Are Individual Learners' the Forgotten VET Stakeholders?

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1. Abstract

VET practitioners are faced with a range of research on accommodating learners' needs in different contexts but there is a tension between meeting individual learners' needs and the requirement for outcomes such as number of course completions for funding. So, do practitioners tend to focus on learners' as profiled sub groups in a learning site or do they work to meet individual learner's needs?

The reported research has been exploring this question by asking 'Is there such a thing as VET Pedagogy?' Through regular literature reviews and VET /TAFE teacher interviews a range of teaching and learning approaches and challenges for VET practitioners has been uncovered. It was found that generally VET practitioners are placing the learner at the centre of the VET learning environment despite diverse learners' needs in different contexts and the demands of the National Training System.

The implications arising from the research include the importance of practitioner–led research and the value of learning through strategic conversations. Outcomes from this research include 'conversation starter' packages that combine research and practitioner experience. Dissemination of the findings to TAFE NSW and wider VET audiences is continuing via an internet website and a conversation starter package.

1. Introduction

The aim of the research was to identify practices and theories in VET pedagogy that most strongly impact on quality VET practice.

There is a wide range of research on accommodating learners' needs in different contexts, however, VET practitioners are faced with a tension between meeting individual learners'' needs and the requirement for outcomes such as number of course completions for funding in a competitive VET environment.

Within this context, continuing to provide quality VET practice and meeting learners' individual needs in particular, is an ongoing challenge. TAFE NSW commenced the TAFE NSW VET Pedagogy research in 2003 by asking the question 'Is there such a thing as VET Pedagogy?' Following this initial research and comprehensive literature reviews, the TAFE NSW International Centre for VET teaching and Learning (ICVET) was asked to further explore the literature on learners' and their diverse needs and analyse case studies and interviews to identify the learner focus. A sample of 32 VET practitioners were identified . Twenty two were initially case studied in 2003 with a further ten interviews in 2005.

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The literature provides strong evidence that, for VET practitioners, learners' are their key focus. This was confirmed in the case studies. Outcomes from the research include a literature review titled 'Theory into Practice', an annotated bibliography and five literature snapshots on *'Different Contexts, Different Learners'*.

2. Literature Review

Phase One 2003-4
Literature review, annotated bibliography and case studies of VET Practitioners
The literature review, Theory into Practice, 2003, provided a broad overview of teaching and learning theory and an extensive annotated bibliography. The review told us about the context of teaching and learning in VET, adult learning, workplace learning and flexible learning and identified the key pedagogical themes in VET outlined below:

- place of communities of practice
- reappraisal of apprenticeships as a model of learning
- "what" we need to know shifting to "how"
- workplace learning emphasis shifting to "journey to vocational competence" (Chappell et al 2002)
- flexible learning
- debate about how adults learn
- debate about formal versus informal learning
- nature of tacit knowledge

Phase Two Literature Snapshots 2005-6
Different contexts, different learners

ICVET commissioned Roslin Brennan Kemmis and Erica Smith to produce five literature snapshots called *Different Contexts, Different Learners'*.

These easily accessible research snapshots were based on the extensive literature review conducted in 2003 and focus on five VET specific areas outlining learners' needs in a VET context. The five areas covered are listed below.

- Work based learning and communities of practice
- Equity and diversity considerations
- Discipline specific pedagogy
- Young learners'
- Classroom behaviour and management

3. Research Method

Case studies and interviews
The case studies from the first phase of the research identified excellence in VET Pedagogy, and the interviews in the second phase focussed on a range of innovative ways

TAFE NSW teachers accommodate their learners' needs. The interviews were carried out using a semi structured interview technique where the interviewer, drawing on the literature, explored the practitioners understanding and application of learning styles in their practice and questioning how they met individual students learning needs.

In particular, one of the literature review themes, 'the nature of tacit knowledge' prompted the interview questions to elicit how learners' needs are being accommodated in VET by practitioners making the implicit explicit. The research questions were:

- What is your 'teaching stance' or credo when attempting to meet the needs of your VET learners'?
- Describe the ways are you accommodating learners' needs in an AQTF work intensive environment and in a range of different learning sites?
- Do you use tools to assess your or your students' learning styles?
- Do you focus on meeting the learning needs of individual learners' or of sub groups of learners who have similar needs and aspirations or both?

See **Appendix B** for a list of the interviews by discipline area.

The TAFE NSW teacher interviews were recorded and transcribed and contained rich data about VET pedagogy including theories in action and 'rules of thumb' or principles for meeting the learning needs of specific groups of learners'. From these case studies emerged themes identifying the approaches VET practitioners took in meeting individual learners' needs across the many and varied contexts of VET teaching. A sample of one case study report is included in **Appendix C** with others available on the ICVET website.

4. Findings

The central theme emerging from the interviews was that learners' needs are the focus of VET practitioners. This finding supports the existing literature but more importantly the interviews identify that accommodating learner styles in the VET context is more complex and challenging than simply matching a learning style to a learning strategy.

The data analysis identified three key themes.

4.1 Learning styles are only one significant factor considered by VET Practitioners when accommodating learners' needs in VET

The VET practitioners interviewed considered many of the following factors in making decisions about how they would accommodate a learners' needs

- Reasons for wanting a qualification
- General learning and study skills (eg note taking, internet searching)
- Cultural assumptions (eg about teachers; individual study
- Age and maturity
- Whether the learning experience follows general 'good design principles'
- Whether broad preferences(eg for hands on activity) are accommodated
- *Whether specific individual learning style preferences are accommodated*

This tells us that practitioners make professional judgements on what, how, when and where training is provided to a learner. This goes beyond making judgements just about learning styles. Rather, VET practitioners are making judgements about a much wider range of factors contributing to the learning environment. To help visualise these factors a model of the VET learning environment was created and is included later in the paper.

4.2. Importance of VET Practitioners learning through reflection on their practice
The data shows that VET practitioners have a story to tell from thinking about and researching their own teaching practice, but they don't always have the how and where to tell it. Their practice is intuitive and their knowledge tacit and deeply embedded in their responses to learner needs. The research identified that:

- Practitioner interviews contain very rich data
- Practitioners are often not cognisant of their theories in action
- Practitioners need a voice
- They love being interviewed to tell all!
- Teachers like to hear other teachers

To make use of and to flesh out the how and why of VET pedagogy, more strategies need to be deployed so that VET practitioners can research, use and present their research findings to conferences and for publication. (Wheelahan, 2005)

4.3 Importance of practitioner – led research.
The data indicate the need to move away from data collected to illustrate theoretical points to more use of grounded theory approaches in making explicit the work of VET practitioners. As Hargreaves (1994) pointed out in a paper primarily concerned with school teachers and their production of professional knowledge, but equally applicable to VET practitioners.

> 'Whereas the knowledge-base of doctors is rooted in the biomedical sciences, and the attempt to find one in the social sciences has so far largely failed. Yet both professions (VET and Medicine) share a central core to their knowledge-base, namely the need to generate systems for classifying the diagnoses of their clients' problems and possible solutions to them. In both professions, practice is often less grounded in evidence about effectiveness than is commonly believed, but practitioner-led research and evidence-based medicine have put doctors far in advance of teachers (p. 219).'

Hargreaves suggestion is that in the short term we must look elsewhere for a means of strengthening teachers' knowledge-base, namely to the development of an evidence-based approach to the practice of teaching. To achieve this, practitioner-lead research based on ethnography and grounded theory approaches will develop a greater understanding of what constitutes VET pedagogy.

5. Outcomes from the Research

**5.1 Conversation starter packages successfully combine research and practitioner experience**

The first two phases of the literature reviews and the in depth interviews produced a suite of 'resources' for VET practitioners. One of these, a 'Conversation Starter Pack' called Accommodating Learning Styles has successfully combined research and practitioner experience to engage teachers in assessing their learning approaches and how others accommodate their learners'' needs. The Package combines the literature reviews on learning styles, and how TAFE NSW teacher interviewees accommodate their learners'' needs through a range of approaches.

To assess the usefulness of this approach, the ICVET website, which focuses on facilitating access to practical resources for VET Practitioners, was analysed for usage trends in 2006. The research and resources arising from this research was identified as the most visited on the site. These resources have also proved popular with VET Teacher Education providers including Charles Sturt University, Wollongong University and Newcastle University.

5.2. A model of the VET learning environment

As a result of the VET Pedagogy research a model of the VET learning environment was developed and trialled with teachers for capability development. The model, shown below of a VET learning Environment helps teachers identify, use and explore the range of sub learning environments that exist for learners' in a VET context. The model may also be useful for identifying evidence for recognition.

A Model of a VET Learning Environment
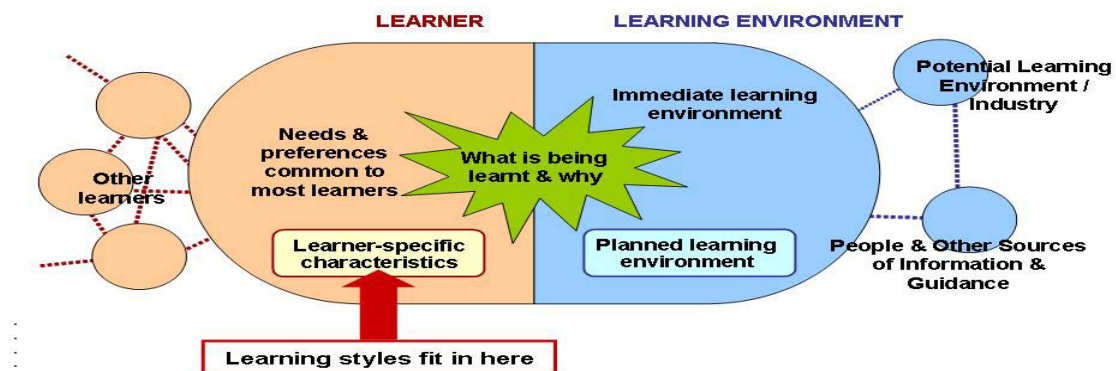
The central element in the model is 'what is being learnt, and why', as that is where learner characteristics and learning environmental characteristics interact.

Learning style is only one example of the learner-specific characteristics referred to in the literature. Similarly, of the whole gamut of learning environments, the kind of planned learning environment that one finds in TAFE only represents a part of what's on offer. The model includes not only the known, but all potential sources of learning through external information, career guidance, industry and the workplace.

6. Conclusions and implications for teacher development

According to the VET practitioners interviewed, learners' are the focus of VET Pedagogy.

VET practitioners usually placing the learner at the centre of the VET learning environment despite diverse learners' needs in different contexts and the demands of the National Training System. VET practitioners, despite an inability to articulate a theoretical base for their actions regularly demonstrate accommodating strategies for learner needs. The practitioners also noted their desire to better understand and apply learning theory.

6.1 Using the literature
Teachers say they:
- Want more literature on accommodating learners' needs in a VET context
- Want to be refreshed on adult learning theories
- Would really like to be connected to research in action especially where research informs current practice
- Found the interview experience and literature refreshing and affirming of their good practice and building their confidence

These findings are supported by the Smith and Dalton (2006) research which showed that teachers are sensitive to a need to respond to individual and group learning styles in order to provide a more learner centred and satisfying learning experience. Developing practitioner skills in this area will require similar approaches to the 'conversation starters' where practitioners are provided thoughtful theory next to practitioner experiences linking the theory to practice and encouraging discussion and the sharing of ideas and practice.

6.2 Implications for learners through teacher development
'Teachers develop students' learning best by reflecting on and learning from their practice as teachers'. (Moodie 2004). Teachers often bring substantial previous work experience and education to their profession. They demonstrate a capacity to think and reflect implying that teacher training/development should shift from an emphasis on theories and more reflective practice.

For the most part 'teacher development' has meant teacher training, that is to say, something that is "done" to teachers.

> 'Only recently has this begun to give way to a more agentive view of development: teachers learning in their zones of proximal development, constructing their understanding of the art of teaching through reflective practice, and drawing for guidance and assistance upon the same range of sources that is available to other learners' (Wells 1999, p. 329)'

Generally the teachers interviewed in our research expressed a hunger to share lessons they have learnt and want to be connected with research. It was found that learner focus

was paramount in the practice of TAFE NSW teachers and VET practitioners interviewed during 2003-5.

Acknowledgements

References

Clayton, B LAYTON & Blom 2004, <u>Doing it Well, Doing it Better: Practitioners, Pedagogy and Training Packages</u>, Paper delivered at AVETRA Annual Conference.

Coffield OFFIELD, Frank; Moseley, David; Hall, Elaine., & Ecclestone, Kathryn., 2004, <u>Learning styles and pedagogy in post-16 learning: A systematic and critical review</u>: Learning and Skills Research Centre, London

HARRIS, Rr, Michelle Simons & John Bone 2006, <u>Mix or match? New Apprentices' learning styles and trainers' preferences for training in workplaces</u>

HARGREAVES D. (1994) <u>The Mosaic of Learning.</u>

MITCHELL, John, Chappell, Clive, Bateman, Andrea & Roy, Susan, 2005, <u>Critical issues. A Draft Literature Review on Critical issues in Teaching and Learning and Assessment</u>, NCVER Consortium Research project

MOODIE, Gavin 2004, <u>Making students and teachers the heart of VET policy</u>, AVETRA Conference Paper 2004

SMITH, Peter & Dalton, Jennifer 2005, <u>Accommodating Learning Styles: Relevance and Good Practice in VET,</u> NCVER, Adelaide

WATERS, Melinda & Angliss, William, <u>Pedagogy in VET</u>, Institute TAFE Victoria Wheelahan L , Senior Lecturer, School of Vocational, Technology and Arts Education, Griffith University TAFE Teachers Finding Their Voice 2005 TAFE NSW ICVET Learning Powerhouse Conference

Appendix A
2003-5 Literature Reviews

PART A Literature ReviewTheory into Practice
http://www.icvet.edu.au/research/vet_pedagogy.htm

PART B Annotated Bibliography
http://www.icvet.tafensw.edu.au/resources/documents/partb_annotated.pdf

PART C Case Studies
http://www.icvet.tafensw.edu.au/resources/documents/casestudies2003.pdf

PART D

Five Literature reviews on Different learners', different contexts by Roslin Brennan Kemmis **and** Erica Smith**,** RIVET Research in Vocational Education and Training) Charles Sturt University, Wagga Wagga

Work based learning and communities of practice LITERATURE REVIEW | eZine November 2006

Equity and Diversity considerations LITERATURE REVIEW | eZine August 2006

Discipline specific pedagogy LITERATURE REVIEW | eZine August 2006

Young Learners' LITERATURE REVIEW | eZine May 2006

Classroom Behaviour and Management LITERATURE REVIEW | eZine May 2006

Appendix B

2003 Case Studies	
Arts (Aboriginal Arts, Ceramics, Fine and Visual Arts)	TAFE NSW Western Institute, NSW
Automotive	Kangan Batman Institute of TAFE, Victoria
Business Studies	TAFE NSW South Western Sydney Institute
Business Studies	TAFE NSW Western Sydney Institute
Business Studies	TAFE NSW Riverina Institute
Business Studies	Northern Territory University, Northern Territor
Children's services	TAFE NSW – Illawarra Institute
Children's services	TAFE NSW Illawarra Institute
Community services	Department of Community Development Canberra Institute of Technology, Australian Capital Territory
Community Services	Cooloola Sunshine Institute of TAFE, Queensland
Engineering and construction	Southern Queensland Institute of TAFE , Queensland
Food processing	TAFE NSW Western Sydney Institute
General Education (Access)	TAFE NSW Riverina Institute, NSW
Health	NSW Ambulance Service
Hospitality	TAFE NSW Hunter Institute
Information Technology	TAFE NSW South West Sydney Institute
Information Technology	TAFE NSW Sydney Institute
Maritime	Martine Training, Otago New Zealand
Media	TAFE NSW – Hunter Institute NSW
Property Services	TAFE NSW OTEN NSW
School Services	South West Institute of TAFE Victoria
Student and Staff Services	TAFE NSW Professional Development Network, NSW
Student and Staff Services	Wodonga Institute of TAFE Victoria
Transport and Building	School of Building Technology UNITEC Applied Technology Institute Auckland, New Zealand

2005 TAFE NSW Interviews – Accommodating Learners' Needs	
Engineering Apprentices	North Coast Institute
Food and Beverage	Northern Sydney Institute
Business Services Administration	Sydney Institute
General Education	North Coast Institute
Child Care	Illawarra Institute
Travel and Tourism	
Engineering	Western Sydney Institute
Foundation Studies Aboriginal	Riverina Institute
Senior Consultant	Hunter Institute
Open Training Education Network	Western Sydney Institute

Appendix C

The challenge of remaining flexible...

TAFE NSW VET Pedagogy Project 2005 managed by Lynne Stallard, ICVET

INTERVIEW | **Cliff Trood**, Head Teacher, Engineering, TAFE NSW Taree North Coast Institute

> ...if you're going to work in a trade like fitting and machining or welding and metal fabrication then you're going to be a knowledge worker.... I want these students to understand that they are important, that trade skills are very important to our society, and to build their self respect.
>
> *Cliff Trood*

Summary

- main meaning of 'learning style' = 'learning by doing' vs 'learning by bookwork'
- learning style closely related to motivation eg to get a study benefit vs to change careers
- needs best accommodated via blend of 'individualised' with 'whole group learning'
- teaching focus should be mix of providing content and providing skills in content finding
- budget and structure limit flexibility at classroom level
- perceptions eg 'tradesperson' vs 'knowledge worker' impact directly on self-esteem
- teacher orientation (viz. a preference for 'lock-step' vs 'independence') is crucial

Teacher stance
A strong wish to interest and inspire students to extend their skills, knowledge and horizons.

Background
I manage the Fitting and Machining and the Metal Fabrication / Welding sections. Primarily, we're mainly dealing with apprentices, with some pre-apprenticeship, entry level training for both young and mature age students. We also provide some commercial short-course training, and contract training for industry.

Our non trade students cover a wide age range, from 16 to 50 or more. They're all trying to gain skills needed to move into jobs in industry. Metal fabrication and welding are experiencing particularly high demand at the moment. People hear about job opportunities for welders, so they come or are directed to TAFE to try to get into that industry sector.

Student learning styles
When I think of the learning styles of our students, I think in terms of two extremes. At one end, there are students who prefer to learn in a practical way, but they're not

interested in the bookwork. At the other, there are students who much prefer reading and theory, but don't like practical work. Our students fall somewhere between these extremes. Most of our students prefer practical learning, a few prefer theory learning. There is the occasional student who is equally comfortable learning through both theory and practical work with these students generally self motivated in their learning.

In recent times I have noticed a decline in the levels of literacy and numeracy in our apprentices. At the same time I'm noticing an overall shift within the students we deal with to a preference for learning through practical activity. Many of them haven't done too well at school, and they like getting out and doing things with their hands. A result of their poor school achievements is that we end up having to cover a lot of the math and literacy basics that they should have learned at school.

With regard to maths, because trade maths is focussed on the application of mathematical principles the students more easily link the theory with the practice and so are more motivated to learn.

Top Ways of responding to different styles

In most classes, you'd get quite a mix of styles, from practical types to some book-learners'. But whether or not these differences are catered for is another issue.

In one section I manage, delivery is very much lock-step. That tends to reflect the preferences of the particular teachers involved. While I don't necessarily agree with this approach, it is what they are more comfortable with. They like to start and finish students in unison, to keep everyone going at the same pace. They expect students to fit in with this lock step approach.

As you can imagine, some students can get frustrated. The advanced ones don't like having to do something again and again, regardless of whether they've mastered the skill. And the slower students get frustrated because they may struggle to keep up.

In contrast, in another section the teachers try not to put less time barriers in their way. They want and encourage students to go as fast and work as hard as they like. From what I can see, students are a lot happier going at their own pace. If there is a group of students doing the same topic at the same time theory may be delivered to them as a group Of course there are also those students who have to be driven to make progress in a self paced environment who would perform better in the lock step model.

Top The limits to accommodating student preferences

Of course, being as flexible as this with students presents lots of challenges. It can be tough on teachers.

Going back to 1994, when the section changed to more flexible delivery, they tried to be completely flexible, that is, flexible attendance, course structure and time to complete. Classes were very mixed. For example, it didn't matter what stage a student was at, they just turned up on their day of choice and worked away.

But now, more than a decade later, with diminished resources and support, the section has had to become less flexible. They now tend to hold students in groups but, within the groups, they're not all doing the same thing. With theory, it is usually covered in blocks of 2-3 hours per week, and the rest of the time, students work at their own pace. The

teachers provide a lot of one-to-one support, regardless of where a student is up to or what they're working on.

This approach supports students who can learn on their own. Once they finish a module, they simply move on to the next one. They're not locked in to a required completion time. If their boss is happy, we'd encourage the more capable ones to do extra units, so they come out with much more knowledge and experience.

Resource support for flexible learning

Providing a more flexible learning environment relies heavily on resources, far more than more traditional lock step approaches. Because motivated students are more active, preparing for these classes is difficult. Working across a broad range of topics, means students are likely to ask things which the teachers may not be able to answer straight away. Students see that the teachers don't know everything but know how to access information - in books, specifications, or the internet. This approach seems to encourage students to do the same. As the teachers keep telling them, you can't hold everything in your head, you just have to be able to know how to find the information.

When the section moved to flexible delivery, a lot of short 10 minute videos on skills practice were developed. These were off the cuff demonstrations that were videoed using lots of close-ups with the teacher explaining as in a demonstration. The videos are much better than class demonstrations, which can be hard to see and hear for all in a group. The video provides a one-on-one demonstration which is great for self-paced learning. If someone wants to accelerate, we can say 'go and have a look at that video—it tells you what to do'. Then after viewing the instructions and demonstration, they can go and do their work, returning if needed to the video for more instruction.

Available learning resources are not always suited to flexible learning. Most of the resources used here have been locally developed. They really need renewal, but we don't have the resources to do it. 'Local development' is great in principle, but you need sufficient resources to do it. And right now, we just don't have enough staff, time or money!

An issue here is the way the structure of TAFE impacts on resource development. With the competitive Institute structure, it's more difficult to network, to find out who has what resources. It can be done, but it's too time-consuming. The clustering of teaching areas together, to support resource development for the engineering trades, as is being suggested through MECAT, should improve things.

The limits of flexibility

I said earlier that flexible approaches at Taree started off in the '90s with an extremely flexible environment, but they've gradually become less flexible. In addition to resource constraints it was found that if students learn alone, there is little opportunity for group work and the exchange of ideas. The exchange of ideas and ways of doing enable a student to broaden their knowledge base and experiences.

In contrast to self paced flexible approaches, lock step classes, when you have everyone together in a classroom, the teacher can guide and direct students as a group. Everyone gets to hear and interact with the stories. You can use peer pressure to motivate students who are a bit slack or use the better students to mentor slower students. In a self-paced environment, it is more difficult to get that inter-student interaction !

For example, we might have a range of ages in the one group, particularly in pre-apprenticeship classes. The older guys are generally very interested in what they're doing, whereas some of the younger ones just have the attitude that they're there to keep Centrelink happy. So I encourage the older ones to share their experiences with the young ones, not only in class but during breaks and hope these stories will influence the younger students to make the best of this learning opportunity.

Top Employability skills

Increasingly, manufacturing industry want employees who are smarter, good at problem-solving and more self-directed and motivated. How do you teach that?

We believe you've got to get them to work on their own and with others solving problems and sharing ideas. It's tough to do with the less able students. What I encourage is that the teacher plants the idea that the trade is about being clever, about knowing things, about building and gathering a knowledge tool kit . I tell the students that having knowledge is like having a bag of tools. Every time you get more knowledge, it's like putting another tool in the bag. When you work, you look in the bag, and take out whatever bit or bits of knowledge is most appropriate, mixing and matching to meet the situation's needs.

We keep pumping the line, 'if you're going to work in a trade like fitting and machining or welding and metal fabrication then you're going to be a knowledge worker'. I talk about the knowledge economy and where they fit in with their skills. I explain that knowledge, the combining and recombining of information to solve problems and develop ideas, is part of what they do as tradesmen. We work with knowledge to build, create, fix and maintain. I want these students to understand that they are important, that trade skills are very important to our society and to build their self respect.