Facilitating learning through effective teaching

At a glance

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research

There has been a strong shift in what research and practice tells us is good teaching and learning in vocational education and training (VET). Making this shift can be a substantial challenge for some VET teachers but many are now moving to facilitating learning through effective teaching. Useful strategies and models are included in this publication.

Key messages

The shift in teaching practice can be summarised as moving away from:

- a teacher-centred and supplier-driven approach towards an approach where learners are viewed as clients and individuals

- the passive transmission of knowledge towards the active and meaningful construction of knowledge, expressed colloquially, as a departure from 'chalk and talk' to a 'guide on the side'

- a passive role for learners towards their active involvement in the design of the learning process

- a focus on learning technical skills towards a focus on the whole person and learning to learn

- an emphasis on formal learning towards a more useful integration of informal and formal learning

- individualised notions of learning towards learning partnerships and communities of practice, whereby the whole group learns together

- an emphasis on verbal and directed learning towards hands-on, experiential and self-directed learning

- abstract learning contexts towards a more coherent integration with 'real' contexts such as workplaces

- assessment that merely measures learning towards assessment that aids learning

- assessment that controls learners towards assessment that empowers learners.

What is learning?

There have been numerous attempts to define learning, but basically learning can be viewed as the process of acquiring new knowledge, skills, insights and attitudes.

Senge (1990) suggested the useful and pragmatic definition of learning as increasing knowledge to increase the capacity for effective action. This is a useful way to consider learning in the vocational education and training (VET) context. Also useful in this context are the two types of learning Argyris (1991) has identified—single-loop learning and double-loop learning. 'Single-loop' means learning that has occurred but has had little impact on outlook or behaviour. 'Double-loop' learning occurs when the activity/s results in modification to learner attitudes or behaviour. Double-loop learning is important in VET today, especially with its increased focus on learning and problem-solving skills, and other generic or employability skills.

Although the study of learning has been given considerable attention since the late nineteenth century, the major shortcoming of early theories was that the learner was viewed as a passive receiver of information—an empty vessel to be filled with good information by teachers. The history of learning theory has shown a shift from this notion to one that accepts that the learner already has considerable knowledge and understanding about the world and takes an active part in creating new knowledge. This shift, from an 'instructivist' to a 'constructivist' approach, is the direction that teaching in VET has taken over the past several years. This latter approach is an important concept in the teaching of adolescents and adults.

The constructivists, who commenced their work in the late 1970s, have been interested in how people develop meaning in what they learn or, put another way, how they *construct* meaning from learning. They suggest that learners construct knowledge and meaning from the circumstances where they have experienced that knowledge, with the construction being viewed as an ongoing interpretive process reinforced by past and ongoing experiences. That means that people come to understand the world by drawing on what they already know and believe; it also means that different people may develop different understandings from the same learning experience. Interaction with others also forms a powerful source of meaning development too. The term 'socio-cultural constructivism' was coined to describe the process of learning in a social context.

Facilitating learning through effective teaching

Good teaching is now understood to involve a process of facilitating learning rather than being the simple transmission of knowledge from the teacher to the learner. The roles that teachers need to take to facilitate learning are outlined in box 1.

- Placing a strong emphasis on the workplace to provide a meaningful context for learning where problems are framed by the context of the workplace.

- Encouraging 'hands on' and interactive approaches to learning activities to allow learners to apply and interact equally with the thinking and performing aspects of learning.

- Establishing learning outcomes that are clear in their intent to achieve 'work-readiness' for learners.

- Giving learners the opportunity to collaborate and negotiate in determining their learning and assessment processes.

- Understanding learners as 'co-producers' of new knowledge and skills.

- Recognising that the prior learning and life experiences of learners are valuable foundations for constructing new knowledge and skill sets (although they can also impose limitations).

- Using flexible teaching approaches that address the different learning styles of students.

- Valuing the social interactions involved with learning in groups.

These new demands in teaching are reflected in VET teacher preparation courses. Examining the Certificate IV in Assessment and Workplace Training, Simons, Harris and Smith (forthcoming) note that it promotes a learner-centred teaching style, emphasises adult learning principles and values experience and interaction in the process of learning. This research also concluded that limited and simplistic understandings of how to accommodate different learners' styles and preferences have the potential to stereotype learners and they do little to encourage authentic participation in learning.

Different learners, different lives, different intents

It is well known that learners differ from one another. Consequently, teaching approaches should differ according to the individual learner. As Brennan (2003) notes: 'one size does not fit all'. The VET sector's learners are diverse and display a wide range of needs. This is partly because the VET sector is now providing programs in industries and places where it has previously not done so. In addition, learners are now drawn from both younger- and older-age cohorts. They also come from diverse cultural backgrounds. Some have a range of challenging physical, mental and social problems; the sector is currently seeing more of these learners. Many members of these groups may not be strongly motivated to learn when they enter programs, and correspondingly, many staff may not possess the skills to deal with many participants in these groups whose learning needs may require careful planning and negotiation.

Australian research on VET learning styles and preferences (Smith 2000; Warner, Christie & Choy 1998) has shown that VET learners tend to vary significantly in the degree to which they are willing to engage in self-directed learning by comparison with learning under close teacher guidance. They also differ in how much they prefer to learn using a hands-on approach as opposed to learning through listening and reading. These learning dimensions are outlined in figure 1. The really important issue here—apart from the identification of these two dimensions—is the idea that students differ from one another along the dimensions.

Figure 1: Two-dimensional representation of factors describing VET learner preferences

Dependent

Verbal ―――――――――――――――― Non-verbal

Independent/
Self-directed
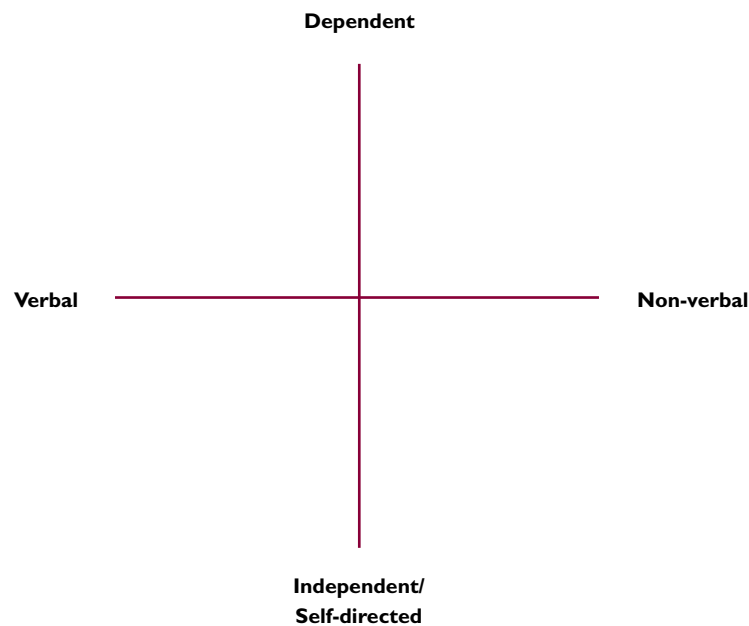
Other research on VET in Australia undertaken by Smith and Dalton (2005) indicates that VET teachers are able to work with these two dimensions in a way that enables them to respond to the characteristics of individual learners and groups of learners. More complex systems of measuring and understanding learning styles and preferences, where a large number of dimensions may be involved, made life far too complicated for busy practitioners, such that simpler understandings are more likely to be useful. That same research indicates the importance of a teacher or trainer being committed to a particular learning style or theory. The specific theory is less important than believing in or being committed to it—this commitment assists them to understand individual learner differences. It means that teachers understand the importance of learning style and are willing to address it.

Teachers and trainers have a wide range of instructional forms available to them, for example, face-to-face teaching, demonstrations, use of mentors, workplace experience, group discussion, independently used learning resources, e-learning resources, collaborative learning, problem-based learning and so on. These forms of instruction also tend to fit neatly on the two dimensions of learning preference shown in figure 1 and can be located on the continuum. This will vary according to how much they allow hands-on learning as opposed to reading or listening, and also how much they lend themselves to self-directed and independent learning as opposed to instructor-led learning, or learning that occurs in a social setting supported by other participants. Teaching that facilitates this choice of personalised learning and blend of delivery forms is an effective response in terms of learning outcomes, but also in improving learner satisfaction and teacher sense of professionalism (Smith & Dalton 2005).

Different learning for different clients

Although learning styles and preferences are important in understanding learners and responding to them, these are not the only issues relevant to learners—nor even the most important. Lifestyle and life circumstances are also considered significant. Interesting and informative work undertaken by the former Australian National Training Authority (ANTA 2000) in developing a marketing strategy for Australian VET provides a valuable insight here. The strategy identified eight different client types—according to their life circumstances—and the likelihood of each of these client types wanting to access VET, and for what sorts of reasons.

The report offers a detailed discussion of the learning attitudes and habits of each group, together with some data on typical demographics and lifestyle choices. Suggestions for training strategies and marketing responses to each of the identified groups are also provided. These marketing data are important in that they highlight clear differences in VET clientele and again emphasise that no single approach to teaching and learning is either sufficient or appropriate.

An Australian study by Choy and Delahaye (2005) indicated that young learners (17 to 24 years of age) were characterised by a preference for surface learning, low levels of self-directedness in learning, and a preference for learning that is unstructured. A 'surface learner' is not concerned so much with understanding as with more extrinsic purposes like passing assessments. A deep learner wants to learn to enable understanding to occur and is more likely to be intrinsically motivated.

Adult VET learners, on the other hand, tend to be more self-directed and, while tolerant of unstructured learning contexts, actually have a preference for structure (Smith 2000). While these differences between the age groups do demand a number of different teaching responses, both groups of learners are well served by a process of connecting learning to relevant life experience and to vocational outcomes. Strategies to help support learner groups are presented in box 2.

Box 2: Strategies to support learners

Choy and Delahaye (2005) suggest that, for younger learners, providing supportive guidance with increasing responsibility for their own learning is an effective strategy for developing skills for higher learning, and that critical and reflective thinking need to be built into assessment tasks, and that attention should be paid to self-esteem and self-confidence development where necessary. We would suggest that these are appropriate strategies for use with all learners.

Learning as a negotiated activity

Accepting that learners have a part to play in developing their own learning processes, contexts and outcomes brings with it the idea that learners also have a role in negotiating these issues with their teacher or provider.

It is useful here to explore ideas about personalised learning proposed by Mitchell et al. (2005) set out in box 3. These authors suggest that future VET stakeholders will not always be satisfied by learning directed to a group or an enterprise, but are likely to develop an interest in personalised learning based on the needs of an individual.

> **Box 3: Personalised learning**
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> Personalised learning, as suggested by Mitchell et al.
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> > …*entails collaborative approaches to learning combined with rigorous use of assessment information to set targets for achievement, based on an understanding of a student's current skills and capacity.* (Mitchell et al. 2005, p.6)

Modern learning technologies and resources enable this sort of personalised learning to occur, and the notion of 'co-configuration' is associated closely with personalised learning. Co-configuration means that a client and provider work together to develop a learning program and assessment regime that is, in Mitchell et al.'s (2005) terms, 'customer intelligent'. The notion that learners have an important part in negotiating the development, delivery and assessment of their learning programs is crucial to current contexts, but almost certainly will be more so in the future.

How learning is valued also relates to the context within which it occurs. Although interest in and valuing of workplace learning have increased, it appears (for example, Calder & McCollum 1998) that greatest value is still placed on traditional organised learning where people take time out to attend a scheduled class in a formal classroom with an identifiable instructor. More recently, increased emphasis has been placed on the integration of workplace and formal classroom learning—rather than viewing them as quite separate activities (Boud 2003). As Harris, Simons and Bone (forthcoming) note, there is a tension in workplaces between the needs of production and the needs of learning, which should be considered when negotiating and designing learning experiences there.

Discussions of the integration of workplace learning with more formalised learning contexts can be found in Chappell and Hawke's (2005) literature review on learning and work. In this paper they show that the value placed on learning by both learners and employers is likely to be enhanced where there is a clear strategy to connect off-the-job and on-the-job learning in a coherent and mutually supportive way.

Learning as a social activity

Rather than limiting the conception of learning to a process focused on individual learning in traditional classrooms, it is more useful to understand learning in terms which place 'greater emphasis on the influence of context and the organisation of work on students' learning' (Chappell & Hawke 2005). In this sense, learning is understood to be a social activity, where teams of learners work and learn in partnership with one another and their trainers. The gap between off-the-job and on-the-job learning can be narrowed by actively drawing on the social organisation and the authentic contexts of workplaces in off-the-job settings and by encouraging on-the-job workplace cultures that value learning for its potential to generate 'creative teams' in the workplace, enabling them to become learning organisations.

Some see a tension between personalised learning and learning with others in communities and partnerships. We say there is not. First, these things are 'horses for courses'. Teachers and learners can negotiate the appropriateness of either on an 'as needs' basis. Also, learning in a community or partnership does not mean individuality is lost—communities and partnerships are collections of individuals, each of whom will gain important skills in working in groups, the benefits of the knowledge and skills of others and the opportunity for individually relevant learning.

This view of learning opens up the possibility of learning partnerships in which students, instructors and other stakeholders are understood as 'co-producers' (Mitchell et al. 2005) of learning. Using this approach, learning is not merely about the transmission of knowledge and skills, but is also concerned with providing a valuable creative and transformative opportunity that involves the whole group in creating new knowledge and ways of understanding things, as well as helping to solve problems.

> **Box 4: Learning partnerships and learning communities**
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> By understanding learning as a partnership process within an organisation, traditional barriers to a broader organisational approach to learning can be broken down. The possibility of this occurring is increased greatly when there is an active attempt to create a learning community by incorporating learning partnerships into the workplace culture.

Forms of learning and their contexts

Learning can be considered as comprising a number of different forms including formal learning, informal learning, incidental learning, problem-based learning, situated learning and so on.

- *Formal* learning takes place in situations where there is a curriculum and a sequence of planned teaching and learning activities—what we associate with classrooms in their various forms.

- *Informal* learning is not normally associated with classrooms or structured learning, but is largely under the control of the learner setting out to learn something. It is achieved through observation, discussion with others, asking questions, and even making mistakes and learning from them.

- *Incidental* learning is learning that happens as the by-product of some other activity.

- *Situated* learning occurs when the knowledge being acquired is to be used in the same situation in which it was gained.

- *Problem-based* learning occurs through the activities associated with solving a problem—and could take place in a formal setting where the set problem is designed to result in particular learning outcomes, or the learning may be achieved quite informally through working on a real-world problem in a context such as a workplace.

Workplaces are rich contexts in which to learn since they provide other people, processes, equipment, workplace cultures, deadlines and so on. Although the site for apprentice learning for centuries, workplaces as rich learning environments only began to be recognised and legitimised in the late 1980s. It seems remarkable that it took so long for that recognition to occur. Since that time there has been a great deal of research interest in the workplace as a site for learning.

Workplace knowledge and other informal and incidental knowledge outcomes have been legitimised through a process known as recognition of prior learning (RPL). However, several studies, most recently Harris, Simons and Bone (forthcoming), have shown that, despite a willingness to provide good training contexts, workplace managements sometimes need assistance to achieve this.

Development of workplace expertise

Billett (1993), for example, has investigated the forms of knowledge required for people to work effectively. Billett's (1993) taxonomy of workplace knowledge requirements for people to work effectively as 'propositional', 'procedural' and 'dispositional' is particularly valuable. Propositional knowledge is *knowing about things* (for example, facts, theories etc.); procedural knowledge is *knowing how to do things*; and dispositional knowledge is about *attitudes and how to interact and behave* in a workplace. Another valuable concept is strategic knowledge (Gott 1989), which involves the ability to make judgements; knowing when to apply which knowledge to which problem is also a useful concept.

An influential five-stage model of expertise development was proposed by Dreyfus (1982). It is presented in box 6.

Box 6: Dreyfus model of expertise development

- Stage 1: *novice,* characterised by limited, inflexible, rule-governed behaviour.

- Stage 2: *advanced beginner,* where, in addition to the set of rules, the learner begins to learn some of the important situational aspects of the task, but may not be able to differentiate the importance of these features.

- Stage 3: *competent,* where the learner sees actions in terms of goals and plans, based on the selection of important features of the situation, and which are used to guide action.

- Stage 4: *proficient,* where the best plan of action is selected apparently unconsciously, and where situations are summed up quickly and plans selected.

- Stage 5: *expert,* where the performer acts intuitively from a deep understanding of the situation, appears to be unaware of the rules and features, and performance is fluid, flexible, and highly proficient.

(Dreyfus 1982)

As learners progress from novice through to expert, they progress from a relatively passive strategy of receiving information to strategies which are increasingly reflective and intuitive. They move from being 'empty vessels' to be filled with knowledge to become constructors of knowledge. Along with that comes a gradual withdrawal of the teacher in the form of coach or mentor, although some learners will always retain these types of people to help them improve, add to or analyse their skills.

Where people have become highly expert in a task, they may move to what is known as 'automaticity'—where the task can be carried out automatically. At that level some people may have difficulty communicating how they actually do the task. One of a teacher's most important skills is having the capacity to help others on their journey through these five stages—even if they themselves are already experts.

But how do teachers and others facilitate the development of workplace knowledge and expertise? 'Scaffolding'—the provision to learners of supportive contexts and guidance that enables them to engage with a learning task and receive advice and assistance while they learn it—is one strategy. The scaffolding is progressively withdrawn, or changed, as expertise develops. Looking at box 6 it is possible to see the increasing role of the learner in problem identification and problem-solving. Exercising judgement in the way that a task is carried out has also assumed a greater importance for the learner. They are learning to learn instead of merely following learned rules.

The idea of a community of practice (Lave & Wenger 1991) is relevant here. A community of practice comprises a group of people who work together and who have developed an understanding of the way they do their work. As newcomers join the group at a novice level, they are peripheral to the work, but as they become more proficient they take on a more central role—they move from the periphery to the core. On the other hand, newcomers may have skill sets the community of practice really needs, so they can pass their skills and knowledge to other members and gain new skills and knowledge in return. In this way all members benefit.

A list of strategies for facilitating workplace learning is shown in box 7. Basically they are concerned with providing opportunities for people to learn in authentic situations, but at the same time enabling access to guidance to assist their move from more formal learning and knowledge contexts to less formal workplace learning. In this way learners are more likely to be able to integrate the different forms of knowledge and make sense of them. Part of the 'making sense' process is providing opportunities to talk about issues and problems with others, to think about them, and to repeat the learning cycle as the level of expertise increases. It is important that learners develop not only the skills, but that they develop an abstract understanding of the specific piece of knowledge, so that they can reflect upon of it, have conversations with others about it, and use the knowledge in a range of contexts. They need to learn how to learn.

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Box 7: Strategies that facilitate workplace learning

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Collins (1997) has suggested a number of effective ways for teachers and trainers to facilitate workplace learning.

- *Authenticity:* material to be learned is embedded in tasks and settings that reflect the uses of these competencies in the real world.

- *Interweaving:* learners go back and forth between a focus of accomplishing tasks and a focus of gaining particular competencies.

- *Articulation:* learners articulate their thinking and what they have learned.

- *Reflection:* learners reflect and compare performance with others.

- *Learning cycle:* learning occurs through repeated cycles of planning, doing and reflecting.

The important message for educators and trainers is the idea that movement between formal and informal learning needs to be facilitated, and that teachers have an important role in assisting learners to move between these different learning contexts.

Assessment to aid learning

Assessment has two key purposes in the teaching and learning process. *Summative* assessment provides certification for learning and usually takes place at the end of a learning cycle, yielding a summary of what the learner knows and can do. *Formative* assessment is also important as it provides progressive feedback to learners about how they are progressing, helping the learner 'form' new ideas and understandings, using both their new and prior knowledge and experience.

Boud (2000) comments on the role of assessment in facilitating good teaching and learning practices:

> Assessment involves identifying appropriate standards and criteria and the making of judgements about quality. This is as necessary to lifelong learning as it is to any formal educational experience, although it may not be represented in formal ways outside the environment of certification. (Boud 2000, p.151)

If assessment is to become a process to facilitate learning beyond the context of classrooms, then approaches to VET assessment must also be consistent with the workplace- and client-focused teaching and training strategies discussed above.

Ideally on-the-job assessment should be integrated with the off-the-job aspects of learning and assessment to cater for the diversity of the VET sector's clients and learning contexts. Self-assessment strategies can support a learner-centred approach by encouraging learners to participate, both in setting realistic learning goals, and the eventual judgement made about their learning outcomes. If used carefully, self-assessment—and even using learners to assess other learners—has the potential to assist learners to achieve a greater depth of understanding about what they have learnt and what they can achieve. Involving teachers and learners in a 'professional conversation' is also a useful strategy because it encourages learners to participate in the design and implementation of assessment. In instances such as this, learners are required to develop a sound understanding of the standards and approaches adopted for their assessment to enable them to negotiate with the assessor over how, when and where evidence will be provided. This approach to assessment helps to develop the skills that learners need for critical self-reflection and lifelong learning, as box 8 suggests.

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Box 8: Assessment that facilitates learning

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Assessment to facilitate learning means that the powerful hold on assessment that assessors have traditionally held in educational institutions must make way for models where learners are given the opportunity to have more say in how, where and when they are assessed, and the areas they are assessed on. Such a model understands assessment to be important in aiding client-focused learning processes and places increased emphasis on the formative purpose of assessment.

Conclusion

The major conclusion of this *At a glance* is that contemporary education and training has moved from being almost entirely instructor- and provider-controlled to being a process where learners are much more likely and are expected to be involved in planning what is to be learned, how and when—and how the learning will be assessed. Many VET teachers have already adopted the approach proposed here. For many others, however, these approaches to teaching and learning may be both challenging and confronting.

Substantial changes such as those suggested may involve changes in the ways some practitioners have traditionally delivered VET, and mean developing new resources, as well as learning and assessment methods. This may involve significant rethinking and 'soul-searching' about their VET practice.

There are challenges to current skill levels and skill sets, challenges to the values held about teaching and the position that teachers hold in the teaching/learning context. There are also challenges for professional development and, as we have highlighted above, challenges for teachers to develop new teaching methods as they grapple with the recording and reporting requirements of the Australian Quality Training Framework.

With the many challenges come many rewards. VET clients expect contemporary and effective teaching and when teachers meet the challenges, both the teacher and the learner will be rewarded.

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