian Education Union.

## About the research

This report considers the future capabilities required by TAFE teachers in the Australian VET system. Using a range of recent research and case studies in two TAFE institutions, the report concludes that the increasingly complex and challenging nature of vocational work necessitates higher-level vocational teaching qualifications as well as continuing accredited professional development.

Combined with a focus on specialised vocational pedagogy based on disciplinary streams, this will be the foundation for the design of dynamic curriculum, innovative vocational pedagogies, active industry engagement and expansive forms of assessment. The report introduces the concept of vocational currency, an expanded version of industry currency, to capture this new pedagogic environment.

This report is the outcome of the Specialised Vocational Pedagogy Project, an initiative of the Australian Education Union, with funding from the then Commonwealth Department of Industry, Innovation, Science, Research and Tertiary Education. The work was carried out by the Melbourne Graduate School of Education, University of Melbourne.

The project took a collaborative approach with the involvement of teachers, unions, industry and institutional stakeholders. The active involvement of two leading TAFE institutions was invaluable to the outcomes of the project, and reflected the continuing value of the contribution of TAFE institutes as developers and custodians of workforce capacity.

ISBN 978-1-925092-13-4

Published by the Australian Education Union  
120 Clarendon Street, Southbank, Victoria 3006, Australia

Phone +61 3 9693 1800  
Fax +61 3 9693 1805  
Email [aeu@aeufederal.org.au](mailto:aeu@aeufederal.org.au)

**[www.aeufederal.org.au](http://www.aeufederal.org.au)**

© Australian Education Union 2014

# CONTENTS

Terminology	4
Executive Summary	5
1 Context	6
2 Key concepts	8
2.1 Industry challenges	8
2.2 A capabilities approach	9
2.3 Extending the vocational education knowledge base	10
2.4 Vocational disciplinary knowledge	11
2.5 Specialised vocational pedagogy	12
2.6 Summary	13
3 Case Studies	14
3.1 A model for a professional development activity	14
3.2 Effectiveness of the model	16
3.3 Summary	17
4 Implications	18
4.1 Improving the Quality of VET teaching	18
4.2 Wider implications of the approach	19
4.3 Implementing the approach	20
4.4 Next steps	20
4.5 Summary	21
5 References	22
6 Appendix 1 - The model in action	24
6.1 Focus issues	24
6.2 Aged Care	24
6.3 Furnishing	28
6.4 Summary	31
7 Appendix 2 - Participants	31



# TERMINOLOGY

**Capability** is a combination of personal abilities, social opportunities and necessary resources (economic, material, technological, social and individual) that allow for the development and application of expertise and well-being. Capabilities allow people to make choices about their priorities, to exercise choice about how they will live, and to exercise judgement and engage in knowledgeable and skilful practices in work.

**Capacity** is the activation of capabilities in response to changing circumstances.

**Expertise** is a level of practical application of knowledge beyond competency and proficiency. It goes beyond dexterity in techniques to the exercise of judgement, discretion and autonomy in the workplace as a member of an occupation or profession. Expertise involves the utilisation of capacity.

**A knowledge base** is the categories and types of knowledge underlying competency, proficiency and expertise.

**Disciplinary knowledge** is the knowledge specific to an academic discipline.

**Occupational knowledge** is the knowledge specific to a particular occupation. It may also be referred to as vocational knowledge.

**A vocational stream** is a collection or family of related occupations linked by common knowledge and practices. It is broadly similar to an industry area or collections of sectors. It relates to the same industry area as a vocational discipline.

**A vocational discipline** is the integrated knowledge that includes the disciplinary basis of practice (including applied disciplines) and how it is applied in work as underpinning practices of a vocational stream.

**Vocational disciplinary knowledge** is the particular combination of disciplinary and occupational knowledge of a vocational stream and how that is applied in work more broadly.

**Pedagogic knowledge** is the knowledge underlying the scholarship of teaching and learning.

**Specialised vocational pedagogy** is the pedagogic knowledge specific to a vocational stream.

**Vocational currency** involves being up to date with all elements of a knowledge base and new practices within a vocational stream..

**Vocational education** is teaching and learning that leads to vocational currency. It focuses on high-level accredited, as well as continuing, professional development.





# EXECUTIVE SUMMARY

- a. Graduates of vocational education require ever more complex knowledge and skills to effectively function in less predictable, dynamic and more demanding workplace environments.
- b. Recent research (Wheelahan and Moodie 2010) strongly points to the related need for innovative vocational teachers who possess higher-level capabilities, based on an extended vocational education knowledge base, in order to:
  - develop broadened curriculum that is relevant to the dynamic changes underway in the specific vocational areas they teach in, and provides a clear understanding of the likely focus of future developments;
  - design teaching and assessment that captures the complex and challenging character of these changing forms of vocational work, including the need for workers who can exercise informed judgment, work autonomously and drive innovation in practices, and is aligned to both fundamental capabilities and the emerging challenges of disciplines and industry.
- c. These outcomes have been reinforced and given specific focus by the outcomes of major case studies in two Australian TAFE Institutes, which analysed the emerging challenges in the teaching of Aged Care and Manufacturing, two highly dynamic vocational sectors.
- d. These case studies demonstrated the importance of vocational teachers possessing a strong foundation in vocational disciplinary knowledge. It also pointed to the significance of opportunities for ongoing professional development and engagement with the emerging challenges of industry and workplaces.
- e. The research highlights the significance of both generalist and specialised vocational pedagogical knowledge for the effectiveness of teachers in these changing environments of vocational work.
- f. This builds on a growing consensus (Clayton 2004, Robertson 2008) that basic entry-level training qualifications (such as the *Certificate IV in Training and Assessment*) are increasingly incapable of meeting this challenging pedagogical environment in VET.
- g. If vocational education is going to remain relevant to the ever more dynamic and challenging nature of industries and work, high-level tertiary teaching qualifications, more knowledge oriented forms of curriculum and pedagogy and ongoing professional development are essential.



# 1. CONTEXT

There is an emerging consensus among policy makers in Australia of the critical significance of a high quality and well-resourced vocational education sector to the future prosperity of a productive and equitable nation (Australian Workforce and Productivity Agency 2012,2013). Essential to the realising of this potential is a highly skilled and capable workforce of vocational teachers who are able to provide the foundational skills for graduates to effectively navigate increasingly challenging and volatile workplace environments (Wheelahan and Moodie 2010).

It is also now being widely acknowledged that significant change will occur in the Australian vocational education and training system over the next decade. These include changes in technology, regulation, materials and organisation (Misko 2010). It is inevitable that such change will generate the need for a significant enhancement of the capability of teachers working in the TAFE sector, which remains overwhelmingly the dominant provider of vocational education in Australia. These changes include:

- the emerging consensus among policy makers of the need for greater participation and higher level vocational qualifications to provide the critical vocational expertise for a transforming economy;
- the significant impact of reductions in state government funding of the TAFE sector;
- the significant generational loss of teaching expertise with a rapidly ageing teaching workforce;
- the declining number of TAFE teachers undertaking high level vocational teacher education programs, as a result of the significant decline in the numbers of TAFE teachers being able to access higher education over the last decade with the advent of the minimalist Certificate IV in Training and Education;

- the emerging tertiary education system and the need for the creation of valid and robust pathways between VET and Higher Education, while at the same time producing the necessary vocational expertise for those facing ever more complex vocational work;
- potential redefinition of the complex and prescriptive Training Package system toward standards of occupational expectation that will require higher levels of pedagogical interpretation by teachers;
- the growing expectations shared by industry, students and TAFE institutions of the need for more sophisticated and flexible forms of delivery for vocational learning;
- pathways to higher level studies as the basis for lifelong learning and educational and occupational progression , which are now a requirement of the AQF.

There has been a great deal of debate and interest in recent times on the quality of the VET and TAFE teaching workforce in a labour market where skill requirements are rapidly transforming. The Productivity Commission completed a study in 2011, and the L H Martin Institute and RMIT were commissioned by the Australian College of Educators to produce a comprehensive study of the quality of teaching in VET which considered the critical importance of teacher qualifications and continuing professional development; the impact teaching has on the quality of the VET student experience and student outcomes; and how these individual factors could be evaluated to further improve the learning outcomes of vocational education and thereby the productivity of the labour market more generally (Clayton 2009, Smith et al 2009, Wheelahan and Moodie 2010, Guthrie et al, 2011 ).

The area of initial teaching qualifications for TAFE teachers, and the role of continuing professional development in the sector remains contested. The minimum qualification which teachers are required to have to work in the sector is the Certificate IV in Training and Assessment, a qualification focussed on basic level skills in the delivery and assessment of training. This qualification is not held in high regard in the sector due to its minimalist form, and has significant problems in its delivery due to dramatic variations in the quality of its provision between the public TAFE sector and private providers (Wheelahan 2013). This report puts the case for a focus on high-level qualifications for TAFE teachers, based on vocational disciplinary knowledge.

Similarly, an issue of recognised importance across the sector is the area of industry specialisation. TAFE and VET teachers are considered dual professionals—they come to teaching in the VET sector with qualifications and experience in their industry areas, but they are primarily teachers. While the debate has focused on teacher preparation, it is in the area of the development of specialist pedagogy for industry expertise where there is a great deal of potential for the teaching workforce to develop a greater level of expertise and skills. The Final Report of the Quality of Teaching in VET (Wheelahan and Moodie 2010) highlighted the importance of enhancing the vocational focus of VET teaching, and to deepening VET teachers' pedagogic and industry knowledge. The study identified the broad consensus that teachers in vocational education need high level industry knowledge and teaching skills with the capacity to ensure both remain current.

However, this discussion has remained largely manifested in the policy and academic domain, and has not been subject to more tangible attempts in practice to enhance the pedagogical capabilities of vocational teachers in order to better prepare them for the more demanding requirements of emerging forms of more complex and fluid vocational skills.

This project addressed that need through two case studies. The project selected two vocational streams and identified an occupational area within each one. Within Health and Community Services the focus was on Aged Care and within Manufacturing it was on Furnishing. The project allowed teachers who were already experts in their field to engage with new and emerging insights from relevant research and to consider the implications for, and integrate this knowledge within, broader vocational disciplinary knowledge.

The case studies involved teachers engaging with a specific issue in their vocational stream which had been identified by the relevant Industry Skills Council. Through a workshop with a disciplinary specialist, subsequent activities and collegiate discussions the two groups of teachers showed that they were able to recontextualise the disciplinary knowledge into a form suitable for learning by students, and also, potentially, for industry. TAFEs and TAFE teachers showed that they are potentially well-positioned to respond to industry challenges through a focus on developing their vocational currency across the four vocational education knowledge bases of content, pedagogy, context and networks. Higher-level qualifications are the best way to provide the opportunity for them to do so.





## 2. KEY CONCEPTS

This project proposes a taking a capabilities approach to developing vocational education to meet industry challenges. This section outlines the key concepts underlying this approach.

### 2.1 Industry challenges

Based on discussions with enterprises, Misko (2010) identified the following areas of change common to all industries:

- general advances in information, communication and design technologies
- more regulatory frameworks
- better tools, equipment and materials
- advances in telecommunications infrastructure and control technologies
- changes in workplace organisation, practice and culture
- increased need for cultural awareness and sensitivity
- changing levels of consumer demand
- drive for environmental sustainability
- frequency of change across industry sectors.

Each industry experiences its own particular version of these challenges. Industry Skills Councils provide annual environmental scans (e-scans) that reveal how these issues are manifested in their sectors. They identify the skills needed for their workers to meet these challenges. Manufacturing and Aged Care are typical examples (Community Services & Health Industry Skills Council 2012, Manufacturing Skills Australia 2012). These provided the focus of the case studies described later in this report.



## 2.2 A capabilities approach

“Capabilities are a combination of skills and opportunities” (Walker 2006:20). A capabilities approach to development focuses on both the individual and the social environment. It emphasises the need for individuals to continue to develop within their vocations, but acknowledges that in order to do this the social environment must allow it to happen, through the provision of training and employment opportunities that responds to and meets the needs of students, taking into account their backgrounds, opportunities and experiences (Wheelahan and Moodie 2011).

A capabilities approach requires high-level vocational qualifications for both workers and teachers. It therefore means that in responding to the needs of industry there must be a focus not just on the development of the knowledge and skills of the individual, but also on the capacity of the VET system to provide opportunities for this development through supporting such qualifications. For this to happen there needs to be a move beyond the current minimalist focus on competencies as the basis for VET curriculum. A simple extension of the competency based approach cannot produce the level of expertise needed. The concept of capabilities addresses both the development of the individual beyond competence and proficiency to expertise, as well as the capacity to respond to opportunities provided within education and employment.

The concept of capabilities provides a way of moving on from the limitations of competencies. It sees the goal of professional development as what people *are* or *can be* as well as what they can do within the narrow confines of a task or job.

A capabilities approach emphasises building underlying capacity so students can realise a number of different outcomes. Innovative workplaces are characterised by high levels of discretionary learning, and VET needs to support the development of autonomous workers who can exercise judgement. The capabilities approach also emphasises the social mediated nature of skill. Capabilities are not just individual attributes; rather they require educational, social, economic and workplace arrangements that facilitate the realisation of capabilities. (Wheelahan and Moodie 2011:32)

The first area of focus is the need to move skills levels for teachers in general and vocational education beyond a set of minimal competencies to a broader set of capabilities. Competencies are narrowly job or task related descriptions based primarily on current work activities. At the Certificate IV they provide the skills for undertaking essentially routine tasks. Although some change is allowed for at Level IV, it requires higher levels to allow for the application of responsibility, autonomy and judgment, the essential elements of expertise (Wheelahan 2013).

Rather than addressing the conditions for professional growth the current answer to the challenges confronting VET, for both workers and teachers, has been to focus on *trainability*, that is, to focus on generic skills that will enable them to respond flexibly to current and future challenges. The problem is that this leaps from the narrow specificities of a particular job to a situation in which the goal is simply employability for any potential job but no specific job or area of work. There is an essential hollowiness, where instead of developing expertise within an occupational or vocational setting, there is the development of “skills” with no particular content or setting at all.

A capabilities approach involves providing workers and teachers with adaptive capacities to meet industry challenges in an appropriate way. At present training is focused on the competencies needed to perform currently identified tasks based on jobs carried out within an industry. It is generally recognised that while this may provide a foundation, it cannot serve as the basis for the continual professional development required to meet the challenges. Teachers need to be not only at the cutting edge in anticipating the consequences of new knowledge in their occupational field, but also able to adapt their pedagogy accordingly. The development of this kind of occupational expertise requires a new perspective on continuing professional development.

At present the response to industry challenges is to focus training on such matters as communication, problem solving, creativity, and so on. These are treated as skills, with the implication that they can be acquired like techniques or procedures. Because of the prevailing emphasis on change, and the perceived need to be ready for new types of jobs in new settings, these personally-oriented soft skills are decontextualised and are intended to be applicable in any work setting. The focus is on (re)employability, rather than more complex forms of employment. There is a move from the current focus on competence to a state of continual “trainability”. This is summarised in figure 1.



Figure 1 Current direction in training

In this project we are arguing for a focus not on trainability but on capability, the creation within the individual, within industry and within society itself, of the conditions and capacity to respond to emerging needs based on the continuing development of expansion of abilities and skills in the development of expertise in a broader context (Wheelahan and Moodie 2010). Figure 2 shows this alternative developmental pathway.

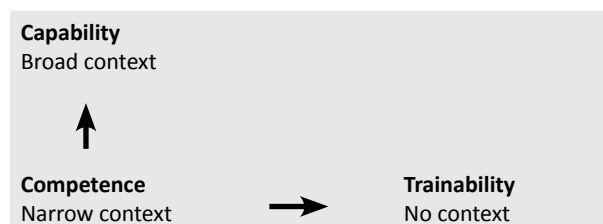


Figure 2 Proposed directions in Vocational Education and Training

We are using the concept of the vocational stream as the broad context within which the development occurs (Buchanan et al 2009). A *vocational stream* consists of families of linked occupations which share similar underpinning knowledge and practices. They are broad entities. Their breadth allows for the flexibility required in facing industry challenges, but it also provides the framework by which capacity in such matters as ethical action and professional judgement can be encompassed.

Teachers need improved capabilities to develop these newer and more complex workforce skills. It is argued by some that the Certificate IV in Training and Assessment provides a minimal foundation of generic competencies for VET teachers, provided it is taught well (Clayton 2009). Others argue that this minimal foundation is insufficient, even if it is taught well (Wheelahan 2013). There is, however, general agreement that continuing and advanced professional development is needed to meet the emerging industry challenges (Robertson 2008, Clayton 2009, Wheelahan 2013).

A capabilities approach provides an appropriate framing for the professional identity for VET teachers as autonomous professionals and a direction for continuing and advanced professional development and associated career pathways. This version of capabilities is not independent of industry, nor is it embedded (and potentially lost) in the functioning of an individual enterprise. It is located in and focused upon an intermediate specialised level, the vocational stream.

Training packages are based on the micro level of tasks and jobs, rather than the macro level of the vocational stream. They are the current basis for VET teaching. It is only the residual qualifications and experience among VET (especially TAFE) staff, available from earlier training and educational opportunities, that has enabled training packages to function until now. Teachers have worked to deliver high level education and training despite and not because of the curriculum Competency Based Training (CBT) model of curriculum.

Now, however, vocational education is at a tipping point where incoming teachers have only ever been trained in CBT terms based on training packages. There is a gap between the competencies they have and the expertise they need to provide the kind of teaching required by the challenges they face. They need capacities based on a more complex view of what vocational education teachers need to know and do. The development of expertise comes about through the inculcation within individuals and systems of capabilities, a set of conditions that allow for professional growth. A capabilities approach is needed because “It focuses on what people need to be able to do to exercise complex judgements at work and what they need to be able to do in the future, rather than on workplace tasks and roles that have been defined for them or based on existing or past practice.” (Wheelahan and Moodie 2011:2).

## 2.3 Extending the vocational education knowledge base

At present the reference point for vocational teaching expertise is industry currency, which in turn builds on the vocational education knowledge base. In this section we argue that the vocational education knowledge base needs to be extended to ensure not just industry currency but *vocational* currency, a level of expertise that involves capabilities in vocationally specific content and pedagogy as well.

The work of a teacher is distinguished from the help provided by a friend or colleague by the teacher’s understanding of how to modify, shape and present the target learning based on an understanding of the subject matter and how learning takes place. Shulman (2004) describes this as a “knowledge base for teaching” - a codified or codifiable aggregation of knowledge, skill, understanding, and technology, of ethics and disposition, of collective responsibility - as well as a means for representing and communicating it” (1987:3).<sup>1</sup>

This knowledge base will have some common features across all teaching, but will also vary according to the circumstances. These circumstances may simply be variations between individual learners or classes, or they may be between educational settings and sectors.

Shulman proposes the following minimum “category headings” for the teaching knowledge base - content knowledge, general pedagogic knowledge, curriculum knowledge, pedagogic content knowledge, knowledge of learners, knowledge of educational contexts, and knowledge of educational ends, purposes and values (Shulman 1987:8).

For Shulman pedagogic content knowledge is particularly significant.

It represents the blending of content and pedagogy into an understanding of how particular topics, problems or issues are organized, represented and adapted to the diverse interests and abilities of learners, and presented for instruction. Pedagogical content knowledge is the category most likely to distinguish the understanding of the content specialist from that of the pedagogue (Shulman 1987:8).

Shulman provides little further detail of the knowledge base, but the concept itself has been highly influential in school education for two decades (Van Driel and Berry 2010).

In a response to the shortcomings of teacher competencies and standards promulgated in England in the mid-1990s, Turner-Bissett (2001) broadened and extended the concept of pedagogic content knowledge to become the umbrella term for a total of twelve knowledge bases for teaching.

<sup>1</sup> It is a reflection of the different meaning of the term knowledge in the schools sector that Shulman refers to this as a *knowledge* base, rather than, say, a *skills* base, which might be more likely to be used in the VET sector nowadays.

Most of the work in knowledge bases has been located in the schools sector. In a rare application of the concept to the VET sector Robertson (2008) compares Turner-Bissett's twelve knowledge bases with the outcomes of the Certificate IV in Training and Assessment. He found that it was doubtful that the qualification would ensure the full range of knowledge bases required to develop expertise.

Van Driel and Berry (2010) conclude their overview of pedagogic content knowledge by seeking to address the emerging complexity of the concept.

The development of pedagogic content knowledge is perhaps then best viewed as a complex interplay between knowledge of subject matter, teaching and learning, and context and the ways in which teachers combine and use this knowledge to express their expertise (Van Driel & Berry 2010:659).

In addition, discussing and sharing such key notions among teachers may contribute to the establishment of a collective pedagogic content knowledge, that is, a shared or common form of teachers' professional and practical knowledge about teaching certain subject matter" (Van Driel & Berry 2010: 660).

Rather than add to the complexity of multiple knowledge bases, in this project we refer to a single 'vocational education knowledge base' comprising four categories based on the terms used by Van Driel and Berry above – subject matter, teaching and learning, context and collective pedagogic content knowledge.

The vocational education knowledge base thus encompasses the following four categories.

1. Content – subject matter or *vocational disciplinary knowledge*. This combines academic disciplinary knowledge and occupational vocational knowledge, and relates them to the dimensions of knowledge, skills and application in qualifications.
2. Pedagogy – teaching, learning and assessment or *specialised vocational pedagogy*. This includes general pedagogic content knowledge; designing, delivering and evaluating courses; teaching and learning activities; and assessment.
3. Context – the economic, policy, quality and curriculum settings of a vocational stream.
4. Networks – collective pedagogic content knowledge. This refers to effective ways of personal development and development within a vocational stream.

Current training and professional development focuses on subsets of this knowledge base such as general pedagogic content knowledge, generic skills and industry experience (Wheelahan and Moodie 2010). The development of the kind of expertise required to meet industry challenges requires all of the above to be addressed. Such expertise would then be based on the broader concept of vocational currency rather than the current industry currency. Industry experience in itself is not adequate to develop expertise. At most it provides information about the processes and techniques within a single firm: at the least it allows observations of the techniques of a single individual. Although it leads to the development of personal, experientially-based knowledge, this is insufficient to provide the continuing development of key disciplinary concepts and their application (Wheelahan 2010). This requires the continuing engagement with vocational disciplinary knowledge.

## 2.4 Vocational disciplinary knowledge

In the previous section we argued for the inclusion of vocational disciplinary knowledge and specialised vocational pedagogy in the vocational education knowledge base. Both of these build on the concept of vocational disciplines. In this section we explain the nature of vocational disciplines and the connection with vocational streams.

The concept of vocational disciplines (also referred to as vocational fields of specialisation) emerged from a UNESCO International Meeting on Innovation and Excellence in TVET Teacher/Trainer Education in 2004, where it was proposed as an organising principle for a higher level degree in VET teaching. The 'Hangzhou Declaration', the key outcome of the meeting, proposed that "... expertise in pedagogy of TVET should be linked to the vocational disciplines..." (UNIVOC 2004:i). The Hangzhou Declaration also focused on the need for innovation and research in VET as a means of recognising and enhancing the professionalism of VET teachers.

Since 2004 the concept of vocational disciplines has been developed under the auspices of UNIP (United TVET Network on Innovation and Professional Development), an international network dedicated to developing vocational education scholarship and Masters level professional development. At the advanced level teacher professionalism is seen by UNIP to encompass the following four areas of responsibility: the occupations and corresponding subject matter of the occupational domains; analysis, design and organisation of professional work processes; the subject (matter) of professional work; and analysis, design and evaluation of training processes.

In explaining the vocational discipline concept Dittrich (2006) acknowledges the "magnificent diversity" of occupational work and need for the "specific knowledge and competences" for the various "occupational profiles". Moving beyond the specific, he suggests that there are "families" of occupational profiles with common characteristics, which he calls "occupational domains". These are the practical manifestation



of the vocational disciplines which are the appropriate focus of teacher education and research. Occupational domains are similar to the concept of vocational streams we are using in this report.

Dittrich proposes a preliminary list of twelve vocational disciplines. He concludes “The specific competences and knowledge which have to be acquired in the course of study of the vocational discipline will have to be identified and defined separately for each discipline” (Dittrich 2006:9). Three international conferences have reported on the subsequent expansion and application of the vocational discipline concept in Europe and Asia<sup>2</sup>.

Vocational disciplines are built on two types of knowledge, disciplinary and vocational. Disciplinary knowledge comes from the feeder disciplines that inform work in a particular occupation. Disciplinary knowledge is at the heart of expert work. Expertise is not simply a matter of becoming highly proficient at certain techniques. It involves the continuing development of practical knowledge based not just on skills and procedural knowledge but on abstract disciplinary knowledge as well (Winch 2010).

Vocational knowledge is specific to a vocational stream. As we have seen, a vocational stream is a collection of occupations with enough overlap to allow for a curriculum which focuses on their commonalities without being too specific in terms of jobs. This means the curriculum focus is beyond the job and the firm, but is not so generic as to have no connections with any area or field of work at all. One of the commonalities in occupational streams is to do with their own particular range of knowledge and skills.

We have seen that there are two types of knowledge that come together in expert vocational work. One is the principled and procedural knowledge that comes from the academic disciplines (including applied disciplines) that inform the vocational stream. The other is the principled and procedural knowledge that comes from practice in the industries within the vocational stream. That is, the emergent knowledge that arises from processes of recontextualisation, blending, synthesis, application and transformation as it draws from its disciplinary base (including applied disciplines) and from the application of knowledge and skills within occupations.

Combining these two forms of knowledge gives us the vocational disciplinary knowledge specific to that stream. The application of vocational disciplinary knowledge requires the development of the skills of workers in the vocational stream. The purpose of VET is the enhancement of those skills to the level of capability that makes their possessor recognised as an expert in the field.

The vocational education teacher, especially in TAFE, has an important role in relation to vocational disciplinary knowledge. TAFE teachers have always, to a greater or lesser extent, played a dual recontextualisation role in the curriculum. Based on their vocational expertise and their pedagogic expertise they are able to modify and adapt (recontextualise) new disciplinary knowledge into forms that are accessible by both students

and industry. This involves selecting appropriate aspects of disciplinary and vocational knowledge and sequencing their presentation in the curriculum. This selection and sequencing is based on their knowledge of learner and industry needs as well as the characteristics of knowledge in their discipline.

At the same time teachers also have a role as creators, with industry and students, of vocational disciplinary knowledge by considering how emerging insights in the applied disciplines have implications for work and work practices. This can be of value to industry as well as students. Yet, as some of the case study participants in this report point out, the current curriculum works against their opportunities to provide these services to both students and industry.

## 2.5 Specialised vocational pedagogy

We have seen that vocational education teaching is underpinned by a knowledge base. We have argued for the inclusion of vocational disciplinary knowledge as part of the vocational education knowledge base. This provides a *specialised* version of the VET knowledge base, which becomes the basis for a specialised pedagogy. Specialised vocational pedagogy will enable teachers to help workers support their employers to meet industry challenges.

Pedagogy is where the teacher creates the circumstances for learning to take place.

Pedagogy, in our view, is the science, art, and craft of teaching. Pedagogy also fundamentally includes the decisions which are taken in the creation of the broader learning culture in which the teaching takes place, and the values which inform all interactions (Lucas, Spenser and Claxton 2012:14)

The concept of specialisation in curriculum and pedagogy is not new. Following Kamarainen (2005:3) we are arguing for a form of “connective” specialisation based on the vocational discipline concept.

Pedagogy is primarily about meeting the needs of the student. However, it is also the place in which the issue of meeting employer needs is addressed. We are arguing for a broader conception of capabilities and a broader conception of the teacher as an autonomous professional. This brings us back to the beginning of the paper – the needs of industry. Will a capabilities approach to teacher development lead to appropriate workforce development? Lucas and his colleagues capture the issue nicely:

<sup>2</sup> Conference proceedings and other UNIP documents are available at [www.unip-net.org/modules.php](http://www.unip-net.org/modules.php)

...if vocational education does not develop learners who are fit for the workplaces in which they aspire to work, the problem is not solved.

How vocational education does this is not through the system at large that focuses on programmes, assessment and certification...

...the key...is what happens at the 'learner end', through the day-by-day reflective pedagogic decisions made that develop learners into their own coaches and teachers (Lucas, Spenser and Claxton 2012:43).

We argue that understanding specialised vocational disciplinary knowledge and skills will allow teachers to develop specialised vocational pedagogy, and that this pedagogy will have a positive affect at the 'learner end'. Specialised vocational pedagogy will emerge from the choice of teaching and learning activities based on the VET knowledge base. A focus on specialised vocation pedagogy also implies the need to formulate more expansive assessment that reflects the need for knowledge and skills that are aligned to both fundamental capabilities and the emerging challenges of disciplines and industry.

## 2.6 Summary

This section has outlined a capabilities approach to developing vocationally-focused professional development based on vocational disciplinary knowledge and specialised vocational pedagogy. This approach is based on the following assumptions and concepts.

- Industry faces unprecedented challenges. Workers need more complex skills to assist their employers in meeting the challenges.
- Teachers need improved capabilities to develop these workforce skills.
- Teaching is underpinned by a knowledge base. The VET knowledge base encompasses content, context, pedagogy and networks.
- Improved teacher capabilities will follow from vocationally-focused professional development based on vocational disciplines.
- Understanding specialised vocational disciplinary knowledge will allow teachers to develop specialised vocational pedagogy.
- Specialised vocational pedagogy will enable teachers to help workers support their employers to meet industry challenges.

In the next section these principles are put into practice.





## 3. CASE STUDIES

This project was primarily concerned with moving beyond policy and principles to practice. This section introduces case studies of two educational programs, one in Aged Care and one in Furnishing, in which the concepts and assumptions were manifested in professional development activities. It outlines the model on which the case studies were based and the outcomes of the case studies. Full details are provided in the Appendix. Although the context of the professional activity in the case studies was continuing professional development, it is intended for use in high-level accredited professional development as well.

### 3.1 A model for a professional development activity

The case studies were based on a model of learning based on the concepts, assumptions and principles outlined in the previous chapter, with a focus on recontextualising vocational disciplinary knowledge into specialised vocational pedagogy. The model is based on the following four stages focused around two pivotal workshops:

1. Preparation for the activity
2. Engaging with specialised vocational knowledge (Workshop 1)
3. Planning specialised vocational pedagogic practice (Workshop 2)
4. Implementation of pedagogic plans

As proof of concept the model was applied in two settings, Aged Care at Canberra Institute of Technology in Canberra, and Furnishing at Holmesglen Institute in Melbourne. At CIT a group of around seven teachers attended a workshop on recent research on dementia led by an academic researcher. At Holmesglen a similar sized group attended a workshop on recent research on new types of timber led by a consultant lecturer. The initial workshop was followed up by the teachers planning how they would change their teaching to accommodate the new knowledge. These plans were presented to colleagues at the second workshop about a month later.



### 3.1.1 Preparation and Workshop 1 - Specialised Vocational Knowledge

Workshop 1 focused on vocational knowledge, or more specifically, new disciplinary knowledge that is emerging from research. For the Aged Care group this took the form of pre-reading of some articles from professional journals, followed by a presentation by an academic researcher of her research findings. For the Furnishing group the updated disciplinary knowledge was in the form of two case studies presented by a consultant lecturer. The purpose of the initial workshop was to introduce new disciplinary knowledge by focusing on an issue that had its origins in the background science of the field, but which also was likely to have an impact on industry, as identified in the environmental scan published by the relevant Industry Skills Council.

It was anticipated that TAFE teachers, who have considerable experience and training, would have the capacity to engage with the disciplinary knowledge, given their expertise within their field. In both sectors this was found to be the case. Participants actively engaged with the knowledge presented and confirmed its value to industry and students. To varying extents participants already felt up to date with the knowledge in both settings. Due to project constraints the issue was chosen as significant by the presenters, and derived from an analysis of the relevant industry skills councils' e-scans, and was not based on a needs analysis of participants. Subsequent feedback showed that more engagement with participants would have been valuable.

Participants had very little warning and background information, yet responded well to the professional development opportunity, largely due to the enthusiasm of the department heads. This was influenced by senior managers, who knew that the respective CEOs had approved the project and were interested in the outcomes. Leadership is important, but the nature of the leadership even more so. Commitment in principle at senior levels needs to be matched by commitment in practice at the department level. Giving the project attention at meetings and on the institute's learning management system helps to demonstrate this commitment.

Engagement with disciplinary knowledge was through a presentation by an academic specialist and, at one location, through additional reading. The face-to-face component was important. Both workshops benefited from an engaging presenter, but perhaps more importantly was the presenter's relationship with research and disciplinary knowledge. The academics acknowledged and accepted the legitimacy of the experiences of the teachers, and saw it as potentially informing their work. They approached the activity in a collegiate manner.

The actual techniques used by presenters may reflect the vocational category in which the sector lies. Just as the Aged Care teachers may favour more people-oriented techniques and the Furnishing teachers more physical object-oriented techniques in their teaching, so they are likely to respond to the same techniques in their own learning.

In group discussion and personal reflection participants considered the implications of the new knowledge. The implications for the curriculum varied between settings. The relevant training packages were seen as more constraining in Furniture, but less so in Aged Care. The general trends in the Manufacturing sector mean there is a strong focus on cost reduction, and this leads to a reduction in content and time for the curriculum for new content and ideas. This means there is less of a focus on traditional craft skills and more on mechanised machine driven tasks. In Aged Care teachers seemed to feel there was more possibility of incorporating the new knowledge into the curriculum.

The task of incorporating the new knowledge is one of converting propositional knowledge (the new scientific facts) into practical knowledge (new occupational processes and procedures). Aged Care teachers seemed to feel that this could be done with the support of industry, proving there are no cost implications. For Furnishing teachers convincing industry of the potential applications of the new scientific knowledge would be harder, because the cost implications of any changes to current arrangements.

### 3.1.2 Workshop 2 and Implementation - Specialised Vocational Pedagogy

Having engaged with new disciplinary knowledge at Workshop 1 the teachers applied this new knowledge to their teaching. At each institute teachers were asked to prepare plans for changes to teaching, curriculum or resources. These were then discussed with colleagues at a second workshop. Workshop 2 was face-to-face for Furnishing, whereas for Aged Care it was online.

In the Aged Care teaching plans there was an emphasis on the needs of both clients and carers and a broader understanding of their needs, within the context of the needs of the health care system or institution. Teaching techniques involved explanation and discussion of the background knowledge, plus simulation as well as real contact with the people concerned, particularly the carers. There seemed to be optimism about the prospects of engaging industry in developing understanding of the complexities of dementia and the role of carers.

The Furnishing teaching plans reflected the change in the world of work within the sector. Teachers need to pay attention to the characteristics of the new types of students they were dealing with and the implications of new media devices, although students still see the teachers as the source of knowledge. The teachers' mediating role with industry was noted. As one teacher said, "We are translators between academics and industry". An unanticipated benefit to onsite assessment was that the teacher becomes a consultant. The student saw the teacher engaging with the employer, and the employer had input to the learning process.

It was felt that the Furnishing industry focus on minimal standards is too strong, leading to a focus on low skilled, necessary, but uninspiring, work. Ironically, some employers assume the fundamentals of knowledge are in place; they

don't realise they've been taken out of the curriculum by their own representatives in the training package development process. Bringing knowledge back in doesn't mean it has to be in an abstract form. Teachers argued that it can be extremely practical, through creating a musical instrument, for example. Students need to be allowed to make something beautiful. As one teacher put it, "Instilling a sense of pride, empowering students with skills and knowledge beyond their workplace experiences, is a more profound educational outcome."

Some form of scaffolding is known to facilitate learning, so in preparing for the second workshop the teachers carried out tasks which were based on a set of framing questions. This framing of the reflection and planning helped to meet the project goals of identifying issues in successful continuous professional development based on vocational disciplinary knowledge.

Discussion and feedback took place on the design tasks and plans. The second discussion, whether face to face or online, was extremely significant and is likely to play a central part in future applications of the model. As one Coordinator put it "The communication goes on". Teachers were able to envisage putting some of their plans into action within existing constraints, though only on a small scale. On a larger scale there is a need for support for putting plans into action, although expectations of support and capacity to provide it seem limited. It is this institutional and systemic support, as well as individual effort, that a capabilities approach addresses.

## 3.2 Effectiveness of the model

Participants were asked to complete a survey of the model after Workshop 2. There were seven responses for Aged Care and seven for Furnishing. Teachers were asked to respond to a series of questions by rating possible answers and adding comments if they wished. Their ratings and comments are summarised below. Details can be found in the Appendix.

The relative importance of disciplinary knowledge for the four categories of knowledge (i.e. content, context, pedagogy and networks) was high. Both groups rated disciplinary knowledge as very important. All four types of knowledge were very important for Aged Care, and quite important or very important for Furnishing. Subject (Content) knowledge was obviously significant, which supports the focus of the project on disciplinary knowledge.

There was support for the value of this model in relation to developing subject knowledge and skills. Most Aged Care teachers thought the model met all four categories very well or quite well. Responses were more widely spread among Furnishing teachers. The comments supported the opportunities for and value of collegiate activities in continuing professional development.

The structure of the professional development activity was seen to be useful, as were the framing activities before and after the face-to-face activities. These activities included pre-reading, expert presentations, group discussions and personal reflection. Pre-Workshop 1 reading tasks were only a feature of the Aged Care approach and received a more positive response. Although there was no actual face-to-face meeting for Workshop 2 for Aged Care the online experience was valued, although one response indicated that missing the initial face to face presentation was a disadvantage.

Generally the Furnishing teachers valued the framing activities lower than those from Aged Care. It's possible that the non-Workshop activities weren't as well defined for this group. For Furnishing there were two three-hour workshop sessions with very little contact in between. The use of the Learning Management System may have heightened the sense of connection for the Aged Care staff. The external subject matter specialist was less relevant for some among the Furnishing teachers than others. The presenter had a closer Furnishing industry connection than in the expert in Aged Care. It's possible that this set up an expectation of relevance that wasn't met for some participants.

A subject matter specialist, though time-consuming and potentially expensive to arrange, was perceived as very important for the Aged Care teachers, and was rated Quite Important by most of the Furnishing teachers. Group discussion was important for both groups and rated highest for Furnishing. The Aged Care teachers had time release whereas Furnishing had to reschedule classes, meaning participants felt under more time pressure. The importance of time and location may be the result of different interpretations, where a higher rating indicates satisfaction with the actual arrangements on the day rather than their significance for the model.

The great majority in both groups felt quite or well prepared for the workshops. Previous formal training helped, as did continuing semi-formal occupational connections. The responses confirm the view that TAFE staff maintain their disciplinary connections in informal and semi-formal settings and are ready to undertake continued engagement with disciplinary knowledge.

Support is needed to move beyond the actual workshops towards the implementation of the proposed changes, which is Step 4 of the model. Suggested support included another workshop, time release, group discussions and changes to the curriculum. There was a range of responses, with no single type of support favoured overall. An additional workshop was not strongly supported, but mechanisms for continuing group discussions were. Changes to the curriculum were supported more strongly in Furnishing. Overall the responses may also reflect a pragmatic sense of the limited amount of support that is actually likely to be available.

There was an overall sense of workshop goals being achieved with most rating them quite or very well met. The comments reinforce the strong feeling among several staff that they were already well aware of the subject matter and were integrating it successfully into their teaching.

The specific concerns of this project were the specialised vocational and pedagogic knowledge involved in the industry sectors. Participants were asked how much this had improved as a result of the workshops. Furnishing staff responses covered a wide range. Almost all Aged Care staff rated them as having been met quite well. It's possible that the greater involvement over time of the contextualised research input in Aged Care, including the pre-readings, had made a difference. The science in Furnishing was more strongly contextualised in practice and hence more familiar, and so perhaps was perceived as less challenging and having brought about less change.

The relationship between knowledge and expertise was central to the project, particularly subject matter knowledge, industry knowledge and pedagogic knowledge. The project assumes that increased expertise involves additional knowledge as well as an improvement in skills. Responses indicated that teachers saw a connection between the two, and are likely to consider issues such as ethical behaviour and an understanding of students and industry needs in their sense of the nature of expertise. This is consistent with the perspective on expertise outlined above in the principles of the model.

Preferences for the format of continuing professional development was for semi-formal and informal collegiate activities, such as networks and discussions. Workshops and formal study for qualifications were rated well by most participants. Aged Care responses supported the necessity, feasibility and value of such activities. The nature of support, such as study leave, was important. A formal qualification was seen as providing motivation. Furnishing saw value as well, but also the need for support for the follow up stage and documentation of results of the pedagogical planning. Industry involvement would be useful, as well as time for appropriate engagement with the changing knowledge.

There is a need for follow-up to professional development activities and to involve teachers (just as with students) about their interests in planning any such future activities.

### 3.3 Summary

In the previous chapter we argued that the vocational education teaching knowledge base comprised four main elements – content, pedagogy, context and networks. We argued for an expansion of the vocational education knowledge bases through the inclusion of vocational disciplinary knowledge into Content and specialised vocational pedagogy into Pedagogy.

In this section we have seen that the application of a model for a professional development activity focused on vocational disciplinary knowledge and specialised vocational pedagogy was well received by vocational education teachers, who showed the potential to expand their professional capacity through this kind of professional development activity.







## 4. IMPLICATIONS

### 4.1 Improving the Quality of VET teaching

This project grew out of the recommendation of The Quality of Teaching in VET (Wheelahan and Moodie 2010). The purpose of that project was to research and make recommendations on the quality of VET teaching; VET teacher qualifications and continuing professional development; the impact teaching has on the quality of the VET student experience and student outcomes; and how this can be evaluated.

This project extends that work on the quality of VET teaching by proposing ways of building future capabilities for vocational education. The Quality of VET Teaching report made a number of recommendations, of which three which are of a particular focus of this project. These recommendations are to do with research on VET pedagogy, continuing professional development, and VET teacher qualifications. The key elements of each recommendation are presented below, together with our proposals for addressing them.

#### 4.1.1 Research on VET pedagogy and models of teaching

For developing vocational education pedagogy and models of teaching The Quality of VET Teaching report recommended that "... Governments (sh)ould commission activities to develop the scholarship of VET teaching and training and models of teaching and training to meet specific policy objectives. This includes commissioned research on pedagogic content knowledge in different industrial/occupational fields." (Wheelahan & Moodie 2010:63).

The present project responds directly to this recommendation. Auspiced by the AEU and funded by the then Commonwealth Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education, it has examined the nature, application and implication of vocational disciplinary knowledge in two occupational sectors.

The specific contribution of this project is the concept of vocational currency. Vocational currency includes all four categories of an expanded VET knowledge base, not just industry currency. It is particularly concerned with bringing specialised vocational knowledge into concepts of currency. It emphasises the value of professional networks and community.

Vocational currency for teachers leads to better outcomes for students. Specialised vocational pedagogy is the result of the teachers' modification of subject knowledge into a form that students are best able to learn. This is a matter of deep knowledge of content as well as mastery of teaching techniques. Importantly it provides the potential for a role for teachers of recontextualising for industry as well as for students.

### 4.1.2 Continuing VET professional development and teacher education qualifications

The Quality of VET Teaching report recommended that continuing professional development should continue to be a shared responsibility between individual teachers, work teams, RTOs, jurisdictions and industry (Wheelahan & Moodie 2010:50). Continuing professional development providers should work within a nationally consistent framework and networks. The Quality of Teaching in VET noted the agreement that the Certificate IV was an initial, qualification and further development was needed, which would build on field-specific knowledge and skills. Among its recommendations were the following:

Higher level qualifications that embed lower level qualifications (should) be developed. These qualifications should incorporate preparation in teachers' specialisation and pedagogy for that specialisation. Where possible, continuing professional development should contribute to accredited studies within qualifications. Progress towards these qualifications or other suitable qualifications should be a condition of progression. (Wheelahan & Moodie 2010: 45)

The final set of recommendations were to do with incorporating into qualifications the specialised vocational pedagogy which is the focus of this project.

A range of different qualifications is developed reflecting teachers' occupational and disciplinary specialisations, and the different areas and domains in which VET teachers teach, such as for

- those who teach VET in Schools (which then allows them to register as school teachers);
- those who teach adults with a range of language, literacy and numeracy skills and other foundational skills;
- those who teach in the trades, and technical and paraprofessional and technical fields;
- those who teach higher education programs.

This could include different programs for those who already have higher level qualifications, such as graduate certificates/diplomas/masters for those with degrees. Progress towards a suitable qualification be a condition of progression. (Wheelahan & Moodie 2010:46)

This project reaffirms the significance of higher level qualifications for TAFE teachers as a means of building future capabilities for vocational education. It emphasises the value of a focus on disciplinary knowledge and within these qualifications and the role of specialised vocational pedagogy as an outcome of the qualifications.

## 4.2 Wider implications of the approach

The successful engagement with vocational disciplinary knowledge exemplified in this project has wider implications for VET teachers' work. This report suggests that teachers can contribute to the development of vocational disciplinary knowledge. They are also able to contribute to the scholarship of teaching and learning, Schulman's "specialised content knowledge". Some TAFEs and other providers are now offering associate and bachelor degrees, and are more formally engaging with scholarship as part of becoming a higher education provider. Scholarship doesn't just mean research. TAFEs and VET providers are well positioned to engage with what Boyer call the "scholarship of application"

*"The scholarship of application, as we define it here, is not a one-way street. Indeed, the term itself may be misleading if it suggests that knowledge is first "discovered" and then "applied." The process we have in mind is far more dynamic. New intellectual understandings can arise out of the very act of application—whether in medical diagnosis, serving clients in psychotherapy, shaping public policy, creating an architectural design, or working with the public schools. In activities such as these, theory and practice vitally interact, and one renews the other" (Boyer 2004:574).*

This is connected to a potential role for TAFE in Innovation (Moodie 2013)

*"TAFE institutes are the best bodies to develop as innovation intermediaries because much of TAFE institutes' work is developing the skills of the existing workforce, engaging with enterprises' production processes rather than with their less well developed research and development processes." (Moodie 2013:16).*

We have used the term 'education' rather than 'development' to capture the ideas of a broader range of knowledge, skills and abilities in the expanded vocational education knowledge base. It reflects the development of expertise which is the manifestation of capabilities within individuals. Such opportunities for innovation will remain out of reach of TAFEs whose staff lack the kind of expertise that will come from vocationally-focused professional education.

## 4.3 Implementing the approach

As we have already seen, capabilities are a combination of skills and opportunities. Therefore action is required on the part of both the individual and as well as educational institutions, government and industry. There are two specific areas that need to be the focus of next steps in improving the quality of VET teaching through higher-level teaching qualifications. They are developing formal qualifications and ensuring institutional support for them.

### 4.3.1 Developing formal qualifications

While acknowledging the importance of informal professional development we are arguing that a more formal framing of professional development is required in the shape of formally accredited qualifications. The key reason for this is that although the nature of the vocational disciplinary knowledge will vary, it will always, to some extent, require a structured progression in its development. This is not achievable through the accumulation of personal experience on the part of the individual, even with industry currency as it is currently conceived.

All disciplinary knowledge has some kind of internal coherence (Muller 2009). On the one hand the coherence may be primarily conceptual, derived from the knowledge structure on which the discipline is based. Vocational disciplinary knowledge, on the other hand, is likely to also be strongly shaped by the knowledge (both propositional and procedural) of the vocational stream, which gives rise to a contextual coherence. In practice there are likely to be elements of both in any vocational disciplinary knowledge base.

To maintain this conceptual and contextual coherence, qualifications must be connected between levels to enable progression between qualifications. This requires a nesting approach to their development and structure. They need to be differentiated by levels of responsibility as well as vocational stream.

### 4.3.2 Institutional support

It is common to see responsibility for continuing professional development as being essentially the responsibility of the individual, who will undertake just-in-time training in response to, and in anticipation of, the constantly changing workplace. Some commentators, such as Mitchell (2008) have argued that the “new” or advanced TAFE teachers will have these have the kind of qualities that will involve a continuous engagement with learning, and that much will be on the job. While there may be an element of truth in this, in practice the exigencies of rapidly changing circumstances are unlikely to provide the kind of framing or scaffolding needed for the continuing growth of the knowledge and skills that underlie expertise. This is particularly important for new teachers who need to undertake an appropriate qualification and more experienced teachers as they update their capabilities.

While individuals clearly do have to exhibit some kind of

personal responsiveness, there is a need for a clearer structure within which this responsiveness might operate. This structure needs to be provided by institutions, which also need to be responsive to change. These institutions need to be able to invest in staff over a longer time frame, though the development of qualifications and support for staff to undertake them.

The employer provides one form of potential institutional support. Substantial providers such as TAFEs have the capacity to support such framing of learning, provided they have the funding as well as the educational and cost incentives to do so. Institutes in turn need to be supported on a national scale. Support could come from government for some kind of national agency like the Office for Learning and Teaching (OLT), which promotes and supports change in higher education institutions for the enhancement of learning and teaching. The OLT supports disciplinary endeavours in learning and teaching. The work of these academic and professional disciplines in underpinning vocational disciplinary knowledge could also be supported.

There are other intermediary institutions, such as Industry Skills Councils, that have potential roles. The Quality of Teaching in VET report suggested a role for ISCs as part of the quality control process. They could also have a role in developing vocational currency as well, through their institutional support of vocationally-focused professional education. This would involve moving away from the development of training products towards a focus on facilitating teacher education processes, based around qualifications. There are precedents for this new role of ISCs. An example of this approach is the work of COGENT, the Sector Skills Council for the Chemicals, Pharmaceuticals, Nuclear, Life Sciences, Petroleum and Polymer Industries in Britain. Its Higher Level Skills Strategy <sup>3</sup> includes support for a Foundation degree Framework.

## 4.4 Next steps

There are three areas for further action to build on the outcomes of the project and their implications.

1. The project has confirmed the findings of earlier work into the challenges facing vocational education and the appropriateness of a capabilities approach to teacher and student learning. Research needs to continue on the underlying principles of the approach.
2. The project has extended previous work through an examination of the application of the capabilities principles in two key industries. It has shown the relevance of a focus on vocational disciplinary knowledge and specialised vocational pedagogy. This work needs to continue in this and other industries and occupational sectors.
3. The project has framed future work through the provision of a model suitable for formal and informal use in professional education based on the concepts of capabilities, vocational disciplines and specialised vocational pedagogy. This model needs to be tested and applied in continuing professional development and relevant qualifications.

<sup>3</sup> [www.cogent-ssc.com/Higher\\_level\\_skills/HE\\_Strategy.php](http://www.cogent-ssc.com/Higher_level_skills/HE_Strategy.php)



## 4.5 Summary

In this section we have argued for a vocationally focused professional education of VET teachers through the development of and continuing support for qualifications that will go beyond basic competence to develop teacher capabilities. By vocationally focused we mean that the basis is the vocational stream and the accompanying disciplinary knowledge and skills, which are derived from both the academy and from industry. The vocational stream concept allows for the development of expertise across a range of occupations and jobs. This involves expanding the vocational education knowledge bases to include this vocational disciplinary knowledge. The result is a process of education that, rather than simply leading to increasingly generic competence, develops the kind of expertise needed by workers and teachers to meet industry, social and personal needs.





## 5. REFERENCES

Australian Workforce and Productivity Agency (2012), *Future focus Australia's skills and workforce development needs: Discussion Paper*, Canberra <http://www.awpa.gov.au/> viewed 20 July 2012.

Australian Workforce and Productivity Agency (2013), *Future focus: 2013 National Workforce Development Strategy*, Canberra <http://www.awpa.gov.au/our-work/national-workforce-development-strategy/2013-workforce-development-strategy/Documents/FutureFocus2013NWDS.pdf> viewed 10 July 2013

Barnett, M. (2006). *Vocational knowledge and vocational pedagogy*. In M. Young & J. Gamble (Eds.), *Knowledge, Curriculum and Qualifications for South African Further Education*. Cape Town: Human Sciences Research Council.

Buchanan, John, Yu, Serena, Marginson, Simon and Wheelahan, Leesa (2009), *Education, work and economic renewal: An issues paper prepared for the Australian Education Union*, Sydney: Workplace Research Centre, University of Sydney <http://www.aeufederal.org.au/Publications/2009/JBuchananreport2009.pdf> viewed 26 August 2009

Boyer, E. L. (2004). *Enlarging the perspective*. In B. E.L. (Ed.), *Scholarship Reconsidered: Priorities of the Professoriate*. Princeton NJ: The Carnegie Foundation for the Advancement of Teaching.

Clayton, B. (2009). *Practitioner experiences and expectations with the Certificate IV in Training and Assessment (TAA40104): A discussion of the issues*. Adelaide: National Centre for Vocational Education Research.

Community Services & Health Industry Skills Council. (2012). *Environmental Scan 2012*: Community Services & Health Industry Skills Council.

Dittrich, J. (2006). *Vocational Disciplines - How could a general framework look like?* Paper presented at the Innovation and Internationalisation in the Qualification of Technical and Vocational Education and Training (TVET) Experts, Colombo.

Dittrich, J. (2006). *Vocational disciplines - what could a general framework look like?* In F. Bunning & Z.-Q. Zhao (Eds.), *TVET Teacher Education on the Threshold of Internationalisation*. Bonn inWEnt.

Gamble, J. (2006). *Theory and practice in the vocational curriculum*. In M. Young & J. Gamble (Eds.), *Knowledge, Curriculum and Qualifications for South African Further Education*. Cape Town: Human Sciences Research Council.

Guthrie, Hugh, McNaughton, Alice and Gamlin, Tracy (2011), *Initial training for VET teachers: a portrait within a larger canvas*, Adelaide, National Centre for Vocational Education Research, <http://www.ncver.edu.au/publications/2390.html> viewed 15 August 2011.

Ingvarson, L. (2003). *Building a Learning Profession*. Camberwell, VIC: Australian Council for Educational Research.

Kamarainen, P. (2005). *'Vocational disciplines' as core structures for the Masters Framework for Teachers in Technical and Vocational Education and Training (TVET)*. Paper presented at the Oslo Conference 2006, Oslo.



- Lucas, B., Spencer, E., & Claxton, G. (2012). *How to teach vocational education: A theory of vocational pedagogy*. London: City and Guilds Centre for Skills Development.
- Manufacturing Skills Australia. (2012). *Environmental Scan 2012*: Manufacturing Skills Australia.
- Misko, J. (2010). *Responding to changing skill demands: Training packages and accredited courses*. Adelaide.
- Mitchell, J. (2008). *Capabilities of the emerging 'advanced VET practitioner'*. Paper presented at the The Australian VET Research Association (AVETRA) Conference, Adelaide.
- Moodie 2013
- Muller, J. (2009). *Forms of knowledge and curriculum coherence*. *Journal of Education and Work*, 22(3), 205-266.
- Rauner, F. (2006). *Professionalism in TVET - teacher education and practice*. Paper presented at the Innovation and Internationalisation in the Qualification of Technical and Vocational Education and Training (TVET) Experts Conference, Colombo.
- Robertson, I. (2008). *VET teachers' knowledge and expertise*. *International Journal of Training Research*, 6(1), 1-22.
- Shulman, L. S. (1987). *Knowledge and teaching: foundations of the new reform*. *Harvard Educational Review*, 57(1).
- Smith, Erica, Brennan Kemmis, Ros, Grace, Lauri and Payne, Warren (2009), *The new deal: workforce development for service industry VET practitioners*, Sydney, Service Skills Australia, [http://www.serviceskills.com.au/dmdocuments/projects/new%20deal/wfd\\_full\\_report.pdf](http://www.serviceskills.com.au/dmdocuments/projects/new%20deal/wfd_full_report.pdf) viewed 17 February 2009.
- UNEVOC. (2004). UNESCO-UNEVOC International Meeting on Innovation and Excellence in TVET Teacher/Trainer Education. Hangzhou UNEVOC International Centre for Technical and Vocational Education and Training.
- Van Driel, J. H., & Berry, A. (2010). *Pedagogical Content Knowledge*. In P. Peterson, E. Baker & B. McGaw (Eds.), *International Encyclopedia of Education* (3rd ed., Vol. 7, pp. 656-661). Oxford: Elsevier.
- Walker, M. (2006). *Higher Education Pedagogies : a Capabilities Approach* England : Open University Press, 2006.
- Wheelahan, L. (2008). *Can learning outcomes be divorced from processes of learning? Or why training packages make very bad curriculum*. Paper presented at the AVETRA 11th Annual Conference, Adelaide.
- Wheelahan, L. (2010). *Why Knowledge Matters in Education: a Social Realist Argument*. Abingdon, Oxford: Routledge.
- Wheelahan, L., & Moodie, G. (2010). *The quality of teaching in VET: final report and recommendations*. Melbourne: L.H. Martin Institute for Higher Education and Leadership, University of Melbourne.
- Wheelahan, L., & Moodie, G. (2011). *Rethinking Skills in Vocational Education and Training: From Competencies to Capabilities*. Sydney: NSW Department of Education & Communities.
- Wheelahan, Leesa (2013), *Towards a model for professionalising VET teaching*, in Marginson, Simon, *Tertiary Education Policy in Australia*, Melbourne: Centre for the Study of Higher Education, University of Melbourne.
- Young, M. (2008). *Bringing Knowledge Back In: From Social Constructivism to Social Realism in the Sociology of Education*. London: Routledge.





# 6. APPENDIX 1

## - THE MODEL IN ACTION

In the report we saw the background and principles of a model of a professional development activity that focusses on Specialised Vocational Pedagogy and a summary of its trialling. In this Appendix we provide details of the trialling. The model is suitable for high level accredited professional development within qualifications as well as continuing professional development.

### 6.1 Focus issues

Based on an examination of how the general trends and challenges are manifested in the sample industry sectors, as evidenced by the Industry Skills Councils' environmental scans, a key issue was selected in each vocational sector.

In Aged Care the focus issue was *multiple and complex needs*. One of the key messages in the CHSISC environmental scan was:

Within services there is a shift towards interdisciplinary practice. Work roles with a suite of generalist skills – including intake, assessment, case planning and case management – are developing in an attempt to improve access to services that meet multiple client needs and goals (particularly in regional, rural and remote areas) and complement traditional occupational structures (Community Services & Health Industry Skills Council 2012:4).

In Manufacturing the focus issue was *sustainability*. One of the key messages in the MSAISC's environmental scan was that:

Sustainability is still an important driver across manufacturing despite industry losing some confidence on government commitment to this direction over 2012 (Manufacturing Skills Australia 2012:3).

Two locations were chosen. Canberra Institute of Technology (CIT) was agreed as a site for the Aged Care Project workshops by its CEO early in the project. Holmesglen Institute was also agreed as a site for the Manufacturing workshops by its CEO early in the project. CIT and Holmesglen representatives are members of the Project Advisory Group and were involved in discussions at the first Advisory Group meeting that led to the workshops.

### 6.2 Aged Care

#### 6.2.1 Specialised Vocational Knowledge - Aged Care

##### 6.2.1.1 Preparation

Following the first meeting of the Advisory Group the Project Officer made contact via the relevant senior managers with the Aged Care and Home and Community Care Coordinator. The Coordinator works within the Centre for Health Community and Wellbeing.

The Senior Project Consultant and the Project Officer identified the work of an academic of the National Ageing Research Institute (NARI), a self-funding adjunct of the University of Melbourne, as relevant to the agreed focus of the workshops. The academic was approached and agreed to participate as a presenter. She is a full time researcher with no teaching role.

Planning for the session was done at two teleconferences involving the Project Officer, the Coordinator and the Presenter. An introductory flyer was prepared and circulated to staff. It explained the project, outlined the workshop and associated tasks, and introduced the Presenter and Project Officer. The purpose of the project was as follows:

The Specialised Vocational Pedagogy Project is being run by the Australian Education Union and the University Of Melbourne Graduate School Of Education to enable teachers to continue to develop their disciplinary knowledge. These workshops will give you an opportunity to update your understanding of the application of core concepts in Dementia to a key industry issue and to modify your teaching accordingly.

The Presenter was asked to prepare a presentation on matters to do with the topic of Dementia as an example of the identified trends in Health Care towards multiple and complex needs. She was to focus on issues that were of significance to her as an academic researcher in the field. The Coordinator also suggested topics of potential interest to staff.

The Presenter was asked to aim the presentation for a broadly collegial audience and not particularly for teachers. A draft was prepared and circulated for comment to the Project Officer and the Coordinator. No changes were made. The continuing communicating via phone and email was felt to have made a major contribution to the subsequent success of the workshops.

A list of pre-readings (Attachment 8.2) was prepared by the Presenter and posted on the institute's Learning Management System (LMS) by the Coordinator.

A broad set of framing questions was included and staff were invited to read one or more and respond as they felt appropriate. This was optional and not a prerequisite for the workshops.

1. What is the issue that the paper is addressing?
2. How will this affect industry?
3. How will this affect workers?
4. How will this affect me as a teacher?
5. How will this affect my teaching?

The Learning Management System space allocated for the workshops became available about a week before the first workshop. Participants could download the pre-reading papers and make comments, though they were not required to do so, nor was the workshop based on the assumption that they had. The Presenter and Project Officer were provided with logins, which was valuable in enabling them to get a strong sense of the interest and experience of the participants, as well as an insight into the values and activities of the Centre.

The documents were accessed quite frequently, indicating an interest in the topic and the preparedness for engagement. There were fewer postings of comments, but the postings showed a capacity to apply the concepts in the papers to practical tasks and see the implication or new scientific findings for practice. These papers assumed a level of experience and expertise that was evident in the responses. Several participants commented on the potential for using the concepts in the article with their students, indicating a positive view of their students' capacities for dealing with the concepts, appropriately modified.

### 6.2.1.2 Workshop 1

The first workshop for Aged Care took place at CIT from 11 till 2 on Monday 20 May 2013. The objective of this session was outlined for participants as follows:

At the end of this session you will have an improved understanding of a key challenge to your industry sector, and how it relates to your specialised industry knowledge. You will have considered the implications of the challenge for workers in the industry and for your teaching.

The Coordinator had arranged the session as part of the regular professional program to enable the provision of support for attendance. The session took place in an attractive classroom in the Learning Hub. Participants were the Manager, the Coordinator, the Program Support Officer 6 teachers. 5 teachers taught Aged Care, of whom 3 were also teaching nursing. One taught in nursing only. Due to prior teaching commitment one or two participants arrived late or left early.

The session began with a welcome from the Coordinator and an overview from the Project Officer, who also facilitated the workshop.

The presentation was in four parts:

1. Community to residential care
2. Conceptualising family care
3. Responding to Behavioural and psychological symptoms of dementia
4. What else should we be looking at?

Although it had been planned to separate the presentation and discussion it became immediately apparent that participants were interested, knowledgeable and engaged, so the first hour, covering Section 1 of the presentation, proceeded along the lines of a collegiate conversation. Due to the small numbers and the fact that everyone was involved, the plans for separate group discussions were dropped. Although the findings were frequently negative, participants were able to find points of positive effect.

At the end of the first section of the workshop each participant completed a copy of the worksheet. There were two questions:

1. What are the implications for the industry and workers? How will work change?
2. What are the implications for you as a teacher and your teaching? How will curriculum and pedagogy change?

An Implications slide at the end of each section of the presentation helped frame this reflection. The purpose of this worksheet was to help their planning for later activities. Lunch was provided for participants and was eaten in the room while conversation continued. This helped continuity and connectedness.

The second half of the workshop focused on Sections 2, 3 and 4 of the presentation. It had been intended that participants would complete a worksheet after each section, but time did not permit this. Participants were therefore asked to complete a single worksheet for the second half of the workshop after the workshop had finished.

The Project Officer explained requirements for the next workshop and distributed the Workshop 2 Preliminary Activities sheet. This asked a question and set a task:

1. Based on the outcomes of Workshop 1, what aspects of your teaching will you change and what action will you take?
2. Prepare examples of your actions for discussion and development at Workshop 2

Again participants were asked to complete this after the workshop.

Staff were asked to start thinking for the next session in practical terms for teaching: what we do, what should we do, what can we do? What action can we take? How should we proceed? Staff were asked to access the Forum on eLearn. Finally participants were asked to complete the Workshop 1 Review.

Notes were taken during the discussion by the Aged Care Program Support Officer and distributed afterwards. These indicated the significance of the issue and showed that teachers had already taken steps to include it in their teaching, and also at the departmental level in terms of student support. Comments reveal a breadth and depth of understanding of dementia-related issues and the connection between policy, professional standards and industry requirements.

### 6.2.1.3 Participant Review

Participants provided written responses to four questions.

1. What are the main things that you learned from this workshop?
2. What are the main things you'd change?
3. What are the main things you wouldn't change?
4. Other comments?

The following issues emerged from the responses.

There is a breadth of issues – the influence across sociality and disciplines of issues such as this. Yet there was an awareness of the particular contributions of individual disciplines, and the risk of this being lost. This was significant because some participants were from and Aged Care setting, others nursing, and some from both.

There is a potential for research findings to “inspire” pedagogy. Research is to do with the “real world” and was not seen as lacking practical application. Research findings both supported existing knowledge and extended it. Both are valuable. There is a range of research currently being conducted in regards to fall prevention, caring for people with dementia, including sexuality, is “fantastic” – all helps to stall (?) the outdated, controlling, medicalised version of aged care. There is a positive connection between the readings and the research and a desire for further readings. Statistical overview of how challenges for the aged care and structure of the support system added to “insights” into the shortfalls for clients and families, and what clients and families really want.

Suggestions for changes to the Aged Care service included a “Model of care and care planning, people need to be cared for in a home environment. We need to move right away from nursing model, hierarchical control of nursing supervision, subjugation of older people, valuing care workers for the role they perform. Aged care system needs to be more inclusive and comprehensive, more models developed to cater for different levels of care”

In relation to teaching, suggestions included more time for delivery and industry placement models to reflect what is delivered in classrooms. “Government funding to put teachers in the industry will help make the necessary changes”. In terms of current practice there was support for keeping the focus on contributing to the aged care industry through quality teaching and modelling good practice, which it was felt was firmly in place. There is a need for awareness of emerging new technologies that assist carers and staff to monitor and review needs

In terms of the professional development model there was support for the approach being taken: one comment suggested an ongoing forum. The group engagement was valued, as were several of the readings, and the pace. One comment suggested universities adopt the same model of delivery.

### 6.2.1.4 Stakeholder review

The Project Officer, Coordinator and Presenter discussed the workshop by phone a week later. It was agreed that the overall effect was exceptionally positive, that it highlighted the strong knowledge base among staff and their connection with industry, and value of having views confirmed yet extended. As one participant put it: “Great to have ideas reinforced. Looking forward to how it translates into teaching pedagogy”.

The strengths were that the Pre-reading gave participants a feeling of control over input, the online forum was appreciated by contributors and observers, and there was a rich, interactive discussion supported by the Presenter’s accessible style. This was the result of good planning, facilitated by good communication. Timing could have been tighter, however. More time was needed for evaluation.

The complexity of the topic was seen a plus and a minus, being more challenging, but less immediately relevant to some participants. However, a broad topic allowed for a wider range of interests to be accommodated and thus greater buy-in. There is a need to keep such sessions short and sharp to get participants in and hold them.

The implications for the project goals were seen as positive. Participants had grappled with disciplinary knowledge in a valuable way. Disciplinary knowledge had provided a common ground for the Aged Care and Nursing participants. There was a feeling of permission to take existing knowledge and apply it differently. Overall the preparation, participation and atmosphere were excellent. The nature of the engagement with the disciplinary content was highly collegial, which supports the view underlying the project of teachers’ capacity to engage effectively with disciplinary knowledge.



### 4.2.2 Implications of the Pedagogical Challenges - Aged Care

The second workshop was planned for six weeks after the first. During that six weeks the readings and notes and task sheets from the first workshop remained on the LMS. The Coordinator referred to the project and the forthcoming workshop at staff meetings. There were three staff meetings that focused exclusively on the project.

About ten days before Workshop 2 another worksheet, Framing the Proposed Changes (Attachment 8.3), was posted.

Between Workshops 1 and 2 staff still had the opportunity to view and comment on the six references provided by the academic expert. There had been 153 viewings of the papers and comments by the Workshop 2 date.

However the timing of the second Workshop became problematic as it coincided with staff absences. Because the participants were already using the LMS to share and comment on documents, and because a number would be on leave on the workshop day, it was agreed that a face to face meeting would not be necessary.

A further note to staff followed, requesting staff to upload the following action:

- the CHANGE PROPOSAL document
- the SURVEY document
- an activity/learning resource inspired by one of the readings or the presentation at workshop one
- Create a power point slide/s with information that you would use in teaching – you can specify any group/subject etc but it needs to relate to aged care and the reading you choose OR
- Create a lesson plan that incorporates this new information into it OR
- Design an assessment piece that reflects the information you gained from the reading OR
- Design a class activity that reflects the information you gained from the reading OR
- any activity that you believe will demonstrate the link between the reading or presentation and your teaching

The Workshop date now became the submission date for the Change Proposals and materials.

### 6.2.3 Aged Care Change Proposals

Proposals and accompanying PowerPoint resources were posted on the “Workshop” day. They are summarised below.

#### 6.2.3.1 Person-Centred Care and Personhood

We already discuss issues similar to those raised in Person-Centred Care and the stages of personhood – but have been doing so without the use of a framework. A framework would suit Person-Centred Care, which has as its basis an easily understandable pathway, describing how we come to be who we are (Biologic personhood, Individual personhood and Sociological personhood). A clear framework will provide reference points, further avenues for investigation (depending on student interest) and a way to embed that understanding.

This concept will be embedded in the beginning Diploma of Nursing (Enrolled) competency – “Apply effective communication skills”. Students will start their studies away from tasks and medicalisation, instead focusing on the person at the centre of the care moment. This will provide a method to embed that understanding in their caring.

A presentation based on the concept will be used to engage students. Their application of the concept will be reviewed during appropriate assessment moments. Colleagues will be updated on progress.

#### 6.2.3.2 Person-Centred Care and Core Duties

We need to present current research and statistics in a way that Certificate 3 students can have a more person-centred or carer-centred approach to core duties. There are two ways to do this. The first is to provide some lessons in a simulated working environment to enable a more realistic and interactive space for students to learn. The second is to provide more visits to community programs and services carer support programs.

In both settings we will put more emphasis on strength-based approach that care workers need when assisting family carers. We will use presentations to explain the concepts. We will develop planning exercise so students (paid carers) are able to have a more interactive and involved role in helping family carers to plan ADLs, social activities, etc. A typical exercise will require students to read a scenario and research information to develop support networks for carers.

### 6.2.3.3 Family and Spousal Separation

We need to address client and family satisfaction and empowerment related to aged care, in particular the separation of spouses from their loved ones and the feeling that as clients have no say or choices and limited options in the type of help and care that they receive for various presentation/ circumstances.

We need to research various types of models from around the world and see what other ideas are being put into place in relation to aged care models. In the long term we would pilot some of these models and trial several options of care and support within client's homes and medium to low care facilities. It would be great to work with facilities and assess functionality, costs and satisfaction outcomes.

In the short term there is not a lot of flexibility or opportunity for clients to be currently heard. Our focus will be on identifying that clients and families frequently feel disempowered and have limited choices. This creates an opportunity to break down that barrier and introducing something different. Teaching students and staff in industry about various models of care and opening up their minds to other options is the start to moving towards alternatives.

The first steps will be to use presentations to open the students and industries mind to the option to think differently and that we can and should create something different. Allowing them to visualize can lead the way to something great.

### 6.2.3.4 The REAL Issues with Dementia

We need to address the REAL issues carers face when caring for a person with dementia. Students need to really understand what it is really like to care for someone with complex needs – not just from the teacher's experience or their own, but from the clients and carer's themselves. The best way to do this is to hear it from the clients themselves but this is difficult as you need to rely on a volunteer to talk to the students and this is often difficult to resource.

Students watch a couple of YouTube clips where carers discuss the challenges faced by caring. The students will read the article by Nolan (2001) "Supporting family carers in the UK: overview of issues and challenges" and then discuss the carer's challenges, needs and wants, perceived important outcomes and services and interventions.

The group discussion indicates whether the students have gained a better understanding of the issues and challenges faced by carers. They will also hopefully feel better prepared to support the client and their family because they have a better understanding of their needs.

The addition of the reading to the presentation certainly added to the students being able to empathise with the client and their family. In particular I felt it has supported the home and community care students as the article was more related to the needs of the carers in the community.

### 6.2.3.5 Student Nurses in Aged Care Settings

A further PowerPoint presentation was posted on supporting student nurses in Aged Care settings.

## 6.3 Furnishing

### 6.3.1 Specialised Vocational Knowledge - Furnishing

#### 6.3.1.1 Preparation

Following the first meeting of the Project Advisory Group the Project Officer made contact via the relevant senior managers with the Senior Educator / Building Manager Furniture Joinery Manufacturing, who is based in the Furnishing Industry Design & Innovation Centre. The Senior Educator was extremely positive and supportive regarding her group's involvement.

The presentation was undertaken by a lecturer in Wood Science and Forest Products at the University of Melbourne. He has been involved in both the timber and construction industries for 40 years, with experience in most aspects of the timber industry. He has operated his own company which was involved in residential commercial and renovations and extensions in the construction industry. He is Wood Processing Advisor to the Forest Science Institute of Vietnam (FSIV).

Planning for the session was done at a meeting and two teleconferences involving the Project Officer, the Senior Educator and the Presenter. A general flyer was prepared and circulated to staff. It explained the purpose of the workshops as for Aged Care (above).

The Presenter was asked to prepare a presentation addressing trends in Manufacturing towards sustainability. He was to focus on issues that were of significance to him as a lecturer and practitioner in the field. The Senior Educator also suggested topics of potential interest to staff. The topic agreed upon was the impact of new types of timber in furniture and interior design, under the title "Is timber the same today as yesterday?"

The Presenter was asked to aim the presentation for a broadly collegial audience and not particularly for teachers, although he was in fact well aware of the needs and interests of the participants, having previously worked with some members of the group. The Presenter proposed a case study approach, in which he would present real cases as they had been presented to him, then explore the underlying wood science with the group. The assumption was that participants would be familiar with the wood science concepts from their earlier formal studies, but not necessarily of the implications for the use of new types of timber.

An initial plan was to have participants undertake pre-reading of one or more papers. The pre-readings proposed were of two kinds. One was a set of modules for a basic wood science course. These could provide a quick refresher of the based wood science concepts. The other readings were more recent scientific papers. It was felt that the first were too basic and could set up some negativity in participants who might feel that it was unnecessary. The second papers were extremely detailed and aimed at the specialist reader, and could also have an off-putting effect. Time did not allow the pursuit of a third option of asking the Librarian to identify readings from the institute collection before the workshop. It was ultimately decided not to offer pre-readings, but to introduce the readings at the workshop.

### 6.3.1.2 Workshop 1

The first workshop for Furniture and Interior Design took place at Holmesglen Institute from 9 till 12 on Friday 31 May 2013. The objective of this session was the same as for Aged Care (above).

The session took place within the existing teaching timetable. The session was held in a computer room. The computers weren't used and did not distract from the activities. In addition to the Project Officer, the Senior Educator and the Presenter there were six participants from Furniture and three participants from Interior Design.

The session began with a welcome from the Senior Educator and an overview from the Project Officer which set out the objective and the program for the workshop.

The Presenter presented two case studies, the first focusing on exterior doors and the second on interior doors. (The second was included to offer an issue of more specific relevance to the interior designers). The presentation took the form of detailed photographs of the affected areas and explanation of the context. Participants asked detailed questions and were interested, knowledgeable and engaged. Due to small numbers and the setup of the room, the session proceeded as a plenary, without group work.

At the end of this session participants filled in a worksheet for each of the case studies. These were to be kept as a preliminary to Workshop 2. There were two questions:

What are the implications for the industry and workers? How will work change?

1. What are the implications for you as a teacher and your teaching? How will curriculum and pedagogy change?
2. Handouts of the full presentation were made available at this point.

The second half of the workshop focused on the wood science underlying the case studies and in particular the difference between old and new timber and the implications for industry. Issues such as moisture content were highlighted, and practical issues were demonstrated using actual tools and timber to hand. In the final 15 minutes the Presenter showed a video of a PhD student's project in Vietnam which clearly exemplified the issues under discussion.

The Project Officer explained requirements for the next workshop and distributed the Workshop 2 Preliminary Activities sheet, which participants completed. By this time, with the help of the Librarian, a number of additional readings had been identified and located on the departmental shared drive. Participants were asked to select one or more and use it as part of their thinking on how to modify their curriculum, teaching and resources. Finally participants were asked to complete the Workshop 1 Review.

### 6.3.1.3 Participant reviews

Participants were asked to respond to the questions: What are the main things that you learned from this workshop? What were the strengths of the workshop? How could the workshop have been improved?

Several comments identified the knowledge of wood science and timber properties and problems which had been updated for them. It was felt that the workshop served as a reminder that timber is not just a product but a natural product. It has to be considered and analysed before use and this has to be considered in teaching. For others the session was largely reinforcement of existing knowledge.

It was noted that this background and underpinning knowledge has been removed from some units in the curriculum. The importance of knowing timber species and characteristics being used for certain tasks/applications was contrasted with the lack of importance of this subject in the curriculum. The importance of communication of that knowledge among those involved – architects, interior designers, furniture makers and customers was exemplified by the case studies.

Participants saw the strengths as group discussion; industry knowledge from others; practical case study examples of process failure reinforcing the theory/ knowledge of products. The implications for teaching were that the information gained was very important in the way we teach about the issues of timber and the repercussions of every product used.

The Presenter was seen as very approachable, easy to understand, seemed to know a lot about this subject. He had an ability to convey the knowledge to the participants. For one participant the strength was simply "The return to knowledge", including the knowledge of the presenter.

Most participants were happy with the workshop as it was. The workshop could have been improved with more use of the video and wood samples and a longer time frame. It was rushed at the end (but less so than Aged Care).

There was concern about the relevance of the topic, which was seen as more relevant to furniture making than interior design (even though this had been addressed in selecting the case studies). A second aspect was its relevance to teaching, where, given the curriculum focus on "installation units for kitchen and bathroom qualification, solid timber (is) deemed no longer relevant by industry bodies driving course curriculum".

### 6.3.1.4 Stakeholder review

The presenter, HOD and facilitator met immediately after the workshop. The overall effect was seen as positive. There was a good range of contributions. As one participant put it, "(It) definitely left me thinking about the timber required and needed for the right job"

The implications for the project goals are positive – participants saw knowledge as important and were happy to engage with the issue. This was in the context of a troubled external environment, involving restructuring and redundancies, which was on everyone's mind.

Overall the preparation, participation and atmosphere were very good. The nature of the engagement with the disciplinary content was highly collegial, which supports the view underlying the project of teachers' capacity to engage effectively with disciplinary knowledge.



### 6.3.2 Implications of the Pedagogical Challenges - Furnishing

The second workshop for Furniture and Interior Design took place at Holmesglen Institute from 9 till 12 on Friday 31 May 2013.

After Workshop 1 the Librarian had posted a number of readings on the shared drive. Access data isn't available but the Senior Educator was aware of some staff accessing and reading articles.

A week before the workshop participants were sent the change proposal Framing your Proposed Changes, as for Aged Care (see above). This was based on the Worksheet completed at Workshop 1. The purpose of this was to provide a link between the workshops and a framing for their plans. Staff were asked to be prepared to speak on their plans for about ten minutes at Workshop 2. A program was circulated several days before Workshop 2 (Workshop 2 Outline). It set the following objectives:

At the previous workshop you will have an improved understanding of a key challenge to the Furniture and Interior Design sector, and how it relates to your specialised industry knowledge and the implications of the challenge for workers in the industry.

Since then you've had a chance to think about the potential impact on your teaching and the changes you might make to resources, pedagogy and/or curriculum. By the end of this session you will have a better understanding of the your own and your colleagues' plans for these changes.

The session was held in the same room as previously and was led by the Project Officer. There were eight participants including the Senior Educator, down from eleven at the previous workshop. There had been apologies well in advance from two furnishing staff, one of whom was in his final day and whose send-off was celebrated during the workshop break. One of the Interior Design staff was sick.

At the outset a number of participants were concerned about the problems facing TAFEs in general. The Project Officer acknowledged the problems within the context of the purposes of the project. Participants were happy to rise above the problems and engage positively with the activities. Overall the tone remained positive against the backdrop of the realisation of the magnitude of the forces working against the kind of curriculum and professional development changes that the project promoted and participants supported.

Rather than stick to a tight format of presentation/discussion, participants raised issues during the presentations. The overall effect was of a free-flowing conversation. The final forty minutes were devoted to the survey, which participants filled in individually. On completion of the surveys participants were offered the chance to comment on any of the questions, particularly in relation to qualifications, but perhaps due to time no issues were raised.

### 6.3.3 Furnishing Change Proposals

The proposal, presentations and discussions are summarised below.

#### 6.3.3.1 Fitting it all in

There's a severe time constraint issue, with too much unnecessary detail, continual changes in the training package itself, and the need to include topics not in the package. This is combined with the need for student engagement. We need to keep things simple and short, using media such as DVDs to exemplify processes, including issues related to moisture content. We can set research tasks for students to expand on the underpinning knowledge, and encourage self-learning. This needs to be fitted in to the existing delivery arrangements.

#### 6.3.3.2 Solid timber

Matters relating to the use of solid timber have been almost removed from cabinet-making, yet most TAFE assessment is largely based on solid timber. Workshop 1 showed how important it is.

In the longer term we need to develop a more complex craftsmanship-inspired project (such as a marimba) based on solid timber, which will develop knowledge of its properties, limitations and characteristics, and develop a deeper understanding and respect for it. It will also restore pride in students work. (A group project *ignoring* core principles could demonstrate the problems that result.)

In the short term we can introduce activities on solid timber in relation to existing tasks. We can use other techniques (such as slicing a carrot) to demonstrate principles. Finishing cabinet-making apprentices can receive a small tree in a pot.

#### 6.3.3.3 Reductions in scope

We need to deal with a number of reductions including time, experienced staff, funding support and content. Teaching resources contain less subject matter content and unnecessary audit-focused content. Industry mandates a restriction of the scope of learning.

All these reductions need to be reversed. Time is required for experienced staff to develop good quality resources.

#### 6.3.3.4 Prioritising the core

There is a lack of time allocated to the fundamentals of the subject matter. We need to prioritise some fundamentals to incorporate in future classes. There's a mismatch between what employers say they want and industry groups claim they want. It's about fundamental knowledge, but this is not introduced until the third year. Core skills are reduced still further, while there's still a focus on "communication".

We need to encourage students to incorporate this learning of fundamental underpinning knowledge in the early stages of their course through the use of such things as research and online resources. We need to incorporate some more informal methods to import the knowledge, such as group discussions, as well as excursions. We need to improve the content of current class materials.

#### 6.3.3.5 Online resources

With time-based learning (TB-CBT) within competency-based training students have minimal or nil time for repetition. Repetition consolidates learning through multiple usages over time of knowledge and skill. Students receive minimal repetitive confirmation of tasks/skills learnt in training. Employers require production, therefore the student receives repetition in the production process necessary to the business, normally

one or two tasks, but not the variety necessary for repetition consolidation of say all or most of the units amounting to the certificate they the students are aspiring to.

In the longer terms we need an online resource repository. In the short term we can gather suitable resources for online use, for student use via mobile phone (iPhone), tablet or PC. One possibility is for students to video classmates work and put it up on Moodle for their access

#### 6.3.3.6 Using case studies

Case studies such as those in Workshop 1 can be used as the centrepiece of an integrated teaching model. This model has at its heart the design process and emphasises retaining other than telling. It needs to engage with mobile devices – the focus is on themselves.

Simple techniques like using A3 instead of A4 force them to pay attention to storage and possible keeping of handouts.

### 6.4 Summary

In this appendix we have seen the details of the application of a particular model of professional development activity which focused on vocational disciplinary knowledge and specialised vocational pedagogy.

---

## APPENDIX 2

### - PARTICIPANTS

#### Aged Care

Sue Bromhead

Melissa Dinn

Louise Edgar

Sue Hart

Barbara Lawson

Moir McLachlan

Lily Muthurajah

Linda Willington

Julie Ann Solway

#### Furnishing

Christopher Beck

Stephen Butler

Penelope Cato

Chris Frost

Leigh Hill

Mark Lau

Elizabeth Nash

David Porter

Bradley Schaffer

Robert Wembridge

## BUILDING FUTURE CAPABILITIES FOR VOCATIONAL EDUCATION



ISBN 978-1-925092-13-4

Published by the Australian Education Union  
120 Clarendon Street, Southbank, Victoria 3006, Australia

Phone +61 3 9693 1800

Fax +61 3 9693 1805

Email [aeu@aeufederal.org.au](mailto:aeu@aeufederal.org.au)

[www.aeufederal.org.au](http://www.aeufederal.org.au)

© Australian Education Union 2014