Learning Together
Working Together
Building Communities for the 21st Century

VOLUME TWO

Edited by Fred Beven, Clive Kanes & Dick Roebuck
Centre for Learning and Work Research, Griffith University

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VOLUME TWO
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For further information please refer to the 1998 Higher Education Financial and Publications Research Data Collection Specifications for preparing Returns, Higher Education Division, Department of Education Employment and Youth Affairs, Canberra.

Dick Roebuck
Conference Manager
Introduction


In the past decade fundamental changes have occurred in the ways vocational qualifications are developed, offered, accredited and related to economic goals and national productivity. New markets for training services and products have been constructed. New corporate-style training and education entities have come into being; and a new ethos has evolved surrounding skill acquisition and vocational education and its relations with compulsory schooling and higher education sectors. These changes have been informed by efforts to adapt, modify and extend traditional models of adult education, community education, vocational education and training, and human resource development. Developments in related discipline areas have also been influential. For instance, human capital theory and cognitive theory have played provocative and significant roles in developing ideas around concepts of learning and skill acquisition. And other discipline areas, such as anthropology, social psychology and sociology, have also made substantial contributions. For instance, the ideas of practical, cultural and every day knowledge have challenged the theory of learning. It is worth noting that key relationships among researchers, practitioners and policy makers have also been reorganised — work is perhaps better understood and more richly interrelated, designs for change are perhaps better communicated and more freely debated.

But new kinds of challenges lie ahead. One of these relates to the general outlook for a critically conscious society which features: the valuing of both the individual and social life; the valuing of social, cultural and other kinds of difference; belief in the importance of opportunities for communities and individuals to generate and assert a creative and critical stance towards their understanding and shaping of the future and the importance of connected meaningfulness in individuals' lives. Papers in this volume take up these issues and contribute to our understanding of them. They also create opportunities to discuss, share points of view, and think further about these issues. The papers have implications for research, practice and policy making not only in vocational education but in education generally.

Specific questions addressed include:

- What are the conflicts and tensions among the emerging kinds of knowledge, work and community and individual needs? What implications for practice do these imply?
- How are concepts of learning as a community of practice relevant to the relationships among the human resource needs of work, frameworks for qualifications certification and accreditation, and the role of teachers, trainers and policy makers?
- How are new digital technologies revolutionising learning relationships, and what
impact do these have on stakeholder communities, their interests and concerns?
• In what ways do emerging systems of post-compulsory education reorganise, redefine or reinforce the exclusion of communities and individuals from education and training?
• What strategies can be implemented to generate genuinely inclusive practices?
• What are the boundaries of economic globalisation?

As in previous years, this year's conference has attracted a large number of high quality research papers from researchers, practitioners and policy makers from Australia and overseas; papers draw together a wide range of disciplines, content material, and theoretical perspectives and many have been anonymously refereed by peer reviewers.

Members of the Centre for Learning and Work Research would like to thank sponsors and supporters.

Clive Kanes
Director, Centre for Learning and Work Research, Griffith University
November, 2000
Constructing and Deconstructing Literacy: Perceptions of Literacy in the Civil Construction Industry

Jean Searle
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The Queensland Centre of ALNARC (Adult Literacy and Numeracy Australian Research Consortium) has conducted two major research projects in 2000. The first of these aimed at addressing the effects of the inclusion of literacy and numeracy in training packages on the quality of learning and work outcomes. This research project has built on previous research conducted within the Civil Construction industry and focused on an examination of how staff employed at different levels within one company view training, and in particular, to document their perceptions of literacy training. The focus of this paper is to examine how 'literacy' and 'numeracy' are constructed by employees within one company, how 'literacy' and 'numeracy' are represented (explicitly or implicitly) within industry standards and then to deconstruct what this might mean for training.

The research which is reported on in this paper builds on studies conducted last year regarding the implementation of literacy and numeracy within the civil construction training package (Kelly & Searle, 2000). Both these studies were conducted by the Queensland Centre of ALNARC (Adult Literacy and Numeracy Australian Research Consortium) as part of a national project, funded by ANTA through DETYA, aimed at investigating literacy and numeracy in training packages.

One of the problems when investigating 'literacy' is that there is no universal definition of the term to which everyone subscribes. For politicians and many industry trainers it is useful to conceive of literacy and numeracy as sets of discrete skills which can be readily quantified, and which, when mastered would transfer to different contexts. This 'autonomous' model of literacy privileges a view of literacy and numeracy as decontextualised basic skills or 'generic competencies'. As a result, 'literacy' is seen to be a technical method of achieving a practical purpose. That is, it can be used to determine who needs what literacy, and how literacy skills or competencies should be measured. However this narrow view is contested by researchers (Street, 1984, 1995; de Castell, Luke & Egan, 1986; Hull, 1991) who argue that literacy is a social practice. Further, it is maintained that notions of literacy are tied up with questions of power and interest (Fairclough, 1989) so certain forms of literate practice are deemed to be 'desirable skills' as they maintain the social order of the workplace, for example, filling in forms and following instructions. But there are also certain literate practices which maintain the 'social organisation' of the workplace, or 'socialisation' (Gee, 1990/1996), that is, they enable employees to work collaboratively. Often such practices are not recognised by supervisors and management. It is this tension between workplace skills and workplace practices which forms the core of the ALNARC research in Queensland.
Discourses

The research which is reported here is one attempt to describe and make sense of a construction company's meaning systems and social practices with respect to training and requisite literacy and numeracy skills, through an analysis of company policies, industry standards and interviews with company staff. This research involves not only describing how the company's meaning system is generated and sustained but also identifying the underpinning values, as it is through values that people have the capacity to adapt to, react to, or shape an environment. A useful starting point is Gee's (1996, p. 127) definition of Discourses as "ways of being in the world, or forms of life which integrate words, acts, values, beliefs, attitudes, and social identities" all of which are socially and historically constructed. Such Discourses involve many sub-Discourses made up of concrete objects (literally and metaphorically in the construction industry), for example, heavy machinery, scaffolding, site plans and signage, as well as abstract concepts of knowledge such as norms, values, beliefs. Another way of looking at the company, or workplace Discourse, is as if it were a club, with its own set of rules about who can or cannot be a member, and how members ought to behave. These rules may or may not involve a range of 'rites of passage' or tests which serve to preserve the culture of the club while at the same time ensuring membership. These "Discourses are not mastered by overt instruction...but by enculturation or 'apprenticeship' into social practices" (Gee, 1990, pp. 146-147). So, for employees this would involve being initiated into the workplace or company philosophy, as well as complying with company expectations, attitudes and ideologies.

Methodology

The research began with a review of the literature relating to the changing nature of work, the organisation of work and implementation of training packages, and in particular, the effects of the inclusion of literacy and numeracy in industry standards on the quality of learning and work outcomes. At the same time a site was identified for study and company policy documents and organisational structures were noted. This led to the identification of certain key personnel for interview and they in turn suggested other key people. Prior to the interview, informants were acquainted with the purpose of the study and asked to consider their involvement in the company, their views on training and literacy. During the interview the following set of topics was used as a prompt:

- Changes to the industry and resultant needs of employees
- Learning opportunities historically provided by the company
- Recent learning opportunities
- Assessment program that has been implemented
- Envisaged learning opportunities for workers
- Problems related to learning/communications within the enterprise
- Ways that these problems are being addressed.

This approach proved to be successful as it allowed the researcher to make maximum use of the time available and enabled flexibility in allowing previously unforeseen issues to emerge (from informants) while at the same time, permitting systematic interviews on particular topics across participants. It was decided to make a literal transcription of the spoken language of the interview, including false starts, emphases, non-lexical items such as 'um' and discourse markers such as 'and' and 'so'. Also, an on-going record was kept of general topics covered during the interview as well as researcher interpretations and any comments on the interview setting, the respondent, follow-up questions and so on. Finally, all transcripts were sent to the informants for verification and authorisation for publication.

The transcripts were initially reviewed in relation to Gee's (1990/1996) concept of a
Discourse to identify what meaning systems were used by the informants. During this process several interpretive categories, or classification schemes, began to emerge, which were later utilised in the coding of the transcripts. For example, a number of discourses revolved around concepts of ‘work’, ‘training’, company values and literacy. Fairclough (1989) argues that the way in which people ‘name’ their worlds, their word choice, is not random but tends to reflect and shape particular views, ideologies and values. Once these are identified it is possible to understand patterns of social organisation and power relations.

Discussion

The following section will begin with a brief outline of the company policy followed by an overview of literacy and numeracy competencies in the industry standards. These are presented as background to a discussion of interview data.

Company Policy

The company has a strong foundation in civil engineering and has contributed to much of Australia’s infrastructure and structural foundations. In so doing, it has been responsible for a range of projects that ‘sustain our way of life’. The company offers a ‘single-source solution’ — it can design, construct, build, own, operate and maintain as well as transfer options. It also has ‘single-point accountability’ which is of benefit to clients. The company code of ethics promotes non-discrimination and the treatment of the community, the people and the environment with dignity and respect. The code includes a statement regarding provision of opportunities for the inclusive ‘our’ people to develop and enhance their skills and knowledge. This is expanded upon in the corporate objectives as a principle: to enable our employees to develop their potential by providing appropriate training and career path development. Meanwhile the corporate quality policy is built on maintaining and enhancing a reputation for efficiency, cost effectiveness and timeliness in the completion of contracts.

The company takes a strategic approach to employee relations and targets the development and maintenance of the highest level of workforce and sub-contractor performance. As a result, training assumes an extremely high profile within the company. For example, training in the company management systems is said to enhance team building as well as to accelerate the integration of the company management systems into operations. The training and development goals of the company are to ensure that employees are the best they can be in their role; to facilitate the rapid transfer and development of knowledge; and to become a learning organisation. As a result, every employee can access formal and informal learning and skills development programs to assist in personal and organisational development. The company itself is an Registered Training Organisation and is capable of delivering nationally accredited programs itself or in conjunction with other providers. Skills development is available in a diversity of delivery modes both on and off-site. Company trainers (who have gained qualifications in Management Education Programs and Frontline Manager Programs, and expertise from experience in the company) provide courses which provide knowledge and skills specific to company policies and procedures.

The Civil Construction Competency Standards

As stated previously, the civil construction training package was endorsed by the National Training Framework committee in October 1998 and, at the same time, agreed to by Commonwealth, State and Territory Ministers (ANTA, 2000). The training package covers key activities engaged in by both plant operators, who typically operate a range of machines including backhoes, graders, scrapers, front-end loaders, tractors and excavators; and non-plant operators, who engage in road making and maintenance,
tunnel construction, rail and track laying, bridge and marine building and pipelaying.

The Civil Construction package has been developed to Australian Qualification Framework level III, with three further levels planned. There are fifteen units of competency within the first level, fourteen of which have core or mandatory status. Furthermore, they are pre-requisites for later competencies. Eleven of these units are 'technical' in nature while the remaining four might be considered 'generic'. These generic units of competency are:

- Carry out interactive workplace communication;
- Carry out occupational health and safety requirements;
- Plan and organise work; and
- Carry out measurements and calculations.

When developing and revising the civil construction competency standards, there was an intention to incorporate literacy and numeracy competencies within them in an implicit way. For example, within Certificate Level II, workers are expected to be familiar with relevant occupational health and safety requirements as well as organisational requirements, including those pertaining to quality assurance. Further, at Level II, competent workers are required to be able to interpret site plans, site drawings and specifications and to measure correctly (underpinning knowledge). Finally, they must be able to "communicate effectively" (underpinning skills). Exactly what is entailed in these processes is not made clear, however, the literacy and numeracy demands that these competencies assume are quite high.

Interviews

Interviews have been conducted with the Training Manager (Queensland) [TM], the Training Co-ordinator (Pacific Motorway Project) [TC], an Engineer [E], a Safety Officer/Trainer [SO], and three Leading Hands/Foremen [LH].

What was immediately apparent was the overwhelming commitment to training and the development of a training culture within the company. These conclusions are evidenced by the following excerpts from interviews.

Company Skills Development Program...training is part of our culture. We've got a culture that, you know, is ingrained in — if we do the training we see the benefit in it [TM]

[Commitment to training in the workforce]...it's got to come from the top down. That is imbued upon the rest of us from our managing director ...[along with] other salient measures that we employ but the quality of our work, the safety policy we have, our attitude and commitment to environmental sensibility, all those things come from the top down and training's no different [E].

As the Safety Officer commented, "the attitude 'all I want from you is ... from the neck down...' we're trying to get out of the industry and replace it with that learning process, where everyone is benefitting because if we get our fellows at the bottom level benefitting, the company as a whole benefits". This was reinforced by all informants as they commented on the changes within the industry and changes in attitude towards training, whether it be through the implementation of training packages or through the emphasis on Front Line Management training for supervisors.

In addressing problems related to training, the issue of literacy or lack of literacy emerged during the interviews. The majority of informants appeared to view literacy and numeracy in terms of basic skills (reading, writing and calculations) which would be required to complete certain tasks. For example, as the following quotation demonstrates, literacy and numeracy are seen as being an essential part of the job.

I've got a dogman's ticket and that was um, that was a lot of reading and um lot of maths (and) with the scaffolders' there'd be a lot um a lot of maths to work out formulas for you know, whatever. [LH]
This autonomous view of literacy and numeracy is stated explicitly in the core competencies ‘carry out interactive workplace communication’ and ‘carry out measurements and calculations’. There is also an assumption, which is evidenced in the following excerpt from an interview, that these basic skills will transfer to training at Level II, although the Training Coordinator appears to indicate that higher-order skills or more specific literacies are required for Level III.

Certainly Level III because Level II competency numeracy and literacy is still fairly low and people talk about Level II being a say a second, third year apprentice-type person who probably fills out time sheets and basic things like a time sheet and some safety check lists and things like that. When they get into Level III, the trades level they really have to start looking at quality documents and things like that and that’s where we’re really starting to find out where the problems are. [TC]

Although many of the informants view literacy and numeracy as basic skills essential for training, in many cases the examples given refer to social/workplace texts and practices. For example, as the training manager noted “there’s a lot of blokes who are very good at what they do, they [just] can’t articulate that onto a piece of paper and that holds them back”. So, in order to engage workers in training on-the-job, specific attention has been given to the mode of delivery and the production of training materials featuring highly contextualised literacies. The development process and allowance for workers with limited literacy skills are articulated by the training manager in the following extracts from his interview.

One of the things we did down on the Motorway was to get up A3 Tool Box talks. Well they’re much more interactive, there’s pictures and things like that. That was one of the things we did so that those people who did have problems with it, with literacy, could actually see it on a piece of paper. [TM]

I mean we’ve spent x amount of dollars developing all these training manuals, it’s no good if 90% of the guys out there can’t read and write is it, you’ve wasted your time and money. All the contractors put in x amount of dollars ah into the kitty to go away to [XXX] Training to do up the training manuals ah that addressed competencies within the training package. The first round were paper based, book based, now we’re starting to get them on CD Rom...on overheads, all that sort of thing. [TM]

It can been seen from this excerpt that not only is literacy related directly to the workplace practices but the views expressed by the training manager also reflect the social/power relations within the company, in this case core values related to cost effectiveness. Literacy is also seen to be a desirable skill in relation to workplace safety and assessment of risk. This issue was raised by more than one informant but is best expressed in the following extracts from interviews.

Pre-Start Checks for equipment. A bloke gets on a dozer in the morning, he does his pre-start bla bla bla and away he goes. Now again if he has literacy problems, is he actually understanding what is suppose to be in there or is he ticking the box so it keeps him out of trouble? [TM]

But I think when you delve deeper into it, more and more we ask people to fill out more forms because of safety and environmental legislation etc, etc and probably insurance as well, I think we’ll really open up a can of worms. [TC]

So, literacy is now required in order to maintain the social order in the workplace and also to protect the company from litigation. The final comment from the Training Co-ordinator, cited above, sums up what a number of the informants felt. Added to the metaphor of ‘a can of worms’ were statements such as lack of literacy being ‘an accepted evil’ and ‘it’s frightening really’. Each represents particular views of literacy as being related to deviance (which needs to be controlled) or ignorance (which can be resolved through training). Until recently no-one asked if a labourer could (or needed to) read and write, “I assume[d] that everyone that’s my age or
younger can read" [LH] but “from the safety inductions we found that literacy levels [of sub-contractor workers] ...the problems of literacy levels were fairly high compared to our own workforce because we had picked our own workforce...with our employment procedure” [TC]. While some informants do not believe that it is the role of the company to teach people to read and write, others accept that it is necessary for a productive, efficient, safe workforce. According to the training manager,

[Literacy is] definitely something that has to be addressed because it's the basis of what all this training is about, um some of the things too are becoming more technical. I think it [literacy and numeracy] should be rolled into a training package as an add on if you like so at the same time as they are doing this competency based training there's an extra in there for basic reading and writing to get them to a level where they understand, you know, the materials or the information that you're providing to them. How you go about that is a different matter. [TM]

From this point of view, literacy is seen as an enabling skill, useful to maintain the social order of the workplace. For example, the engineer, when commenting on the need for good communication skills, appears to suggest that ‘back down the workforce’ this relates to having literacy and numeracy skills. Nevertheless, the bottom line is getting the job done, right the first time, safely, thus reducing costs. Further, according to the engineer “training will also enable you to have more skilled workers who can perform a variety of tasks and so reduce the level of workforce you might need”. So, the move is towards having a core of multiskilled workers who transfer from project to project. These workers will build up situated expertise whilst at the same time be willing to engage in further training. Thus, to fulfill the goal of becoming a learning organisation, opportunities were provided for everyone who was motivated to participate in training. It was acknowledged that some older workers were not interested in gaining qualifications as they were close to retirement, but if the younger ones did not accept the training culture then their days with the company were numbered. The Safety Officer gave the following two examples.

I know of three blokes on site basically that do have a problem with literacy and numeracy. One of them just left yesterday; he wasn’t really prepared to help himself so there's not much you could do about that. [SO]
We had another Superintendent that came from an outside company and it just didn't work out. He didn't follow the [company] philosophy and wanted to do his own thing... so they decided that perhaps he wasn't the man for them. ...wasn't the company for him. [SO]

Along with individuals being prepared to engage in learning, they were also expected to become 'socialised' into the company Discourse, “the ways of being in the [company]... which integrate words, acts, values, beliefs, attitudes, and social identities” (Gee, 1996, p. 127). Gee refers to this process as the ‘acquisition principle’ through which employees are exposed to or immersed in the company culture and value system. Thus, employees are expected to develop their skills ‘to be the best they can be in their role’ and enhance the company’s reputation for efficiency and cost-effectiveness.

**Conclusion**

This brief snapshot of one company indicates how work has become increasingly collaborative, with more co-ordination through information networks, thus ensuring greater accountability and quality control. At the same time, employees are encouraged to become multi-skilled, to keep up-to-date on new systems and new programs. In addition, this workplace is a site of changing management structures and work practices, with the introduction of Front Line Management and Train the Trainer programs all of which demand high degrees of worker collaboration both to sustain those structures and to support the individual. The informants were enthusiastic about their role in achieving company objectives. They saw training as being of benefit to individuals as well as the company as a whole and it appeared that most were willing to comply with company interests and values. Literacy, numeracy and good communication skills were seen as being fundamental to these processes.

It has been argued, that while literacy and numeracy are visible as basic skills within core competencies, they are also perceived to be essential underpinning skills for the performance of workplace tasks and training, the implications being that they should be ‘built in’ to all training programs. At the same time, it is apparent that social literacies are required for successful engagement in work practices including workplace communication meetings, so workers may need to mentored into knowing and using the appropriate literacies. Further, it is contended that while certain literacies are critical to the maintenance of the social order within the workplace, others play an essential role in the socialisation of workers into those communities of practice and distributed literacy knowledge valued by members of this company’s Discourse. It must be recognised that these essential literacies can only be acquired through enculturation or ‘apprenticing’ (Gee, 1990) employees into the Discourse of the workplace.

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In-depth Interviewing as Sociocultural Practice

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In western social science and educational research, the in-depth interview is used increasingly to gather data. Unstructured or semi-structured in-depth interviews are used where the focus of the research is on the stories of individuals, rather than data from a selected sample which is subsequently subjected to statistical analysis. This working paper begins to trace how in-depth interviewing has become accepted practice for gathering data in the research community. It also considers that while there is widespread use of in-depth interviewing for interpretive, critical and life history research in psychology, sociology, medicine, psychoanalysis, women's studies and education there seems to be little discussion about the impact of sociocultural factors in relation to how researchers gather data.

This research began out of an overwhelming sense of responsibility when I was the sole researcher interviewing a large and wide ranging number of participants in a major two-part commissioned project (Chappell & Melville, 1995; Wagner & Melville, 1995). This was the trigger for my research into in-depth interviewing processes. I was familiar with the raft of interpersonal skills considered to contribute to the competent production of an effective interview. These skills included non-verbal communication (Burgoon, Butler, & Woodall, 1989), self-monitoring (Snyder, 1974, 1979), rhetorical sensitivity, empathy, self-disclosure and reciprocity (Mohan, McGregor, Saunders, & Archee, 1997) establishing rapport (Goodale, 1982), intercultural sensitivity and awareness of variations in communication styles (Clyne, 1994; Gallois & Callon, 1997) and in particular listening skills (Anderson & Jack; 1991, Burley-Allen, 1995; Mohan, McGregor, Saunders & Archee 1997). Despite this valuable literature, when I focussed on the interpersonal communication competence of the interviewer based on these skills I became uneasy with this approach. Skills measuring instruments alone could not account for all that was happening in the in-depth-interview.

Interpersonal communication is more than measurable words and actions. Responses to feelings which are much more complex to measure are also involved (Kaye, 1994). In addition, the way an interview proceeds is embedded in other factors that are sociocultural in nature. For example what I bring to each interview is that I am a white Anglo-Saxon mature-aged female part-time postgraduate student with a teaching background who is now working full time on contract in a research centre which in itself is part of a wider academic research community. And this does not touch on the influences from experiences through my personal life. In the project mentioned initially (Chappell & Melville, 1995; Wagner & Melville, 1995) my research participants were from diverse ethnic backgrounds, some were older and some were younger, some were female and some were male, some were students and some were teachers, some were both students and teachers, while others were program coordinators or directors of institutions in positions of relative power. The sociocultural relationships I had with these participant interviewees were diverse. My research interest then focussed on the impact that these socioculturally different relationships and the
interview context they produced might have on the practice of conducting interviews and on the data collected.

**Scope of This Paper**

In this paper I focus on sociocultural factors within the practice of in-depth interviewing. To contextualise the study I discuss the way in which the research community uses the term ‘in-depth research interviewing’ and then historically trace the sometimes provocative but significant use of in-depth interviewing as a research tool and methodological issues that arise. I then discuss some of the sociocultural issues which influence the gathering of data through the in-depth interview. The purpose of this working paper is to raise issues that arose out of my pilot study. To conclude I argue for a heightened awareness within the research community of the sociocultural issues in the conduct of in-depth research interviews. The analysis of the data which is also crucial to research outcomes is outside the scope of this paper.

**In-depth Interviewing**

In-depth interviewing is discussed in a variety of ways in the literature. References to in-depth interviewing are more usually found as inclusions within chapters in research methodology texts, for example as in Bogdan and Biklen (1982), Powney and Watts (1987), McCracken (1988) and Maykut and Moorehouse (1994) or at best as a chapter in qualitative research methodology texts or handbooks for example Fontana and Frey in Denzin and Lincoln (1994) and Lindlof (1995). Mishler (1991) discusses various forms of in-depth interviewing in his book on research interviewing focused on context and narrative while Minichiello, Aroni, Timewell & Alexander (1995 2nd ed) focus fully on in-depth interviewing in an Australian context.

Generally, an in-depth interview is described as being informal, following either a semi-structured schedule technique with main points and prompts (Goodale, 1982) or as being completely unstructured (Fontana & Frey in Denzin & Lincoln, 1994) or merely a ‘focused’ technique (Runcie, 1980). All techniques use open-ended questions that are intended to encourage the respondent to discuss or talk freely about the topic in question. In-depth interviews are synonymous with the ‘tell me your story’ approach where there might only be one respondent, possibly with a series of interviews over time (longitudinal). They have also been described as flexible and conversational (Goodale, 1982). This is in sharp contrast to the more formal, structured survey/questionnaire type of interview with set questions that are asked of a number of participants. In this type of interview the questions asked are usually what is termed ‘closed’ (that is they allow for no discussion). However, some structured interview schedules do include a small number of open-ended questions to gather responses to questions that relate to feelings, attitudes, values and beliefs.

Nevertheless, a concise definition of the less structured in-depth interviewing is difficult to find. Mishler, (1986, p. vii) for example defines an interview as a joint product of what interviewees and interviewers talk about together and how they talk to each other. Other writers define in-depth interviewing as a conversation with a purpose (Lincoln & Guba, 1985; Maykut & Moorehouse, 1994; and Minichiello, Aroni, Timewell & Alexander, 1994).

To illustrate what I describe in summary as my working definition I use an analogy from my childhood when I would look at pristine sheets of paper on the desk in front of me and wonder at what words or drawings would ‘appear’ on the page. I was conscious that the outcome depended on my interaction with the page. To develop the analogy with interviewing I could say that what appeared on the page not only depended on me - it depended on the other ‘actors’, in this case the paper and pens or markers. If I had not drawn on that particular
type of paper with those particular pens, pencils, markers, crayons, or pastels then I would have to adapt and modify, experiment and bring knowledge from former experience into play. It occurred to me that this is not too different from what happens in an in-depth interview. Although what appears as conversation is the outcome of my interpersonal skills and use of language, it also depends on the way I am feeling in the interview situation, what I am thinking about in relation to my life experiences — the previous sociocultural knowledge I bring to that conversation. As the other ‘actors’, the respondents (like the paper and the drawing and writing materials of my childhood drawing experiences), may be quite different from what I have previously experienced I then adapt, modify, experiment and bring my sociocultural knowledge into play during the interview.

In summary my current working definition is along the lines of an in-depth interview being an informal, unstructured research practice in which an interviewer and a respondent collectively and informally produce data within a specific sociocultural context.

The Historical Perspective
To develop an understanding of how in-depth interviewing became a research technique in the way that it is currently used, I take a brief journey into the long history of the use of interviewing. For example, census interviews are thought to have been used initially by the Ancient Egyptians in the collection of census data. These interviews would have been structured, survey type of interviews in our current terms. The first use of unstructured rather than structured interviewing in social research has been attributed to Booth who in 1886 studied the economic and social conditions of the people of London (Fontana & Frey, 1994). Nevertheless, it seems to have been many years before American social researchers began to emulate Booth’s technique. One noteworthy example cited by Fontana & Frey (1994) was a classic study by Anderson in 1923 in which he used informal in-depth ‘conversations’ in research with homeless men. Further development of the use of the in-depth conversation or interview moved hand in glove with changes in thinking on research perspectives and methodologies.

Emerging alternate methodologies required research tools that were different from those used in the more traditional ‘scientific’ or ‘positivist’ research methodologies. During the 1920s and 1930s, when scholarship was still almost exclusively a male positivist domain and the social sciences were not regarded as being ‘reputable’ disciplines (Warren 1988), ethnomethodology (although criticised by some positivist researchers for being too subjective) emerged as an alternative methodology. This emergence occurred as a result of a growing unease among some researchers with the use of survey styled structured interview technique in studies about people’s lives and in particular the feelings, values and attitudes that shaped their lives. As such factors were difficult to research in scientific terms there was a growing movement to establish another method.

As a result of this movement the less structured in-depth interview process became a subset of the emerging ethnomethodology as it lent itself to eliciting life stories. The use of this type of interview grew in research disciplines that collected life stories and case studies or in grounded theory studies in which the theory emerges from the data such as in phenomenology (Straus & Corbin, 1990). In addition, Hollway and Jefferson (1997) describe the usefulness of what they term biographical-interpretive methodology and the place of in-depth interviewing in relation to eliciting narrative. The first recorded use of this method according to Hollway and Jefferson was in the collection of the life stories of Jewish survivors of German concentration camps.

In summary, in-depth interviews were used to gather information about individuals, where the individual story was considered important. These stories did not lend themselves to statistical analysis and the terms quantitative and qualitative began to appear
in the literature to broadly describe the characteristics of the differing approaches to research. The qualitative literature argued that in-depth interviewing was a more appropriate methodology where researchers were trying to make sense and meaning from everyday day life (as in qualitative studies) rather than being removed from the data and results subjected to rigorous statistical analysis (as in quantitative studies).

In-depth interviewing has since been used for research in many other disciplines other than in sociology including psychology, medicine, psychoanalysis, women's studies and education. But the debate around the merits of quantitative and qualitative continues with parts of the research community closing ranks behind one or the other approach while yet another part of the research community believes that there is a place for, and therefore, uses both.

There was another influencing factor woven through the evolving use of the interview and that was the gradually changing perceptions by researchers of the position of 'the subject of the research' (Lee, 1993). In the nineteenth century the favoured method of obtaining social inquiry data had been to gather information from other researchers, or 'informants' who were thought to be 'authoritative' and described as 'official sources'. At that time the accounts of the research subjects themselves were discounted in favour of the accounts derived from these authoritative informants (Lee, 1993). But slowly there was a shift away from this 'informant interviewing' to what was described as 'respondent interviewing', the respondent being 'the subject of the research'. In some instances key informants from subject groups were used (Merriam & Simpson, 1989; Lindlof, 1995).

A consciousness that valid and reliable data could be collected using interviewing grew. Thus, in-depth interviewing in which the respondent's own meaning and context was valued gained greater credibility in the research community. A further move within some disciplines was towards that of the 'subject' position being that of being a participant in the research.

As might be expected the use of the in-depth interview has not been without its critics. The validity of in-depth interviewing is questioned by 'positivists' (practitioners of scientific research) who question the validity of depth interviewing (Smith in Richardson, 1996). However in response, exponents of other perspectives (interpretive and critical research) differ in how validity is viewed and argue that every individual story is valid (Lee, 1993) and Merriam and Simpson (1989) argue that this is so because it gets beneath surface appearances.

**Methodological In-depth Interviewing Issues**

For those who value and use in-depth interviewing there are a number of methodological factors that arise. One factor is that the researcher becomes a participant in the production of data (Merriam & Simpson, 1989) and is no longer the detached researcher as was the preferred position in scientific, positive research. Another factor is that by the very nature of asking questions and probing for deeper and deeper layers of responses the participant researcher becomes an instrument within the research process.

Although the interpersonal skills of the interviewer as a participant and an instrument are crucial to the research outcomes, additional factors like those that arose from the analogy with the production of my drawings as a child that are also crucial. These include the context of the interview, the relationship that surfaces between the participant researcher and the participant respondent, the sociocultural factors brought to the interview by both participants (Richardson, 1996), and the ethical issues related to invasion into people's personal lives. These issues include the privacy, the beliefs, and the attitudes of the participant, all of which need to be preserved and respected by the interviewer.

Yet another methodological issue arises in unstructured interviews in which the interviewer has greater freedom in the questioning process because there is no guiding or manda-
tory set of structured questions. With this freedom, there comes a greater responsibility and the requirement of a conceptual understanding of the research context by the interviewer. Thirty five years ago in-depth interviewing was considered by Richardson, Dohrenwend and Klein (1965) to require the expertise of more experienced interviewers and I don’t think this appears to have changed. However the question can be asked as to what comprises ‘experience’. Does the ‘would be researcher’ serve an ‘apprenticeship’ as a research interviewer or does that experience stem from their expertise in another profession?

Along with the growing use of the use of the in-depth interview in the latter part of the twentieth century came a growing literature around issues related to the stories told by research interview respondents in in-depth interviews. These issues included the concept that there was no single ‘real’ story just as there was no ‘real’ words or drawing that would magically appear on the pristine page of my childhood. There was a growing recognition that there were multiple stories that could be told just as there could have been many drawings that could have been drawn on the page. Why is it that any one story is told at any given time? What factors interweave to produce a particular outcome — a particular story — a particular drawing? Is there a story waiting to be told or is it constructed between the interviewer and the story teller? Is it because the in-depth interviewer uses a particular style in that context and if they did why did they? In some instances the interviewer might ask a question and then largely play the role of the listener encouraging the respondent to tell their own story (Richardson et al., 1965), in others they may play a more active role. Could it be the result of how two people react to each other on any given day? Is it serendipitous? Is it the effect of the environment in which the interview is conducted? Had one of the participants missed the bus and been angry or anxious at the time of the interview? Is what results as data dependent on the power relationships between the participants? Do the participants come from similar or different sociocultural backgrounds? Are they friends? Do the sociocultural practices associated with that previous employment manifest themselves as interview practice? While all of these questions warrant discussion, many have been dealt with in the literature so my focus is on the interconnectedness of the vocational or professional sociocultural practices that might be brought to the interview by the participants, particularly by the interviewer.

The Research
Initially I conducted a pilot study with three research interviewers from 3 different fields of practice within education; one from training and development, one from language and literacy with a background in psychology and a third from interpersonal communication.

The pilot study was conducted using a semi structured in-depth interviewing technique to investigate the research experience of the researchers, their research philosophy, the communication skills they consciously employed, the communication skills considered by each of the researchers to have the strongest effect on research outcomes, each researcher’s level of training in interpersonal communicate skills, and the practiced communication management processes described by the researchers.

This pilot study was designed as a forerunner to further interviews. The interpretive analysis of these interviews was to be triangulated with the results of two recognised instruments focusing on listening and interpersonal skills. However it became clear that it was difficult to ‘measure’ and ‘describe’ a suite of skills that was appropriate for triangulation with the interviewee’s responses and which fully encapsulated the practice of interviewing.

In pursuing an alternative to this, I made a video of myself interviewing a colleague using the semi structured in-depth interviewing technique used in the pilot study. This video was shown to a small focus group consisting of research interviewers from different primary disciplines (psychology, law
research, and counselling) but all associated with the Faculty of Education at the time. The participants were asked to discuss whether the videoed interview addressed the stated research aims listed above. During the discussion that followed the participants suggested that I interview each of them individually as a follow up.

What emerged from these follow up interviews was that the style of interview technique favoured by each interviewer appeared to be embedded in the genre of their primary professional practice. By way of example the counsellor appeared to favour an interviewing style used by counsellors and the law researcher appeared to favour an interviewing style used by law researchers even tho the setting was outside of that particular professional practice.

Following this development, my focus moved from the 'testing of skills/ triangulation approach towards viewing each interview as a slice of each participant's experience and interpreting that slice as one take on sociocultural practice.

Sociocultural Practice
There are specific social and cultural factors that are useful to a discussion of interpersonal communication in a sociocultural context and how these factors might come together in in-depth interviewing as sociocultural practice. Kress (ed 1988, p. 127) states clearly that as practice, process, or activity, interaction is 'always taking place in a socially specific time in history'.

To clarify what I mean by sociocultural practice some discussion of the use of the terms 'social' and 'cultural' would be beneficial. The use of 'social' is multifaceted. A simple understanding is that of 'certain species of humankind living together in organised colonies or groups' (Jary & Jary, 1995). Another understanding that is more useful for this study is that of pertaining to human society and or to human interaction in organisations or groups. Some areas of life generally are considered to be socially produced rather than naturally given or determined — in other words there is a social construction of reality (Jary & Jary, 1995). Part of that social construction is the way we use language and language is the medium of the interview.

An understanding of 'social contract theory' (Jary & Jary, 1995) is also useful to research interviewing practices. The theory applies to that process whereby individuals who are by nature free and equal, agree to renounce part of their natural liberty by entering into civil society and constituting a political authority to which they subject themselves for the sake of the advantages provided by civil society. The right to rule and the obligation to obey derive from the agreement. Such an agreement is called a social contract. It could be argued that in an interview the interviewee agrees to renounce some liberty by agreeing to respond to questions for the sake of the perceived advantage to the society.

'Culture' can be defined in simple terms as the human creation and use of symbols and artefacts. But more descriptively, and more useful to this discussion, culture may be described as constituting the 'way of life' of an entire society, and this will include codes of manners, dress, language, rituals, norms of behaviour and systems of belief (Jary & Jary, 1995).

One cultural theory, that of 'cultural relativism', has particular implications for research interviewing. The term can be used in two ways. The first is that different cultures have different customs, social institutions, moralities and so on, but the second and more controversial view is that those who belong to one culture cannot form a valid judgement of any custom, institution or beliefs which is part of a culture which differs significantly from their own. The argument is that there is no non-relative (absolute) basis from which to judge and that proper judgement can only be made from inside, that is from the standpoint of the culture judged (Mauthner, 1997; Edgar & Sedgewick, 1999). This has implications for research methodology when a researcher from
one culture is required to interview respondents from another.

Other useful terms are ‘cultural shock’, ‘cultural stereotyping’, cultural diversity’ and ‘ethnocentricism’. Cultural shock is the psychological reaction to stress experienced when transplanted into another culture with different customs, systems, and signage and so on, and cultural stereotyping is the tendency to perceive all members of a culture as being the same. To not accept cultural stereotypes is to assume or to recognise difference or diversity within a culture. Cultural diversity describes being aware of the diversity of variations within the culture - based on such factors as wealth, education, gender, age, and profession as subcultures within the main culture. Ethnocentrism (Edgar & Sedgewick, 1999) is the tendency to treat one's own culture as ‘norm’ and other cultures as ‘deviant’. I argue that researchers require an awareness of these issues as all interviews are cross-cultural in some way.

I use sociocultural in the sense that ‘socio’ is the human reaction (the practice) of people within groups within a particular ‘culture’ - the way of life which includes the manners, norms of behaviour, values and belief systems (the ideology) and how these apply to the research practice of in-depth interviewing.

For arguing in-depth interviewing as sociocultural practice (using interpersonal interactions) Billett's (1998) work on knowledge transfer is useful. Billett argues that sociocultural constructivist perspectives account for the social genesis and construction of knowledge and that this view emphasises the appropriation of knowledge through interpersonal social interactions (after Wertsch, 1993 and Scribner, 1985). He further argues that the meanings of words are a social product, and are not objective and have social sources holding particular meaning in different circumstances and settings. This work is useful because of the relevance of the appropriation of knowledge through the interpersonal interactions in the practice of in-depth research interviewing and the implications that social sources of meaning might have for that practice.

**In Summary**

As interviewers within a research community we interact across cultures endeavouring to establish shared meaning to produce data from in-depth interviews. Although there are interpersonal communication skills that can be usefully employed within the interview interaction, the interviews are also influenced by socio-cultural factors. The participants in the interviews are already socially and culturally formed and draw on their ‘meanings’ from their social groups and their way of life - their culture. They will draw from attitudes, values and beliefs that are part of their cultural experience. Let me present a scenario. Imagine the struggle with ‘meaning’ in an interview where a socially and culturally formed employed white mature aged female Australian interviews a socially and culturally formed unemployed black young aboriginal who has undergone mandatory sentencing. While this example is extreme and the struggles not hard to imagine, there still may be significant struggles for meaning where participants might have had more similar experiences and may even be from the same profession.

In the scenario above the culture shock for both is not difficult to imagine and the interviewer needs to avoid any tendency to stereotype, to avoid ethnocentricism and to acknowledge cultural diversity. Is this interviewer in a position to make judgements about another person from such a different culture? Factors specific to social groups such as professions or vocations will influence the way that the researcher interacts with each respondent.

In addition, a social contract is assumed between the participants which involves the respondent in ‘renouncing’ personal privacy for the perceived advantage to society by contributing to the research.

I argue for a greater awareness and recognition within the research community of these sociocultural factors and their influence on the practice of conducting in-depth interviews.
My analysis in my doctoral work from which this paper is drawn will focus on these issues.

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What Are the Vocational Pathways of Australian Schoolleavers? A Longitudinal Study of Interests and Occupational Destinations

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The occupational pathways of a representative national sample of Australian schoolleavers were examined over a seven-year period after leaving school. The study was based on the initial vocational interests of male and female high school pupils and formed part of the longitudinal Youth in Transition study—a national probability sample of Australian youth. Participants completed a 24-item questionnaire that reflected the hexagonal vocational interest typology of Holland. In a follow-up over a seven-year period (1985-1991), the full-time occupation was classified in terms of Realistic, Investigative, Artistic, Social, Enterprising or Conventional interest categories. Results indicated a major disparity between initial vocational interests and occupational destinations at the commencement of a career. There was sufficient evidence to argue that the vocational interests of youth were not always reflected by their initial occupational pathways. The results indicated greater congruence with the passage of time and point towards a period of career exploration followed by consistency.

The variation in career pathways that arises in the early years after leaving school is a familiar phenomenon for educators, researchers, career practitioners and laypersons. It is an aspect of job mobility that might be considered to reflect career development in a modern working life (Rosenfeld, 1992). For instance, analysis of labour market experiences in the United Kingdom over the period 1915–1990 indicated that British men and women held an average of five jobs (Booth & Francesconi, 1999) compared with four jobs for German men over their lifetime and around ten for males in the United States. A significant component of this overall mobility, however, was the instability in the first ten years that has been described as “job shopping” (Stigler, 1962).

In Britain around half of all the lifetime job changes occurred in the first 10 years and this proportion was similar for males in Germany, whereas for males in the United States an estimated two-thirds of all jobs occurred in that time (Booth & Francesconi, 1999, p. 43; Hall, 1982; Winkelmann, 1994). More recent data from the Youth Cohort of the National Longitudinal Surveys indicated that the typical individual had 7–8 jobs between ages 18 and 30 (Bureau of Labor Statistics, 1993). Official labour force statistics in Australia also confirm that the proportions of persons who are job mobile (i.e., change employers, business or location) is greater in the younger age groups. For the 15–19 years age group the proportion who are job mobile is around 18%, increasing to a maximum of 25% for ages 20–24 and declining gradually thereafter to 5% for those aged 55 years and over (Australian Bureau of Statistics, 1998, Table 4, p. 15).

In the analysis of career pathways, job mobility might be identified readily with instability but it may also be characterised as a search for the most compatible environment in one’s life. In this way mobility acts as a proactive force in one’s career path (see Topel & Ward, 1992). While positive elements of
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employment mobility have been considered by some researchers, it is the levels of instability that have captured most attention and typologies of career stability and instability have been proposed. In an Australian context Dwyer and Wyn (1998) described educational and vocational patterns as non-linear. They identified five major patterns of vocational choice and commitment by young people after leaving school:

- Vocational focus — emphasis on gaining qualifications;
- Occupational focus — emphasis on obtaining work;
- Contextual focus — emphasis on lifestyle;
- Altered patterns — changing courses, career or lifestyle; or
- Mixed patterns — valuing a range of purposes, goals, activities.

Dwyer, Harwood and Tyler (1998) followed up young people over a seven-year period after leaving school. They focused mainly on those still involved with further study (N = 1309) and suggested that the largest group in the typology were the Mixed Patterns group (43%). Participants in their research were described as “negotiating reality for themselves by ‘weaving’ interconnections or patterns within their lives” (p. 19).

On the other hand, Holland (1997, pp. 64, 69) recently pointed out the inherent stability of occupational pathways. He described the snowball effects of a career and listed the many barriers that exist towards change. In emphasising stability, Holland (1997) took a longer-term view of career pathways and noted that:

The average career is both focused and stabilized by relatively constant dispositions, special talents, expectations, irreversible choices, credentials, and other baggage that workers acquire, and by the benign and biased environments that everyone encounters at every age... stability is the norm — because workers soon become active seekers of a limited range of congruent jobs and because employers discourage change through common hiring practices and biases of age, appearance, sex, training and work history. Family friends, coworkers, and relatives also press for stability because they usually have a stake in a worker's income, friendship, and power... (pp. 12–13)

The chief findings from the aspirational and work history studies are that the average career shows continuity (i.e., a strong tendency to work in the same major area over the lifetime), that moves involve minor or related changes rather than moving among radically different kinds of work, and that there are many internal and external barriers to change... (pp. 203)

The purpose of this paper is to explore the direction of the occupational pathways of a nationally representative cohort of school-leavers in terms of their vocational interests. The first feature of the study is that it is located within the occupational focus grouping of Dwyer and Wyn (1998). Secondly, the framework for this analysis is the Holland typology of vocational choices and occupations. This enables the classification of people and occupations in similar ways. (A description of the typology is provided in the following section for those readers who may be unfamiliar with its structure.) The principal advantage of using a coherent vocational typology is that it permits assessment of consistency in career pathways. Furthermore, it does not penalise people for moving between jobs at the outset of their working life especially when they remain within a consistent career path.

Holland’s Typology of Vocational Interests and Personalities

Holland (1973, 1985, 1997) formulated six general vocational categories to encompass the world of work. Combinations of these types (Realistic, Investigative, Artistic, Social, Enterprising and Conventional) can be used to describe both people and working environments. They are personality types that encompass preferences, values and abilities for outdoor, practical, technical and mechanical activities (Realistic); scientific activities (Investigative); creative, artistic, literary and musical activities (Artistic); business, entre-
preneurial and persuasive activities (Enterprising); and office, clerical and computational activities (Conventional).

The six types are linked in a hexagonal ordering within a coherent arrangement (see Figure 1). This allows for the meaningful assessment of vocational pathways within and across the six types. The arrangement of interests around the hexagon was based on empirical research (Holland, Whitney, Cole & Richards, 1969), which identified some interests as more closely related than others. The closeness of the relationship was that adjacent interest types were thought to be more consistent than alternate interests, which were thought to be more consistent than opposite interests on the hexagon.

The importance of this typology resides in its worldwide dominance of research and practice in vocational behaviour. A practical indication of the popularity of the theory is that in its latest catalogue, the publisher Psychological Assessment Resources, has announced that over 25 million copies have been sold of the Self-Directed Search (an assessment of the Holland types). The Holland vocational typology has also influenced vocational research in Australia (see Ainley, Robinson, Harvey-Beavis, Elsworth & Fleming, 1994; Lokan & Taylor, 1986). This brief description hardly does justice to Holland's contributions to vocational behaviour and the reader is referred to the latest exposition of his theory (Holland, 1997).

**Congruence**

Congruence is a key concept within Holland's theory of vocational personalities and work environments because it is associated with career stability. It is an index of compatibility and recognises that an interest type needs to be matched with an environment that provides appropriate rewards and opportunities (see Holland, 1997, p. 5). Fortunately, the hexagonal arrangement allows for the determination of congruence. As an example, a Social type in a Social environment is seen as most congruent; a Social type in an Artistic or Enterprising environment would be the next most congruent; a Social type in an Investigate or Conventional environment is only partly congruent; and a Social type in a Realistic environment would be the least congruent.

This predictive value of interests and occupations has been studied in various age groups. In an early study, McLaughlin and Tiedeman (1974) followed up Year 12 students after 1, 5 and 11 years. They reported that the category of aspirations predicted around 58% after the first year down to 39% after 11 years. L. S. Gottfredson (1979) showed that around 70-80% of year-to-year aspirations of males aged 16-28 years were within the same Holland category. Studies of census data also showed that for both males and females there is an increase in career stability over time and that many job changes involve transitions within the same major Holland type (see G. D. Gottfredson, 1977; L.S. Gottfredson & Becker, 1981). Finally in a study of Australian workers the Holland category of a worker's first occupation was reported to be an effective indicator of the category of occupation some 5 and 10 years later (Melamed & Meir, 1981). Accordingly there appears to be some potential for investigating the stability of pathways within vocational interest types to determine whether they are as consistent as described by Holland or as non-linear as described by Dwyer and Wyn (1998).

**Youth in Transition**

This study uses the Youth in Transition data, which is an ongoing study of the vocational
WHAT ARE THE VOCATIONAL PATHWAYS OF AUSTRALIAN SCHOOLEAVERS?

pathways of young Australians. The survey is made up of a cohort of young people born in 1970 and forms part of the Longitudinal Surveys of Australian Youth conducted by the Australian Council for Educational Research. The objective of the surveys was to indicate the main factors that affect personal, educational, vocational and social outcomes. A two-stage stratified probability sample involved 25 students randomly selected from a nationwide sample of schools that included government, independent and Catholic school systems. Participants were first contacted in schools and further data collection was by an annual mail survey over a ten-year period. The 1970 cohort is used in this study and was first assessed in 1980 and then followed up at yearly intervals from 1985–1994. Lamb, Polesel and Teese (1995, p. 27) went so far as to say "...it represents one of the most substantial long-term studies of outcomes undertaken in Australia". This study used this historical database to address the key research question of the extent to which one's vocational interest is reflected in the subsequent type of job(s) undertaken in the early part of a career.

**Method**

**Participants.** The participants in this study comprised pupils (males = 1436; female = 1273) from the 1970 Youth in Transition study cohort, who were first tested as part of the Australian Studies of School Performance in 1980. When contacted again in 1985 the mean age of the sample was 15.5 years (SD = 0.3). Participants were followed up by mail annually and this study includes only those who were working full-time. The numbers of participants varied from a minimum of 846 in 1985 to a maximum of 1236 in 1988 (1985 — 846; 1986 — 1077; 1987 — 1042; 1988 — 1236; 1989 — 1163; 1990 — 1082; 1991 — 1201).

**Instrument.** The interest inventory used in this study was a 24-item questionnaire of the Holland typology of interests developed especially for administration by mail. It formed one of the twelve sections of a larger survey. Pupils were asked 'How do you feel about each of these activities?' and responded on a four point scale from 'like very much' (1) to 'like somewhat' (2) through to 'dislike somewhat' (3) and 'dislike very much' (4) for items such as: bushwalking, working with machines and tools (R), doing all kinds of experiments (I), acting in plays (A), helping others (S), managing other people (E) and doing office work (C), (see Australian Council for Educational Research, Longitudinal Surveys of Australian Youth, Technical Paper Number 5 for a complete copy of the survey questionnaire; a copy of the interest questionnaire is available from the author upon request). Due to restrictions of both space and response time the questionnaire was limited to four items per scale and designed for moderate levels of internal consistency with alpha coefficients for the six RIASEC scales of 0.802, 0.602, 0.636, 0.545, 0.641, and 0.704 respectively. The questionnaire has been used subsequently in other large-scale studies and validated against subject choice (Ainley, Robinson, Harvey-Beavis, Elsworth & Fleming, 1994). The six scales were analysed using a Rasch measurement model and scores for each scale were reported in logits. The largest Rasch score across the six RIASEC categories determined the high point code for each person (Athanasou, in press).

**Procedure.** A follow-up mail survey was used to obtain the occupation of those who were working. Respondents were classified in terms of their Holland high-point code (RIASEC). Cross-tabulations were computed between the person’s Holland high point code and the RIASEC code for the person’s job over a seven-year period. This was only undertaken for those persons who were working at the time of the follow-up survey. Cross-tabulations were adjusted for base rates of responding by the expected values for each cell, as in a chi-square analysis.

**Analysis.** A randomisation test (Tracey, 1997) was then used to test the hypothesised order-
ing of relationship in the RIASEC hexagonal model. This compared the predicted hexagonal relationship between categories such as RI with RA RS RE RC IA IS IE IC AS AE AC SE SC EC. A correspondence index ranging from –1 through 0 to +1 indicated the extent of agreement. Further details of the analysis are contained in the results section.

Results

Overall findings

Table 1 shows the distribution of participants in the original sample and in the subsequent years. The pupils were classified by their high-point code on the interest questionnaire and in subsequent years by the Holland high-point code for their occupation. The final column of Table 1 indicates the estimated proportion of employees classified by the Holland code in the Australian labour force.

The Realistic category increased its share of vocational pathways throughout the period from 25% to 31% of respondents and this may reflect the large range of unskilled, semi-skilled and skilled occupations involving outdoor, manual, technical and practical work activities in the Australian labour market. The large and initial drop in the percentage of Investigative (i.e., scientific, medical) interests from 12% down to 0% may reflect the long lead time required for entry into many of these professional and para-professional occupations. Even then it is clear that many individuals with Investigative interests either had not finished their training by 1991, or were not able to locate work in this field. A similar pattern applied to Artistic interests with 6% of persons indicating this as their highest interest at the outset, but only 2% remaining in employment in this field in 1991. The largest absolute as well as relative change in interests is seen in the Social category (i.e., social service, welfare, people contact occupations) which declined from a high of 41% at the outset to 10% in 1991. Significant increases were observed for the Enterprising interests (i.e., business, entrepreneurial and persuasive activities) from 11% to 18% but the most substantial increase was reserved for Conventional interests (i.e., clerical, office and computational work activities) which increased their share from 4% to 34%. This reflects in part the significant proportion of clerical and office work activities in Australian employment.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic</td>
<td>25%</td>
<td>38%</td>
<td>33%</td>
<td>38%</td>
<td>35%</td>
<td>36%</td>
<td>34%</td>
<td>31%</td>
</tr>
<tr>
<td>Investigative</td>
<td>12%</td>
<td>0%</td>
<td>0%</td>
<td>1%</td>
<td>2%</td>
<td>3%</td>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>Artistic</td>
<td>6%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Social</td>
<td>41%</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
<td>4%</td>
<td>5%</td>
<td>7%</td>
<td>10%</td>
</tr>
<tr>
<td>Enterprising</td>
<td>11%</td>
<td>43%</td>
<td>42%</td>
<td>32%</td>
<td>29%</td>
<td>23%</td>
<td>20%</td>
<td>18%</td>
</tr>
<tr>
<td>Conventional</td>
<td>4%</td>
<td>17%</td>
<td>23%</td>
<td>27%</td>
<td>30%</td>
<td>32%</td>
<td>35%</td>
<td>34%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3275</td>
<td>846</td>
<td>1077</td>
<td>1042</td>
<td>1236</td>
<td>1163</td>
<td>1082</td>
<td>1201</td>
</tr>
</tbody>
</table>

All percentages rounded; columns contain different samples; and not all participants were working from 1985–1991. *Source: Australian Bureau of Statistics, Labour Statistics Australia, Catalogue No. 6101.0, August 1996, p. 74.
WHAT ARE THE VOCATIONAL PATHWAYS OF AUSTRALIAN SCHOOLLEAVERS?

Enterprising; and 30 out of 409 for Conventional types). Congruence rates for subsequent years remained fairly constant (1985 — 21%; 1986 — 18%; 1987 — 19%; 1988 — 19%; 1989 — 21%; 1990 — 21%; 1991 — 21%). However, this type of comparison does not take into account the predicted movement to adjacent, alternate and opposite types around the Holland hexagonal arrangement where individuals may move to the next most congruent type. This was tested in the correspondence analysis for all 28 possible comparisons between every year from 1985 to 1991.

Correspondence Analysis

Table 3(a) indicates the correspondence across time between the high point codes for interests and occupations in subsequent years in terms of the hexagonal arrangement of interests. Tables 3(b)—3(g) indicate the correspondence between the high point code for the occupation in a particular year and the high point code for the occupations in subsequent years.

There was no clear pattern in a participant's vocational type and their subsequent career pathways. The results indicated considerable instability in terms of the hexagonal ordering of interest types. Only six out of the 28 correspondence indices were significant ($p < 0.05$). From 1987–1990 which account for the last three years of the period under review, there was some evidence of greater stability for adjacent years (i.e., 1990 and 1991; 1989 and 1990; 1988 and 1989). At this time members of the cohort would have been aged around 19–21 years.

Discussion & Conclusions

The findings from this study indicated that the vocational interests of high school pupils in Australia were only partly consistent with their career pathways over a six-year period. Around 21% remained in identical vocational categories at the outset and seven years later. There was support, however, for aspects of a non-linear occupational focus that was advocated by Dwyer and Wyn (1998).

Movement into other categories of work did not correspond to the predicted order in the Holland hexagonal typology. Initial pathways did not support the concept of career stability but the later proximal pathways in adjacent years began to show some correspondence. This finding was consistent with a study analysing male career development which concluded that one's present occupation is a better predictor of future occupation than other factors (L.S. Gottfredson & Becker, 1981).

It seems possible that even though the pathways people chose did not conform to the predicted hexagonal ordering of interests in the Holland typology they tended to reflect the structure of opportunities in the Australian labour market. One possible inference that may be made is that the original distribution of interest types amongst school-leavers is unlikely to find satisfaction in the

| Table 2 |

| Congruence of the Holland High-Point Codes of Participants at the Outset and in 1991. |

<table>
<thead>
<tr>
<th>1985</th>
<th>REALISTIC</th>
<th>INVESTIGATIVE</th>
<th>ARTISTIC</th>
<th>SOCIAL</th>
<th>ENTERPRISING</th>
<th>CONVENTIONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic</td>
<td>127</td>
<td>12</td>
<td>3</td>
<td>21</td>
<td>39</td>
<td>72</td>
</tr>
<tr>
<td>Investigative</td>
<td>81</td>
<td>6</td>
<td>1</td>
<td>10</td>
<td>24</td>
<td>39</td>
</tr>
<tr>
<td>Artistic</td>
<td>10</td>
<td>9</td>
<td>5</td>
<td>10</td>
<td>17</td>
<td>22</td>
</tr>
<tr>
<td>Social</td>
<td>97</td>
<td>31</td>
<td>10</td>
<td>65</td>
<td>106</td>
<td>208</td>
</tr>
<tr>
<td>Enterprising</td>
<td>44</td>
<td>4</td>
<td>2</td>
<td>8</td>
<td>23</td>
<td>38</td>
</tr>
<tr>
<td>Conventional</td>
<td>10</td>
<td>2</td>
<td>0</td>
<td>6</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>369</td>
<td>64</td>
<td>21</td>
<td>120</td>
<td>218</td>
<td>409</td>
</tr>
</tbody>
</table>
### Table 3(a)
Correspondence Indices for Original Holland Interest Code and Occupations in Subsequent Years

<table>
<thead>
<tr>
<th>YEAR</th>
<th>PREDICTIONS MET</th>
<th>PREDICTIONS TIED</th>
<th>CORRESPONDENCE INDEX</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>163</td>
<td>18</td>
<td>2242</td>
<td>.5125</td>
</tr>
<tr>
<td>1986</td>
<td>167</td>
<td>5</td>
<td>2064</td>
<td>.3708</td>
</tr>
<tr>
<td>1987</td>
<td>202</td>
<td>3</td>
<td>4484</td>
<td>.0250</td>
</tr>
<tr>
<td>1988</td>
<td>195</td>
<td>4</td>
<td>4021</td>
<td>.0486</td>
</tr>
<tr>
<td>1989</td>
<td>197</td>
<td>4</td>
<td>4164</td>
<td>.0917</td>
</tr>
<tr>
<td>1990</td>
<td>166</td>
<td>2</td>
<td>1886</td>
<td>.5667</td>
</tr>
<tr>
<td>1991</td>
<td>201</td>
<td>4</td>
<td>4448</td>
<td>.0556</td>
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</table>

### Table 3(b)
Correspondence Indices for 1985 Occupation and Subsequent Occupations.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>PREDICTIONS MET</th>
<th>PREDICTIONS TIED</th>
<th>CORRESPONDENCE INDEX</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>182</td>
<td>21</td>
<td>.3701</td>
<td>.3653</td>
</tr>
<tr>
<td>1987</td>
<td>132</td>
<td>30</td>
<td>.0463</td>
<td>.9639</td>
</tr>
<tr>
<td>1988</td>
<td>172</td>
<td>19</td>
<td>.2918</td>
<td>.4528</td>
</tr>
<tr>
<td>1989</td>
<td>159</td>
<td>21</td>
<td>.2064</td>
<td>.5917</td>
</tr>
<tr>
<td>1990</td>
<td>113</td>
<td>26</td>
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<td>.9903</td>
</tr>
<tr>
<td>1991</td>
<td>149</td>
<td>15</td>
<td>.1139</td>
<td>.7694</td>
</tr>
</tbody>
</table>

### Table 3(c)
Correspondence Indices for 1986 Occupation and Subsequent Occupations.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>PREDICTIONS MET</th>
<th>PREDICTIONS TIED</th>
<th>CORRESPONDENCE INDEX</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1987</td>
<td>174</td>
<td>13</td>
<td>.2847</td>
<td>.6875</td>
</tr>
<tr>
<td>1988</td>
<td>186</td>
<td>12</td>
<td>.3665</td>
<td>.3875</td>
</tr>
<tr>
<td>1989</td>
<td>182</td>
<td>5</td>
<td>.3132</td>
<td>.3736</td>
</tr>
<tr>
<td>1990</td>
<td>114</td>
<td>11</td>
<td>-.1495</td>
<td>.7250</td>
</tr>
<tr>
<td>1991</td>
<td>202</td>
<td>4</td>
<td>.4520</td>
<td>.1431</td>
</tr>
</tbody>
</table>

### Table 3(d)
Correspondence Indices for 1987 Occupation and Subsequent Occupations.

<table>
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<tr>
<th>YEAR</th>
<th>PREDICTIONS MET</th>
<th>PREDICTIONS TIED</th>
<th>CORRESPONDENCE INDEX</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>205</td>
<td>5</td>
<td>.4769</td>
<td>.0778</td>
</tr>
<tr>
<td>1989</td>
<td>212</td>
<td>4</td>
<td>.5231</td>
<td>.0208</td>
</tr>
<tr>
<td>1990</td>
<td>221</td>
<td>3</td>
<td>.5836</td>
<td>.0264</td>
</tr>
<tr>
<td>1991</td>
<td>206</td>
<td>4</td>
<td>.4804</td>
<td>.1042</td>
</tr>
</tbody>
</table>

### Table 3(e)
Correspondence Indices for 1988 Occupation and Subsequent Occupations.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>PREDICTIONS MET</th>
<th>PREDICTIONS TIED</th>
<th>CORRESPONDENCE INDEX</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989</td>
<td>210</td>
<td>0</td>
<td>.4947</td>
<td>.0472</td>
</tr>
<tr>
<td>1990</td>
<td>205</td>
<td>4</td>
<td>.4733</td>
<td>.1514</td>
</tr>
<tr>
<td>1991</td>
<td>205</td>
<td>5</td>
<td>.4769</td>
<td>.1056</td>
</tr>
</tbody>
</table>
WHAT ARE THE VOCATIONAL PATHWAYS OF AUSTRALIAN SCHOOLLEAVERS?

Table 3(f)
Correspondence Indices for 1989 Occupation and Subsequent Occupations.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>PREDICTIONS MET</th>
<th>PREDICTIONS TIED</th>
<th>CORRESPONDENCE INDEX</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>223</td>
<td>0</td>
<td>.5872</td>
<td>.0028</td>
</tr>
<tr>
<td>1991</td>
<td>206</td>
<td>1</td>
<td>.4698</td>
<td>.1042</td>
</tr>
</tbody>
</table>

Table 3(g)
Correspondence Index for 1990 Occupation and Subsequent Occupation.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>PREDICTIONS MET</th>
<th>PREDICTIONS TIED</th>
<th>CORRESPONDENCE INDEX</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>211</td>
<td>2</td>
<td>.5089</td>
<td>.0528</td>
</tr>
</tbody>
</table>

All cross-tabulations adjusted for base rate of responding

types of employment offered by the workforce. Those persons with high Investigative, Artistic or Social interests seem unlikely to find sufficient employment opportunities; whereas the dislike of Conventional (i.e., office work) interests is oversupplied with opportunities in the modern Australian workforce. In part, this mismatch between schoolleaver interests and workforce capacity to satisfy these interests might account for some but not all aspects of the instability that characterises the early years in the workforce. Nevertheless, the career pathways are not entirely random and they certainly do display some order and a degree of congruence but it is difficult to account for all the varied directions of "job shopping".

An advantage of this study is that it used a coherent and consistent theoretical classification for both persons and jobs. This facilitated meaningful comparisons across time. Moreover, the advantage of using a broad vocational typology is that it allowed individuals to change jobs or industry but to still remain within the same Holland cluster. The use of correspondence analysis went further than assessing the congruence of high point codes to test the consistency of mobility or transfer within the hexagonal arrangement of interests.

A further advantage of this study was the large national probability sample but a limitation was the high drop-out rate of participants. This is characteristic of many follow-up studies based on mailing of responses and has now been overcome by use of telephone follow-ups. Secondly, the study was also dependent upon the validity of the results from a brief assessment of vocational interests that had only moderate reliability. Different results might have been obtained using longer scales to assess vocational interests. Thirdly, there was no way of controlling for factors other than interest that might also impinge upon mobility, such as opportunities or educational achievement. Further studies may also need to consider other constructs within the Holland theory such as combinations of congruence, consistency, differentiation, identity and educational level. Fourthly, the study was undertaken during a period of economic recession with high youth unemployment and this artifact may have influenced vocational pathways. Finally, the historical nature of the data may limit any generalisation to future labour markets.

This study showed that around one-fifth of high school pupils demonstrated some congruence in interests and occupations in the early stages of their career, and demonstrated that there was considerable variation in the initial career pathways. In one sense it is remarkable that there is any stability in careers, given the myriad of potential influences likely to destabilise any life. Given that the cost (personal, social, economic) of occupational change is great and increases over time then one of the few periods when it
is most feasible for an individual to experiment is at the earliest periods of career development. Career mobility or instability may be a positive attempt to find a more conducive working environment but a disturbing aspect of these results for career practitioners is that the modern workplace may not allow the fulfillment of the vocational interests of high school pupils and may encourage instability in career pathways.

Acknowledgment
I am indebted to the Australian Council for Educational Research through John Ainley, Richard Sweet and Stephen Lamb for making the Youth in Transition data available to me as well as allowing me to work at the ACER. Preparation of this paper was supported financially through the Research Centre for Vocational Education and Training. The cooperation and assistance of Professor Terence Tracey, Arizona State University, in providing and modifying the program for the randomisation test is gratefully acknowledged.

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Lamb, S, Polesel, J & Teese, R 1995, 'Where do they go?' An evaluation of sources of data used for...


Learning Together, Working Together in the "Learning Factory"

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University of South Australia

Harry Barton, Rick Delbridge
Cardiff University

This research project, funded under the Australian Research Council SPIRT program, is investigating the links between organisational learning and performance. It is exploring the management of innovation, the implementation of improvements and the interface between systems, processes and technology in automotive components manufacturing. We are attempting to identify sources of knowledge available to manufacturers and to explore processes by which employees, suppliers and customers contribute to, and benefit from, internal process improvements. The links between organisational learning and performance are being examined over two years through a combination of qualitative and quantitative research into the processes and management of improvement activities. The project is building on previous international research, developed for Australia. While Australian manufacturers share important characteristics with those of the UK and USA as part of the global automotive industry, it is expected that local economic and institutional features will inform important variations in practice and form.

This paper describes the methodology being used, outlines our progress to date and presents a summary of our interim findings.

With only a comparatively small domestic market, the survival and growth of manufacturing organizations in Australia depends on safeguarding their share of the domestic market and gaining a competitive position in the international market. Competitive pressures and shareholder expectations are forcing Australian organizations to do more with less. In response to fierce international competition, Australian academics and practitioners alike are trying to identify how organizations can achieve 'world class' standards of production. Much of the research published in this area during the 1980's and 1990's has concentrated on the phenomenal growth of the manufacturing sector in Japan in the post world war II era (Adler & Cole, 1993; Stainer, 1995; Womack & Jones, 1990). Japanese manufacturing organisations have in many cases, managed to outperform Western organisations, not just on the international market but also in their own backyards (Delbridge, Lowe, & Oliver, 1995; Oliver, Delbridge, Jones, & Lowe, 1994; Oliver, Delbridge, & Lowe, 1996a; Womack & Jones, 1990; Womack & Jones, 1996b).

Even the critics of lean production (Cusumano, 1994; Williams et al., 1992) generally agree that Japanese manufacturing plants are amongst the best in the world in terms of productivity and quality (although they argue that this is just a temporary state until North America's aging manufacturing infrastructure is replaced or recession in Japan removes Japan's unfair advantages). So what are the production methods used by 'world class' Japanese organisations?

In 'The Machine that Changed the World' Womack and Jones (1990) describe the Japanese production system (termed 'lean
production’) which is proclaimed as the foundation of the Japanese success stories. Although elements of 'lean production' vary from study to study, most tend to agree on the six elements below:

1. Devolution of responsibility to frontline workers,
2. Organisation into work teams,
3. Employee involvement in continuous improvement,
4. The use of visual factory flows,
5. Just-in-time to eliminate in-process buffers and eliminate waste, and
6. Close, shared destiny relations with suppliers.

The learning factory concept has developed as competition emphasised the need for continual improvement of products, processes and performance (Hamel & Prahalad, 1994; Kochan, Lansbury, & MacDuffie, 1997). Having innovation as its central motif, a learning factory generates, codifies and applies knowledge to improve its products and technologies (Nonaka & Takeuchi, 1995). Continuous improvement is achieved through problem-solving knowledge workers for whom the expenditure of 'mental' as well as manual labour is central to their role (Kenney & Florida, 1993). Improvements are sought from external sources (Kaufman, Merenda, & Wood, 1996) and the organisation is embedded in an innovation network of collaborators with whom there is information exchange and shared learning (Powell, Koput, & Smith-Doerr, 1996).

One of the central components of the learning factory is the need for multi-skilled and flexible workers operating in a team to identify and solve problems swiftly. Employees are now expected to think, to learn, exercise judgement, act independently where necessary, and work collaboratively with teammates. The question is how much an organization can expect from employees for their labour dollar, particularly if those employees have in the past been treated as mindless drones or 'passive cogs' in the production machine (Aktouf, 1992), and what the conditions are within an organization or a work group that will encourage employees to get involved and speak up in order to improve performance.

Building on the work of a group of researchers based in the UK, the learning factory project attempts systematically to research links between organisational learning and manufacturing performance in the Australian automotive components manufacturing industry. The links are being investigated by examining how learning structures and processes, specifically continuous improvement and problem solving activities, impact on productivity and performance in different organisations.

### Previous Research

In collaboration with Dr. Rick Delbridge of Cardiff University and Dr. Nick Oliver of Cambridge University, this project provides an opportunity for organisations within the Australian automotive components manufacturing industry to participate in an international benchmarking study. Comparable data is being collected in the UK, USA, and Japan by a team of researchers from the Cardiff Business School and Cambridge University.

The current project has evolved from studies undertaken by Delbridge & Oliver over a ten-year period, as described below.

#### The Lean Enterprise Benchmarking Study

In 1991, Delbridge and Oliver were members of a team that conducted a systematic benchmarking project of a matched sample of UK and Japanese automotive component suppliers. The study was designed to test the relationship of lean production with performance proposed by the International Motor Vehicle Program. The findings were widely reported in the press, and publicized through a series of presentations to industry and published in academic journals (Delbridge, 1995; Oliver et al., 1994).

#### The Worldwide Manufacturing Competitiveness Study

The success of the above project spawned a second, larger study, which was completed in 1994. It involved research in nine countries across Europe, North America and Asia. In
total, 71 auto component suppliers were benchmarked, 13 of which achieved world class productivity and quality performance. The top performing plants demonstrated high levels of internal process discipline and control, consistent with the lean production model. Andersen Consulting published 30,000 copies of the report, the findings received press coverage internationally and presentations of the findings were made in several countries. This research made a significant contribution to academic debates over best practice and performance and the findings have been disseminated through leading academic journals (Lowe, Delbridge, & Oliver, 1997; Oliver et al., 1996a; Oliver, Delbridge, & Lowe, 1996b).

High Performance Manufacturing and the Learning Factory
This is a UK government research council project to examine the links between problem-solving, continuous improvement and manufacturing performance (EPSRC, grant no. GR/L93591). One of the objectives is to develop models of best practice for learning in a manufacturing environment. The research is an extension of previous work and will benchmark performance in samples of UK, USA and Japanese automotive components manufacturers.

Methodology
This project requires a combination of research approaches to examine both ‘espoused theories’ and ‘theories-in-use’ (Argyris, Putnam, & McLain Smith, 1985) within the organisations. The methodology includes a robust quantitative analysis of performance and of problem-solving and improvement activities. This analysis is then being complemented with qualitative data collection to allow richer examination of the processes that affect knowledge acquisition, development and dissemination.

Phase 1
From the literature, and drawing on the prior studies mentioned, items have been developed for assessing management practices, manufacturing performance and benchmark change over time (1994 and 1999) as learning organisations in the automotive industry. This has required identification of measurable items which bear directly on management practices and manufacturing performance, and which reflect elements of knowledge acquisition, development and dissemination within organisations.

During Visit 1 to participating companies, the project is fully explained, the survey instrument presented to a nominated coordinator, any questions or concerns addressed and then agreement negotiated for a return visit. This is followed by an interview to obtain a broad overview of how problem solving and continuous improvement is managed within the company. The instrument is then collected by the researchers on Visit 2 four to eight weeks later, when all responses are double-checked with participants. This process is essential for gathering the most comparable and trustworthy data possible.

Phase 2
This phase incorporates Visit 2 by two researchers at a time to each of the companies for approximately two days in each (80 researcher-days) to undertake intensive qualitative study. They will explore systems and processes that affect knowledge acquisition, development and dissemination. Our methods in this phase will include in-depth interviews with selected production workers, supervisors and managers (taped if agreed to by interviewees, or otherwise noted), observations and shadowing, and content analysis of relevant company documents/records.

Phase 3
Phase 3 will involve construction of models of best practice in knowledge acquisition, development and dissemination within automotive components manufacturing, and development of guidelines for implementation. It will involve creative work in synthesising the findings obtained from Phases 1 and 2 and drawing from the literature studied earlier. This phase will also include the production of a self-assessment tool based on the instrument developed and used in Phases 1 and 2,
together with items that emerge during the study as particularly relevant to performance as a learning organisation.

Results to Date
Although the Australian and Japanese components of this study are yet to be completed,

data collection in the UK and USA has been completed. Initial analysis of the quantitative data has yielded some interesting though not totally unexpected results.

The data in Table 1 show quite clearly that both UK and US companies have adopted teamworking as an important organisational concept (89% and 100%) and have organised their shop floor operators into teams (88% and 99%). These companies also place high importance on these teams' involvement in problem solving activities. The adoption or use of suggestion schemes is rather interesting with the US reporting a much higher adoption rate. It could be that UK companies have found that problem-solving activities may be reducing the need for suggestion schemes. This issue needs further clarification.

Table 1
Shopfloor Activities

<table>
<thead>
<tr>
<th>SHOPFLOOR ACTIVITIES</th>
<th>US</th>
<th>UK</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team working</td>
<td>89%</td>
<td>100%</td>
<td>94%</td>
</tr>
<tr>
<td>% Operators in teams</td>
<td>88%</td>
<td>99%</td>
<td>94%</td>
</tr>
<tr>
<td>Teams hold problem — solving meetings</td>
<td>75%</td>
<td>33%</td>
<td>53%</td>
</tr>
<tr>
<td>Suggestion scheme</td>
<td>78%</td>
<td>55%</td>
<td>67%</td>
</tr>
</tbody>
</table>

(Delbridge, 2000b, p 7)

Table 2
Long Term Problem-Solving Group Activities

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>UK</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term, routine groups</td>
<td>78%</td>
<td>66%</td>
<td>72%</td>
</tr>
<tr>
<td>Ave % of operators involved</td>
<td>52%</td>
<td>70%</td>
<td>58%</td>
</tr>
<tr>
<td>Management determines activities</td>
<td>29%</td>
<td>17%</td>
<td>31%</td>
</tr>
<tr>
<td>Group determines activities</td>
<td>29%</td>
<td>33%</td>
<td>31%</td>
</tr>
<tr>
<td>Activities jointly determined</td>
<td>43%</td>
<td>50%</td>
<td>46%</td>
</tr>
<tr>
<td>Cross functional membership</td>
<td>57%</td>
<td>83%</td>
<td>69%</td>
</tr>
</tbody>
</table>

(Delbridge, 2000b, p 8)

Table 3
Specialist Roles

<table>
<thead>
<tr>
<th>SPECIALIST ROLES</th>
<th>US</th>
<th>UK</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel with direct responsibility for management of shop floor problem solving</td>
<td>89%</td>
<td>100%</td>
<td>94%</td>
</tr>
<tr>
<td>Responsibility dispersed</td>
<td>88%</td>
<td>0%</td>
<td>44%</td>
</tr>
<tr>
<td>Responsibility focused on key individuals</td>
<td>12%</td>
<td>100%</td>
<td>56%</td>
</tr>
<tr>
<td>Personnel with direct responsibility for management of continuous improvement</td>
<td>89%</td>
<td>100%</td>
<td>94%</td>
</tr>
<tr>
<td>Responsibility dispersed</td>
<td>63%</td>
<td>0%</td>
<td>31%</td>
</tr>
<tr>
<td>Responsibility focused on key individuals</td>
<td>38%</td>
<td>100%</td>
<td>69%</td>
</tr>
</tbody>
</table>

(Delbridge, 2000b, p 10)
Separate results also show what one would expect to find in most automotive manufacturing and what are commonly referred to as quality circles, referred to in our later discussion as planned step improvement. These groups are short term (US 100% and UK 88%), have cross functional membership (US and UK both 100%), lower percentage of shop floor operators involved (US 14% and UK 35%) and management determining the problem to be solved (US 67% and UK 50%).

Table 3 indicates a marked difference between the two countries with respect to the role of specialists. UK companies report 100% adoption of specialists with direct responsibility for management of shop floor problem solving, responsibility for problem-solving focused on key individuals, personnel with direct responsibility for management of continuous improvement and responsibility focused for continuous improvement on key individuals. In contrast, within the US companies, responsibility for management of shop floor problem solving is more dispersed (US 88% and UK 0%) and as is also responsibility for management of continuous improvement (US 63% and UK 0%).

Table 4 shows that both countries have adopted similar strategies for inter-organisational links. They have regular corporate review visits, benchmark within their own group, share design of components and joint cost reduction activities with their suppliers and customers.

Discussion
Our UK research collaborators have found that the participating companies have adopted three types of problem solving and continuous improvement activities. They are:

- Planned step improvement
- Proactive incremental improvement
- Reactive improvement

The characteristics of each type of problemsolving and continuous improvement activities are summarized in Table 5.

What these interim findings indicate is that approaches to problem-solving and continuous improvement are:

- Moving from reactive to proactive

<table>
<thead>
<tr>
<th>Table 4</th>
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</thead>
<tbody>
<tr>
<td>Inter-Organizational Links</td>
</tr>
<tr>
<td>INTER-ORGANIZATIONAL LINKS</td>
</tr>
<tr>
<td>Regular corporate review visit</td>
</tr>
<tr>
<td>Plant benchmarked within group</td>
</tr>
<tr>
<td>Shared design of components</td>
</tr>
<tr>
<td>Joint cost reduction with suppliers</td>
</tr>
<tr>
<td>Ave % of suppliers involved</td>
</tr>
<tr>
<td>Shared design of final product</td>
</tr>
<tr>
<td>Joint cost reduction with customers</td>
</tr>
</tbody>
</table>

(Debrief, 2000a, p. 6)

<table>
<thead>
<tr>
<th>Table 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem-Solving and Continuous Improvement Activities</td>
</tr>
<tr>
<td>PLANNED STEP IMPROVEMENT</td>
</tr>
<tr>
<td>• top down direction</td>
</tr>
<tr>
<td>• targeted specific short term projects,</td>
</tr>
<tr>
<td>• cross functional-management prime actors,</td>
</tr>
<tr>
<td>• plant wide focus,</td>
</tr>
<tr>
<td>• significant impact on key operating measurables, and</td>
</tr>
<tr>
<td>• cost saving as the underlying rationale</td>
</tr>
</tbody>
</table>
• from ad hoc to specialists to diffused responsibility
• increasingly becoming standardized routines
• increasing the breadth of participation
• moving from 'practices' to 'systems'.

It remains to be seen whether these findings will be replicated in the Australian research. If they are, there will be considerable implications for the nature and organization of work, particularly at shop floor level, and in respect of the skills and training required to equip labour for these expanded roles within contemporary manufacturing.

References
Delbridge, R 2000a, Continuous improvement through supply chain management. Unpublished Power Point Presentation, Cardiff University.
This paper is a case study of professional community in a TAFE Faculty of around 100 full-time staff. The case study highlights areas where the Faculty could be considered a professional community and identifies areas for improvement. The analysis is done based on data collected from a survey of staff undertaken in June 2000. A professional community is characterised by teacher empowerment, effective communication, collaboration, team learning and commitment to students. Professional community is not static but dynamic that needs strategies to nurture it, especially making time, professional development programs and supportive leadership. Each of these aspects of a professional community are discussed in this paper.

The organisation examined in this paper is the Faculty of Business and Information Technology at the Canberra Institute of Technology (CIT), which is the TAFE provider in the Australian Capital Territory. The Faculty has about 4,000 students enrolled in Certificate and Diploma programs in administration, management, marketing, small business, accounting, property and information technology. The Faculty has undergone substantial change in the last ten years, primarily as a result of changes imposed by the federal and ACT Governments.

Professional Community is a term used to describe a vision of an educational workplace that is professional, collegial and communal. A professional community is characterised by teacher empowerment, effective communication, collaboration, team learning and commitment to students. Professional community is not static but dynamic that needs strategies to nurture it, especially making time, professional development programs and supportive leadership. Research by Newman (1994) supports the positive effect of professional community on student achievement.

Much of the data quoted in this paper was collected from a survey of staff conducted in June 2000. The percentages shown below were the percentages of respondents who "agreed or strongly agreed" with a statement or were "satisfied or strongly satisfied". Each aspect of a professional community is discussed in this paper, together with the evidence related to the Faculty.

Teacher Empowerment

Critical to the notion of being a professional is the idea of empowerment. All teachers value autonomy and the related sense of power and control over their work. Empowerment appears to be a feature of the Faculty with 98% of staff satisfied with "the degree of autonomy they have".

A closely related idea is "professional confidence", described by Helsby (1995) as the "belief in one's own authority and one's ability to make important decisions about the conduct of one's work." Helsby noted that where professional confidence is high, teachers are more likely to integrate national requirements of education policy with what they do. Where confidence is low, teachers are more likely to take a passive role.

Robinson (1993) reports that staff felt they had less autonomy in the classrooms when content was dictated to them by an outside body. The changes to competency based train-
ing caused teachers to question when they should use professional judgement. The same study identified that when teachers had little say in how national curriculum was adopted locally, they express a sense of disempowerment.

Feelings of empowerment are enhanced through participation in decision making, as recommended by a number of writers including Vroom and Yetton (1973). 81% of the Faculty staff agreed with “There are sufficient opportunities for participation in decision making within the Faculty”. The Faculty has used cross Faculty task forces as a mechanism for involving staff in decision making although there have been less task forces in the last year.

Professional Relations
A professional community is characterised by excellent communication and meaningful relationships between members of the community. A professional community will ensure that there are appropriate structures to facilitate communication with open, clear lines of two way non-threatening communication. In TAFE colleges, the specialised nature of departments can create barriers to effective communication across departments.

The Faculty has a dedicated electronic bulletin board, a weekly E-mail newsletter and a monthly printed newsletter. The staff survey showed that 78% of staff agreed with “there is effective communication within the Faculty” and 82% agreed with “conflict is resolved quickly and effectively”.

McLaughlin (1992) and Kruse, Louis and Bryk (1994) stress the importance of trust and respect and the importance of teachers being treated as ends in themselves. Starratt (1991) stresses the importance of developing an “ethic of caring” that recognises each person enjoys an intrinsic dignity and worth and that people should use familiar imagery, metaphor and personalised messages to communicate caring. McLaughlin (1992) reported that the school community supported the right of teachers to openly disagree with the majority and that debate centered on ideas, without degenerating into criticisms of individuals. One of the lowest rankings in the Faculty survey was that 63% of the Faculty staff agreed that “staff are valued”. These low rankings suggest that there is room for improvement in the building of trust and respect.

Many teachers, even pro-active individuals, are encouraged by reward and praise. In a professional community, it is important for individuals to acknowledge the contributions made by other staff. The Faculty has actively pursued a policy in the last three years of actively recognising achievements of staff through identifying staff for CIT and Faculty awards as well as publishing articles on staff achievements in the Faculty and CIT newsletters. However, this does not appear to be enough with only 71% of staff satisfied with “the amount of constructive feedback that you receive on your work performance”. The Faculty does not have a performance management system and it has been agreed to implement such a system in order to regularly recognise staff achievement.

It is also important that educational policies are communicated effectively within a community. Robinson (1993) observes that teachers were critical of the lack of communication about the new educational policies and that this contributed to a negative reaction to the policies being introduced. The Faculty has set out to deliberately inform staff about the national changes in VET. It does this through newsletter articles, regular seminars and discussions in appropriate management meetings.

Collaboration
Kruse, Louis and Bryk (1994), Scribner et al. (1999) and Westheimer (1999) emphasise the importance of collaboration in educational institutions. Lyn (1994), in describing some case studies of professional community, notes that schools found it effective to team teachers for education delivery.

Westheimer (1999) identifies quite different cultures in the Brandeis (liberal) and Wright Mills (collective) schools, which results in the different perceptions of collaboration even though both were perceived as
professional communities. The liberal school is one where teachers share resources and provide mutual support and there is collaborative planning. However, teachers still engage primarily in individual classroom practice.

The collective school is one where there is a variety of collective projects, complex interdisciplinary curriculum and “families” of teachers and students. The collective school required special recruitment to enable this culture to develop as it requires a commitment to a specific ideology or view of education. The best examples in Australian TAFE of similar colleges are the Tea Tree Gully (SA) and Joondalup (WA) colleges which were both established as flexible learning specific colleges. They recruited teachers who were committed to the college’s goals and sense of educational mission. However, the majority of Australian TAFE colleges would have a liberal culture where there is mutual support and collaborative planning but very little team teaching.

The Faculty survey showed that 90% agreed that “staff work together to get the job done” and 97% were satisfied with “their working relationships with colleagues”. These results showed that there is high level of collaboration in the Faculty. There is a high level of mutual support and joint planning of education delivery, characteristics of the liberal view of professional community.

The Faculty does not have a collective commitment, as described by Westheimer (1999) although there are emerging examples of a change. In implementing on-line and flexible learning, the development of a collective community among teachers is critical. A team of people need to develop the learning resources and all teachers need to use the resources developed by others. Continuous improvement of resources requires teachers to willingly identify and share their experiences cooperatively. This contrasts with the many classroom based teachers who create learning resources for use only in their own classroom. This has contributed to “de-privatization of practice” as described by Kruse, Louis and Bryk (1994).

**Organisation Learning**

A professional community is one that has the capacity to learn from its experiences and to modify its behaviour as a result of that learning. Senge (1990) refers to this as a “learning organisation”, where:

> “people continually expand their capacity to create results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.”

Senge (1995) notes that “most of the educators I talk with don’t feel they are doing this. Most teachers feel oppressed trying to conform to all kinds of rules, goals and objectives, many of which they don’t believe in.” I certainly agree that this is true for many Australian TAFE staff.

This is much more than just individuals learning but depends on organisations learning with the improvement reflected in better processes and procedures. The keys to excellence report identifies successful schools are ones where barriers to teaching and learning are constantly identified and removed through cooperative problem-solving processes. In such schools, the systems are assessed before and after any change to ensure that improvements are made. The results are used as a basis for decision making.

The faculty staff have shown a commitment to organisation learning. The recent survey showed that 85% of staff believe that “staff generally achieve quality improvement” and 90% agree that staff “make suggestions to improve the Faculty”.

**Commitment to Students**

One distinguishing feature of a community is that there is a common sense of purpose or vision. Senge (1990), Kets de Vries (1995) and Bennis and Nanus (1985) as well as many other writers on organisations identify the important of building an agreed vision. In educational communities, this is normally expressed in terms of a commitment to students. Teachers in a strong school commu-
Faculty staff believe that they have a strong commitment to student learning, as demonstrated by the staff survey where 92% agreed both that "staff generally focus on the needs of students" and their "department is customer focussed".

In the last ten years, there has been confusion about the clients of the VET system. National policy has emphasised the central place of industry as the client in VET. Faculty staff have certainly got frustrated about the national changes which have moved attention away from effective student learning to focussing on industry needs alone. O'Banion (1997) emphasises the importance of student learning in the US community college sector. He challenges TAFE colleges to change policies and practices to embed learning as the highest priority in the college culture.

Most schools can readily agree on a broad statement about directions but find it more difficult to agree on specifics. Westheimer (1999) notes that schools often adopt goals stated as general slogans instead of resolving conflicts among competing interests and narrowing the range of educational goals. The Faculty frequently discusses the nature of its students and tries to narrow the range of goals but this is very difficult.

Time
A recurring theme in much of the literature on professional community in education is teachers not having enough time. This theme runs through interviews conducted by Proudford (1998) when examining the role of teachers in the process of educational policy change in Queensland schools. Shacklock (1998) also identifies the problem of not having enough time for teachers to do all the things that are necessary in the job and that a lot more work is taken home. Helsby (1995) identifies the amount of paperwork generated in the new systems which takes away from the human side of the job. Lyn (1994) reports that not having enough time to attend committee meetings is an issue for participation in decision making.

Kruse, Louis and Bryk (1994) and Scribner et al. (1999) identify that it is important that time is available to meet and talk. This time needs to be available during the school day and not just after school hours. In TAFE, this means that priority must be given to staff meeting time at priority times. For example, friday afternoons are not a good time to schedule meetings as staff perceive this is a non priority time.

One consequence of this lack of time is that management teams can take responsibility for policy interpretation because teachers don't have the time. This can be a major problem for TAFE organisations which deliver training 15 hours a day. Teachers have little opportunity to develop an understanding of how and why a policy was developed and teachers start to feel disempowered.

The lack of time to meet and discuss is an issue for staff in the Faculty. Currently, Faculty staff only meet as a Faculty group twice a year during enrolment weeks. Department staff meet regularly either once a week or fortnight. One of the barriers to establishing and maintaining task groups across the Faculty is the lack of a common meeting time when staff are available. Hence, when task groups are established, participation is restricted by the agreed meeting time.

Professional Development Programs
A key characteristic of a professional community is the conduct of regular professional development. The Keys to Excellence project identifies ongoing, consistent staff development as important in quality schools. Hallinger (1999) notes that professional development and professional community are mutually reinforcing.

Professional development is a priority for staff in the faculty. Most teachers undertake the equivalent of 36 teaching hours of professional development which represents about 5% of the total teaching time. Each staff member has a professional development plan
(PDP) which is used as the basis for professional development planning in the Faculty. The Faculty’s annual operational plan identifies the professional development areas that will be the focus of Faculty professional development funds in the year. For example, this year’s plan includes a focus on workplace assessment, training packages, on-line and flexible learning.

The nature of the professional development strategies used in the introduction of national changes is critical to the successful implementation of new changes. Robinson (1993), in discussing the implementation of new policies, argues that effective professional development needs to be more than telling staff what is needed. Professional development needs to engage staff in examining these policies and incorporating the policies into their classroom practices. This is best done in a collaborative way which then reinforces professional community.

Sachs (1997) describes two national projects in Australian schools which have sought to empower teachers through learning together, collaboration, taking risks and working towards improving student and teacher work conditions. Learnscope is a similar project funded by ANTA to provide professional development related to the introduction of training packages. The Faculty has accessed funding through this program to implement professional development for teachers involved in implementing the administration training package.

Mentoring is also seen by some as an important strategy for professional development. Lyn (1994) in the third case study identifies that newer teachers were paired with more experienced teachers. Whilst this occurs on an ad hoc basis in the Faculty, there is no formal mentoring system.

Lyn (1994) in the first case study identifies that staff development often took place during staff meetings held after school. The principal eliminated routine administrative matters from these staff meetings, using memos to deliver the typical announcement and directives instead. Instead, the time is used to study critical issues of education. This practice is not evident in most of the Faculty’s meetings.

Leadership

The role of the senior managers is seen by several writers as critical to the development of professional community. Kruse, Louis and Bryk (1994) identify the importance of the principal communicating about teaching and learning and not just about procedures. Leithwood, Leonard, and Sharratt (1998) identify leadership as one of the key factors in developing a learning community. Scribner et al. (1999) identify principal leadership as one of the four organisational factors that influence the establishment of professional community. Research by Shantz and Prieur (1996) observes that leaders who employ collaborative strategies and strive to facilitate leadership qualities in others may enhance the development of a professional community.

Lonnquist and King (1993) highlight the need for hiring leaders who understand the importance of nurturing a professional community. Leaders need to provide an environment which encourages teacher empowerment, communication, collaboration and organisational learning. It involves assisting staff to develop a vision around the commitment to students and focusing staff on that vision. Block (1993) challenges all managers to think of their role as serving their subordinates instead of the other way around. It also involves facilitating time for staff to reflect, develop skills and undertake professional development.

The Faculty survey provides conflicting information about staff attitudes to the faculty leaders. Only 63% of staff believe that “staff have confidence in faculty management”, 78% agreed that “staff issues or suggestions are taken seriously by faculty management” and 80% agreed that “Faculty managers are good role models”. On the other hand, 85% agreed that “staff are able to approach Faculty management to discuss change issues”, 88% of staff agreed that “the management style adopted by my immediate supervisor is helpful and effective” and 93%
agreed that "the management style adopted by the Dean is helpful and effective".

Summary
According to the criteria used and the evidence provided, the CIT Faculty of Business and Information Technology could be considered to be a professional community. As in most professional communities, there is room for improvement. The Faculty's sense of professional community could be enhanced by continuing to improve communication. The Faculty needs to implement a system to ensure all staff receive regular feedback on their performance. The low ranking related to staff believing they are valued is of particular concern. The Faculty's leaders need to be particularly mindful of their role in improving this communication, feedback, trust and staff recognition.

References


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Starratt, R 1991, 'Building an ethical school: A theory for practice in educational leadership',


Social Cognitive Theory and Assumptions Behind Work Based Learning

Peter Russell
University of Technology, Sydney

The paper discusses the educational context that has generated interest in work based learning degrees with reference to aspects of self-regulated learning and cognitive learning theory. It suggests that, amid the current enthusiasm for work centred post-compulsory education, many learners are disadvantaged due to developmental, motivational and learning style differences that cannot be catered for as well as in traditional forms of training. Underlying assumptions about self-directed and experiential learning are seen to be false for all but a minority of trainees, and the role of post-compulsory education in developing rather than simply identifying autonomous learners is in danger of being ignored. Social-cognitive views on self-regulated learning stress the need for combined personal, behavioural and environmental attributes in learners. These skills have not been found to be developed in either senior high school or university students to an extent that they could be applied in novel contexts without the support of sequenced instructional programs. Well designed training programs running in parallel with work experience can enhance and develop the skills that make lifelong learning a reality. Workplace or work based learning alone, however, could become for some participants an abrogation of employers' and educational institutions' responsibilities for growth and development.

The field of education is no stranger to the shaky relationship between theory and practice. The 'perfect world' scenario of the implementation of research outcomes into professional practice, whether in school classrooms or workplaces, is infrequent and often subject to distortion when it does occur (Shulman, 1986). In schools, new techniques and innovations have been just as likely to come from popular (and untested) fads as they are from teachers' familiarity with journals and other literature in their fields. In organisations, training and human resource development policy is often determined as much by the traditions and culture of the organisation (see for example Kinman & Kinman, 2000; Moore, 1999), or by the perspectives and preferences on one or two individuals, as it is by current theory and research. This could well be due to fundamental weaknesses in learning theory — making its rejection totally justified — or it could be due to universities' failure to communicate contributions to practical situations and problems. Whatever the cause, universities, and some more so than others, have had to relinquish what was once a virtually exclusive right to design, deliver, assess, and accredit educational programs. Within universities, some faculties have done this earlier and to a greater extent than others.

If the rationale for autonomy over the centuries was the universities' primary allegiance to knowledge and truth and with the learning and development of their students a close, but clearly secondary responsibility, then that argument has been severely weakened in recent decades. Corporate and/or government capital funding, increasingly vocationally based courses and full-fee paying students erode the legitimacy of universities as primarily self-serving institu-
tions (Coffield & Williamson, 1997). Further, a new rhetoric which encourages students to see themselves as clients and consumers, and a post-modern perception of the subjective and elastic nature of truth, do not support a case for the type of autonomy that was still enjoyed by most universities even 40 or 50 years ago.

The combination of a perceived inadequacy of theory to inform practice and the distrust or outright denial of universities’ mandates to independently determine course content has placed modern universities (particularly those with less financial independence) in a position that has led to significant compromises for the sake of survival. The business term ‘stakeholders’ now describes a new range of influences on course content and delivery methods. Course advisory committees for university courses may be convened by faculty staff, but academics must genuinely share pedagogical decision making with employer representatives, professional associations, and student or industrial union representatives. Also, the tighter the funding situation becomes, the more the needs and preferences of potential students feature in shaping the ‘product’ on offer. Everything from subject content and assessment methods to canteen facilities and parking can make the difference between attracting the “punters” or losing them to other providers or from the system generally. More stakeholders mean more agendas and they in turn lead to more compromises — the question arises as to which are educationally sound and which are not.

Work Based Learning ‘Solutions’

It is before this backdrop of old and recent tensions that the principles and practical applications of some forms of work based learning degrees need careful consideration. If their underlying assumptions about how people learn and about the kinds of learning they need can be shown to be valid, and if their forms and processes can be found to have sound theoretical bases, then their adoption and future growth can be justified and should be encouraged. If, on the other hand, there is reasonable doubt as to whether the imperatives driving their evolution were more financial and/or survival related, and less purely educational, and if elements of their processes do not (theoretically) produce genuine learning and development of individuals, then universities should become more cautious in adopting and promoting them, regardless of their attractiveness as new sources of income.

Degrees of Most Concern

The considerable variety of programs that can be described as ‘work based’ presents a range of outcomes when the above criteria are applied. Some versions of work based learning are essentially ‘work experience’ for senior high school students (Carlson & Seidman, 1999) and some are refinements of traditional apprenticeships and sandwich course programs in which students’ workplace components are concurrent to, but not usually integrated with, institutional curricula. Beyond these, though, are what Garrick and Kirkpatrick (1998, p. 173) described as “a complete work based qualification (usually negotiated between the university and one organisation)”. Such programs represent the (so far) extreme end of a continuum of tailor-made, learner centred and employer specific qualifications that, according to Foster & Stephenson, describing a University of Leeds example, “require no mapping of existing programs and employee-students propose the content, modes of learning and assessment of their entire program.” (1998, p. 162).

It is only the latter form, and particularly those that are undergraduate degrees in subject areas without non-university, formal professional accreditation bodies, that are the focus and area of concern in this paper. They are suggested here to be based on questionable assumptions and to be in danger of compromising components of education in ways which not only contradict basic elements of learning theory, but also have the overall effect of discriminating against a large proportion of students whose learning needs exclude them from access. In terms of solutions to issues of
university autonomy, credibility and survival outlined earlier, they constitute a rather radical leap rather than a measured accommodation of the needs of stakeholders.

Foster and Stephenson (1998, p. 162) claimed that: “the significance of these [learner managed] programs lies in the shift in program design and control away from universities and students and towards employers and employees”. Of the four integral components of formal higher education; curriculum design, delivery, assessment, and accreditation, only the last, the right to confer undergraduate and post-graduate degrees, has remained largely within the former monopoly position enjoyed by universities. It has become the last thing they can sell which remains relatively free from competition and, unlike curriculum design and delivery, free from criticisms of irrelevance and / or inadequacy. One problem may be that selling accreditation without adequate control of the other components will devalue all university qualifications rather than just the work based learning versions.

Growing Unease in the Literature
Several other authors have raised these and other concerns about the more extreme forms of work based learning. Sandberg (1998, p. 255), regarding how far universities should go in trying to bridge the theory/practice gap without completely losing their own character concluded that: “Turning workplace practice into universities would be as undesirable as turning universities into workplace practice.” Garrick and Kirkpatrick (1998, p. 174) expressed concern “that unless we examine the policy context in which this movement is occurring, workplace-based learning degrees may not always have the rigour, flexibility and capacity for critique that we are arguing for.”

At a different level of analysis and closer to a focus on the type and quality of learning that workplace degrees would use to replace university delivery, other issues emerge. Serious questions about the value of “authentic workplace contexts” arise when the realities (rather than the often portrayed ideal images) of specific workplaces are closely examined. Cornford (1998, p. 249) in discussing a study in the New South Wales hospitality industry, suggested that the results “cast some considerable doubt upon the uncritical belief that workplace learning is universally a good thing.” Hughes (1998, p. 207) also questioned the validity of popular assumptions about the superiority of the authentic workplace as a learning environment, particularly those related to other workers and supervisors. He was concerned that; “Most accounts of adult learning assume that their recommendations are applicable to all environments. Few countenance the possibility of malevolent facilitation or envisage facilitation occurring under hostile conditions. Yet an examination of the learning environment of the workplace reveals that it is far from ideal and poses unique challenges.”. Kinsman and Kinsman (2000, p. 5) supported this view after first hand examination of the motor manufacturing workplace, and claimed that there are “concomitant risks” with in-company education: “Particularly in hierarchical manufacturing organisations with traditional approaches to problem solving, a powerful culture may act to inhibit the educational process, and limit the development of those very capabilities needed in the learning organisation”.

What is assumed and what is wished?
Innovations in any field that claim to be improvements on or replacements for existing methods must be able to stand scrutiny of the assumptions used to justify their parity or superiority. One assumption underpinning totally work based degrees is that workplaces provide a fertile and appropriate environment
for learning. If that assumption can be shown to be either false or perhaps just unreliable, then there must be some erosion of the validity of the innovation. The examples from work based learning literature used above would appear (at the very least) to indicate an absence of agreement with the assumption among researchers in the field. Certainly, workbased programs which did not or could not ensure the exclusion of workplace influences which were; intimidatory, hostile, malevolent, unbalanced in procedural and declarative knowledge, or inhibiting in variety and divergence of approaches, could not be judged by any objective criteria as equal to a university based degree.

Following are examples of other assumptions that require more attention. Some relate to general aspects and others focus on issues linked to learning theories. First, and related to work based degrees' reasons for being, there must be an assumption that a gap exists in post-compulsory education offerings and that these programs satisfy an educational need. The issue here may centre on the qualifier educational for as alluded to earlier, university funding restrictions have blurred long standing distinctions between educational provisions and marketing opportunities. Second, work based degrees must generally be seen to be an "as well as" rather than "an instead of" component of a university's offerings. It would be assumed that any prospective student, depending on their economic, geographic and learning preference circumstances, could choose a self-managed or university based version of a qualification. This might, however, depend on whether the university discovered a costing advantage to a program that was supported by an employer organisation, did not require a formal teaching load allocation, and was largely self, peer or employer assessed.

Learning Related Assumptions
The educational legitimacy of work based programs must depend on the assumption that they address both the university's and the employer's responsibilities to develop and expand peoples' skills and knowledge rather than simply identify and affirm those who have already gained them. Universities need to remain more than higher education equivalents of "Registered Training Organisations" — companies that, for a fee, can test and accredit individuals against pre-determined competencies. Employers need to meet their obligations as members of the community to engage in genuine "human resource development" rather than being only selective recruiters and head-hunters. If universities failed to do this when they formed partnerships with employers, it would represent a serious abrogation of their duties as educational institutions. Simply accrediting learning necessarily reduces down to acknowledging achievements, usually evidenced by some form of tangible, concrete product. These indicate but do not necessarily prove the existence of the underlying abilities, understandings, and attitudes that are targeted and observed in genuine developmental learning experiences. As Moore (1999, p. 2) stressed, "educators need to track the learner's engagement in the use of that knowledge". Every primary, secondary and tertiary teacher knows (or should know) that their students begin with different levels of skills, knowledge and abilities, and that it is the educator's responsibility to enable each learner to make the best use of what they have to develop toward their individual potential. It is the change in each individual through a course of study, as well as an end-measurement of ability, which separates education from training.

Perhaps the most popular assumption supporting totally work based degrees is that their students are self-directed learners. This could be interpreted in two ways. The first is that self-directed learning readiness and/or ability are required for success in those programs and the second is that, by virtue of the fact that they are adults, they must be capable of (and prefer) self-directed learning. The equity issues arising from the first interpretation will be mentioned later and will accept the assumption that there is such a thing as a self-directed learner and that self-directed learning is a worthwhile pursuit. The second interpretation of the assumption
presents more obvious problems, particularly for educationalists who have not embraced an andragogical perspective on higher education.

In 1983 Jack Mezirow (in Brookfield, 1985, p. 17) claimed that "No concept is more central to what adult learning is more about than self-directed learning". He was working on a definition of the term used by Malcolm Knowles as "a process in which individuals take the initiative without the help of others in diagnosing their learning needs, formulating goals, identifying material and human resources and evaluating learning outcomes." (1975, p. 18). Self-direction was seen to be essential for adults' empowerment through learning and also a requirement for the achievement of maximal outcomes. From such beginnings, most often related to recreational or social and political emancipatory learning, andragogical (as distinct from pedagogical) approaches gained popularity in many training contexts and some universities. Although there have been inevitable variations at different levels of education and in diverse subject areas, hallmarks of the approach have been: negotiated curricula, learning contracts instead of assignments, emphasis on reflection on experiences, and wherever possible, subjective, qualitative and non-graded assessment.

The problem has been in tying down self-direction as either a concept or an ability (or trait) that adults are assumed to possess. Attempts to measure "self-directed learning readiness" have been less than successful in both aspects — that of defining it and of finding it in sufficient quantity to support its status as an inherent characteristic of being adult. Guglielmino's (1978) Self-directed Learning Readiness Scale (SDLRS) has been the subject of ongoing criticism regarding its structure, validity and reliability (Field, 1989, 1991; Bonham, 1991; Straka, 1995). The erratic distribution and often low incidence of the ability/trait have also been evident in studies using the SDLRS (Clark, 1989; Herbeson, 1991; Guglielmino & Roberts, 1992; Wood, 1996). The relevant issue for work based learning degrees was well illustrated by Zemke, the senior editor of "Training" magazine, when he wrote that for managers to assume the widespread existence of self-directed learning ability among staff, it would require a considerable "leap of faith" (1998, p. 62).

Another key assumption about work based degrees relies on the perceived value and (possibly) superiority of experiential learning over several other forms that would be used together in traditional programs. The belief is also closely tied to the andragogical model and also has questionable validity if applied to different types of learners in vastly different learning environments. Moore (1999) cautioned that "work based learning does not always occur or occur to a significant extent merely because a student is in the workplace". There would seem to be two underlying assumptions that would both need to be valid (for all work based degrees) to support overall acceptance. First, that the preferred learning styles of work based students would match the requirements for reflection and analysis that are integral to (particularly independent) experiential learning. Second, that the available range, complexity and types of workplace experiences are sufficiently appropriate to the expected outcomes of the degree.

Self Regulation and Work Based Learning

The social cognitive view of self regulated learning (Zimmerman, 1990) is derived from extensive research and literature beginning with Bandura's (1977) social learning theory and later (1986), social cognitive theory. The early work that included the role of modelling in the learning process and the incidence of learning in informal situations has frequently been applied to workplace learning (e.g. Bandura, 1988). Although there are semantic similarities between self-directed and self regulated learning, it is important to differentiate them conceptually and operationally. Essentially, self-directed learning has (as well as those aspects described in the previous section) a central emphasis on who or what is controlling the learning content and process.
It stresses independence rather than interaction and self agency rather than self efficacy.

Self regulation, in contrast, incorporates interactions with and modelling of teachers as well as other elements of the learning environment. It is also seen as a set of attributes and skills that a person acquires through guidance, practice and regular feedback. Importantly with regard to work based learning, it is expected to be an outcome rather than a pre-requisite of post-compulsory education. Studies measuring the incidence of self regulation in high school students (Zimmerman & Martinez-Pons, 1986) and in university students (Pressley & Ghatala, 1990) indicated that, as theorists predicted, the more appropriate educational experiences a person has, the more they grow in self regulated ability. The key requirements for appropriateness are, however, many of the elements not found in work based learning programs. The social cognitive model specifies the need for a complete triad of personal, behavioural and environmental elements which interact with each other. More importantly, they are also seen to require input, leadership, and interactions with others who can model coping and strategy skills and raise metacognitive awareness (Zimmerman, 1995). These and other needs for clearly stated goals and standards as well as quality feedback and challenge with support during work based learning (Martin, 1996) must be assured rather than assumed.

Merriam (1996) noted that other educational innovations introduced under the banner of ‘flexible delivery’ can discriminate against students who don’t possess or have access to the resources upon which the innovation is based. Whether it is self-direction or self regulation that is required for learner managed work based learning, there is still a serious problem with degrees that assume possession of the very ability which the process of undertaking a degree should provide.

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SOCIAL COGNITIVE THEORY AND ASSUMPTIONS BEHIND WORK BASED LEARNING


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Learning Apart, Working Apart: Building a Paraprofessional Community of Practice for the Latter 20th Century

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The paper considers issues associated with the construction of the middle-level or paraprofessional worker in the 1960s and 1970s. It argues that engineering associations, through the industrial relations process and membership of policy and curriculum committees, actively encouraged the creation of 'terminal' middle-level programs as a means to protect their newly won professional identity. Indirectly, the creation of a 'new' and separate community of middle-level workplace practitioners positioned the incipient vocational education sector for the emergence of TAFE in the mid-1970s. The paper provides a useful historical context for the conference themes.

In the early 1960s approximately seventy per cent of the post-WWII increase in manufacturing employment came from metals-based industries: motor vehicles, parts and repairs; machinery and engineering; electrical and electronic equipment; iron and steel; non-ferrous metals; and transport equipment. In 1962-1963 metals industries provided 46 per cent of total manufacturing employment (Vernon, 1965, p. 205; Sheridan, 1987, p. 291). A consequence of this metals-driven industrial environment was an increase in peak metals industry bodies' influence over formal state-funded technical education curriculum construction and decision-making. Metals unions, metals employer bodies and professional engineers associations each played a range of roles. Through the arbitration process metals unions locked apprentice and trade training requirements into state and federal awards, often acting as the standard for other industries to follow. Their industrial muscle and position as the 'aristocracy of labour' encouraged maintenance of the apprenticeship status quo until the end of the twentieth century.

Consequently, trade training rarely became a source of vocational education and training reform (Rushbrook, 2000, forthcoming). Metals employer groups, employing more than half the manufacturing workforce, actively promoted within technical colleges and curriculum their own vision for metals and engineering education and training. They achieved this through membership of peak training bodies (federal and state), technical college councils and curriculum sub-committees. Emphasis tended to be placed on specific skilling for immediate workplace application at the expense of credentialed outcomes and generic and lifelong skills (Rushbrook, 1995).

Professional engineers, however, played a more significant role. Concerned with privileging their occupation after years of perceived under-valuing, they mounted an industrial and educational campaign from the mid-1950s that ensured professional maintenance and the construction of insuperable entry barriers for the unworthy. Through the federal industrial relations system and inveigling into curriculum bodies, they reinforced the creation of 'middle-level' or 'paraprofes-
sional’ workers who served the engineer-caste. As a community of practitioners, paraprofessionals completed ‘terminal’ courses and picked up the work tasks defined out of the engineers’ position descriptions. Like the vocational education systems they worked with, the engineers encouraged vocational education change and valued credentialled learning. In the main, they were also employees either of the state or engineering companies. They, therefore, have a vested interest in industrial relations and educational change management.

Consequently, the 1957–1961 battle for professional recognition by the Association of Professional Engineers, Australia (APEA), the industrial arm of the Institution of Engineers, Australia (IEA), is a significant moment in the construction of TAFE and 21st Century Vocational Education and Training (VET) because of its repercussions for technician and paraprofessional courses. Out of these stories of struggle (Rushbrook, 2000) can be traced the development of, first, Stream 2000 (Kangan, 1975, vol. 2, p. 133) programs and, later, Australian Qualification Framework (AQF) levels 5 and 6 (Australian National Training Authority 2000), both of which sediment middle-level occupations as central to contemporary Vocational Education and Training (VET) practice. The role played by Brian Lloyd, a Victorian professional engineer employed by the Melbourne Metropolitan Board of Works (MMBW) and chief researcher for the Engineers Case, is important because of his later contribution to middle-level technical education curricula. The ideas and conclusions he brought to curriculum development were formed largely as a result of his research during this period.

The Engineers Case

Australia’s conciliation and arbitration system was established in 1904 after the enactment of a Constitutional provision for the Commonwealth to set wages and working conditions for industries where a dispute was declared to cross state boundaries. To be eligible to argue a case on behalf of workers, professionals or employers, legislation required that peak representative bodies such as unions, professional associations and employer groups register with the arbitration system and agree to abide by its decisions. At the state level, wages boards or commissions were established from 1896 (Victoria) and served a similar function for state-based disputes. Once the authority of the national system was established states wages boards more often than not adopted its decisions, particularly the setting of Metals awards, which because of the numbers of workers covered set, the national wage standard. The Commonwealth Public Service (CPS), the nation’s largest employer, set employment conditions through the Commonwealth Public Service Board with a Public Service Arbitor to settle disputes. Appeals against the Arbitor could be taken the federal arbitration system (Healey, 1972; Portus, 1971; Johnstone, McKenzie & Mitchell 1993). Matters of law contested by parties in an arbitration dispute could seek clarification from the High Court of Australia. The system was described perceptively by one employer as ‘a very efficient way of redistributing wealth...without the necessity of having a revolution (Tsokhas, 1985, p. 123).’

A consequence of a centralised award system was the encouragement of national peak bodies to represent workers and employers and a tendency to ‘federalise’ industrial disputes to avoid hearing separate state cases. While unions enjoyed comparative stability in representative organisations, particularly since the establishment of the ACTU in 1927, employer groups struggled to speak with one voice. Within their ranks, however, metals employers gathered under the banner of stable industry associations. First formed in 1873 after a strike in the New South Wales iron industry and from 1943 known nationally as the Australian Metal Industries Association (AMIA), they stood out as a powerful forum of employer opinion (Tsokhas, 1985, p. 122).

By the time of the Engineers Case, the engineering profession was represented by
two complementary organisations, one to safeguard professional entry standards, the other to represent professional working conditions within the federal arbitration system. The IEA was formed in 1919 following the amalgamation of ten state, local government and university engineering associations. The IEA's aims were to promote the science and practice of engineering, 'raise the character and status' of engineering and gain the power to grant legally recognised certificates of competency, guarantee the quality of a recognised engineer, and encourage the study of engineering through the award of scholarships and prizes. In 1938 a Royal Charter was granted to the IEA which gave corporate members the title 'Chartered Engineer'. In 1939 its membership was 4,259. By 1961 membership had risen to 14,419 (Lloyd & Wilkin, 1962, pp. 33–38).

At the end of WWII it was clear to the IEA that the community applied a definition of engineer that extended beyond the profession to include almost any worker engaged in metals-based work. In the absence of any legal definition of engineer, a course of action was to register an organisation with the federal arbitration system and plead a case for professional recognition. The APEA was formed in 1946 for this purpose following activity within the IEA, though it was not registered until 1948 when Queensland joined, completing representation from each state (CAR 1961, p. 264). In 1952 Commonwealth government engineers were included. One of the aims of the APEA was 'to establish conditions which will enable all professional engineers to maintain a standard of living in keeping with the reasonable needs of a professional man.' In 1961 the APEA had a membership of 7,500, approximately 95 per cent of whom were employee engineers, a factor which distinguished engineers from predominantly self-employed professionals such as lawyers and medical practitioners and led them to seek industrial registration as an employee organisation. Other IEA members remained within a range of public and private sector industrial organisations that represented their interests under non-engineering specific awards, for example the Metals Trades award (Healey, 1972, p. 108; Lloyd & Wilkin, 1962, p. 18).

The APEA won its first award in April 1951 for local government engineers in Queensland, South Australia and Victoria. It was regarded as a temporary award until a general engineering claim was made. In 1953 the APEA secured a determination from the CPS Arbitrator on behalf of engineers employed by the Snowy Mountains Authority.

After successfully testing its fledgling powers and not satisfied with the results the APEA sought a national award from the Arbitration Commission in January 1957. A first step was to serve logs of claims on employers in all states, including public authorities and private employers. Similar claims were later filed with the CPS and the Department of Works in the Snowy Mountains Authority. Commissioner J. H. Portus, who held responsibility for the engineering industry, dealt with the application and declared the existence of an interstate industrial dispute. An appeal to the High Court was lodged by some respondents on the grounds that government bodies and publicly-employed members of the APEA were not engaged in areas that could be defined as 'industrial' and therefore ineligible to be heard under the arbitration system. The decision handed down on 19 December 1957 declared that government authorities conducting trading activities (for example, electricity, housing, coal, forestry) were to be regarded as industrial, while non-trading authorities (for example, roads boards, water boards and public works departments) were not. In September 1958 following an appeal by the APEA the High Court declared all respondents industrially occupied (Healey, 1972, pp. 109–110; Spaull & Hince, 1986, p. 244).

In March 1958 the APEA was joined by the Architects, Engineers, Surveyors and Draughtsmen of Australia (AESDA), formed in 1944. The federal Metals Award and the
Aircraft Industry Award (CAR, 1961, p. 290) covered engineers in the AAESDA. In May the APEA and the AAESDA were given extra clout by the entry to the dispute of the Professional Officers Association (POA) of the CPS, registered in 1911 and the oldest of the employee organisations represented. The POA sought a salary scale that justly recognised its engineer members (CAR, 1961, p. 238, 270). It was soon obvious to all present that the case was going to be long and difficult and have long-term repercussions for the public and private sector workforces. The APEA spoke for all engineers in seeking an award that if successful would set minimum salaries for all people employed as professional engineers in Australia.

The APEA based its application on an argument focusing on the maintenance of professional status for engineers. The profession should be legally defined, recognised and rewarded: 'the general level of remuneration of professional Engineers, and the nature of their working conditions and industrial relationships, should be based upon the professional character of their work and their needs as professional men (CAR, 1961, p. 241).'

Brian Lloyd and Bill Wilkin were asked by the APEA to prepare evidence to 'convince the Commission that professional engineers were not fitters or mechanics.' They believed that if successful an engineers' award would have a significant effect on workforce structures: 'We expected that once a high value had been placed upon professional engineering work, there would soon be a sorting out of the workforce, with a delineation of professional from sub-professional work (Lloyd, 1984, p. 1). The influential product of their labour was presented to the Commission in 1958 under the title The education of professional engineers in Australia. It was subsequently revised and published in 1962 and 1968 as an authoritative reference.

In defining their argument Lloyd and Wilkin made extensive use of the prevailing discourse of scientific management (Rushbrook 1995, Ch. 3). To enjoy fully the status of a professional, engineers required:

the professional attributes of integrity, resolution and judgement; a mind trained in the scientific methods of appreciating and solving problems; together with the acquisition of a large body of information and the development of complex mental skills. He does not need manual dexterity, though it may be of advantage to him. His knowledge, skill and judgement are required in the appraisal of both material and social values, in the use of the material resources of nature, and in the organization of processes and management of men (Lloyd & Wilkin, 1962, p. 1).

Typically, the engineer had workplace relationships with a range of occupations that required differing levels of technical education at a lower 'standard of learning (than) found within the profession.' The demarcation between the professional and 'lower' groups was defined by the qualifications needed to enter the IEA: the accepted standard was the education required for Corporate Membership. People holding the minimum standard were regarded as Professional engineers; those whose technical education was 'next under this level are known in present day parlance as technicians (Lloyd & Wilkin, 1962, p. 1).'

In a classic Taylorist statement of how engineering levels are manifested in the workplace, Lloyd and Wilkin used the example of a large civil engineering project:

Following the establishment of some need to be fulfilled, Professional engineers will develop various alternative proposals. Aided by specialized data and advice from such other professionals as surveyors and geologists, preliminary designs will be prepared for comparison purposes. Technicians will be used in the routine computation of survey and statistical data, and in drafting preliminary designs carried out under the direction of engineers who will establish the basic arrangement of the design as well as performing the more advanced computations. Following recommendations of the most attractive alternative, a decision to proceed must be made, after which designing engineers determine the arrangement and sizes of components...For this techni-
cians will be used for the more routine calculation of simpler parts of the model...Decision on methods of construction will be influenced by the nature of the design, and may even be fixed by the designer, although are often left to construction engineers to determine...The actual direction of day-to-day tasks is carried out by works supervisors and foremen, who are either technicians or promoted tradesmen, and the actual physical work is carried out by tradesmen, with the assistance of mechanical plant and labourers both skilled and unskilled (Lloyd & Wilkin, p. 31).

The structure clearly demonstrated an occupational hierarchy predicated on control of the labour process. Engineers conceive or develop original ideas using skills based on high levels of conceptual understanding, flexibility and formal learning Routine tasks to portray ideas two-dimensionally were completed by technicians. The execution of ideas from the drawing board to three-dimensional structures was left to carefully supervised tradesmen and semi-skilled and unskilled workers (Braverman, 1974). For vocational education an imminent logic was suggested: to legally sediment the professional technologist at the apex of the engineering was to control the allocation of industry status and financial reward. Further, to control and rigidly separate entry standards to the profession and engineering sub-levels was to ensure maintenance of gains made in law. The logic of the argument was not lost on Lloyd.

Lloyd and Wilkin's statement to the Conciliation and Arbitration Commission on technicians and professional aids expressed concern over issues of supply, definition, and education standards. They noted that competent professionals trained in science and technology were scarce at a time of high demand, due largely to 'the factors of intellect, interest and technology.' One way to better utilise existing professionals was to ensure they spent more of their working day engaged in professional work with more routine tasks taken up by technicians. The natural area to recruit technicians was from students who failed to complete university or technical courses and tradesmen who demonstrated 'above average ability (Lloyd & Wilkin, 1962, pp. 213-214).’ Their argument clearly reinforced the existence of a functional or 'systems' based division of labour underwritten by the natural distribution of talent (Lloyd, 1984, p. 1).

Training courses for technicians, they noted, had generally existed 'in hiatus' since the 1920s following the elevation of technical college engineering diploma courses to professional level. A need therefore existed to develop appropriate courses, particularly since the mid-1950s recognition by the CPS of the 'Technical Officer' class, defined as 'a person trained in a specific skill who bridges the gap between a tradesman and the professional man (Lloyd & Wilkin 1962, p. 215; Lloyd, 1984, p. 1).’ Lloyd & Wilkin mentioned a 1957 meeting of the IEA recognising a shortage of technicians and supporting the establishment of appropriate courses 'suitably designated so that the possibility of confusion with the training of Professional Engineers may be avoided (Lloyd & Wilkins, p. 214).’

After reviewing the confusion of existing methods of technician training—for example, specific technician courses in NSW, non-formal industry and 'on-the-job' training, and supplementary trade training and non-completing diplomates in Victoria — Lloyd and Wilkin pointed to the need for national course consistency and the development of suitable mechanisms for transfer from one course level to another. Of concern was the ease with which technician students were able to move to professional-level courses; problems could arise from inadequate training in higher-level subjects which would consequently threaten professional standards; and the net number of technician graduates would be kept low in a time of increasing demand. There was the suggestion that in order to guarantee a sufficient supply of technicians, technician courses should be terminal or non-transferable (Lloyd & Wilkin, 1962, pp. 222-224).

Lloyd and Wilkin's evidence, together with legal argument and the testimony of
eminent engineers such as Professor Moorhouse of the University of Melbourne, convinced the Conciliation and Arbitration Commission that the profession was homogeneous, that it was organised on a national basis, that most engineers were employees, that engineering salaries were not properly determined, that engineers were 'grossly underpaid', and that a case could legally be heard (CAR, 1961, p. 286).

Most private employers and the CPS did not object to national award minimums for engineers. For example, one employer representative argued that once minimum rates were set, further promotion was based 'according to merit and value to profit making' and not on the public service principle of fixing 'a rate on the job and not the man (CAR, 1961, p. 297).’ However, substantial resistance came from state departments and instrumentalities. The basis of opposition was stated by the Commission as 'a transcending desire to retain...self-governing powers under our system of federalism', a belief that salaries were adequate under existing awards, and the possible effects of an award on the salaries of other employees (CAR, 1961, p. 287).

The Commission concluded the case in June 1961 by granting awards based on each employee organisation’s applications. The APEA award was granted rates at two entry levels: first, at the minimum or ‘Qualified’ level a higher salary was paid to university graduates than technical college diplomates; and second, at the 'Experienced' or Chartered level. The AAESDA and the POA were granted incremental rates consistent with recognised grades within the CPS.

In the aftermath of the award state public service departments and instrumentalities quickly accepted the national minimums and adopted the CPS incremental scale. The consequent departmental restructures demanded consideration of the role, demand, salary and vocational education and training of 'middle-level' technicians and professional aides. The states, however, remained reluctant to deal with the APEA over the signing of agreements. Private employers, though accepting the award unopposed, were reluctant to pay above the level of ‘Experienced’ engineer (O’Dea, 1962; Thomson, 1960).

It is ironic that scientific management as a post-war strategy for private-enterprise-industrial efficiency encouraged by the public sector DLNS should return so powerfully to that sector to formally define through the Engineering Award what was understood in industrial practice. Public-sector appeal to bureaucratic rationality and rule-making, and the size of the departments involved established a fertile base for technical college vocational education and training. Private enterprise’s preference to train informally and 'in-house' and proportionally reduce the number of formally trained tradespersons reduced their potential to supply students to public-sector training institutions (Taylor, 1966, pp. 27–38).

The timeliness of the award and its implications for industry and public education were reflected several months after its handing down in comments made by the Financial Review. With the chilling of relations with the USSR and the launch of Sputnik, Australia needed to keep pace with communist nations that already had introduced the term 'technician'. Australia had a 'lagging performance' in introducing technology and automation and suffered from an inadequate supply of technologists and technicians. There was a growing 'gap' between the trades and the technologist that was often filled by professionals and regarded as 'a costly drain on our already over-taxed social capital.’ Estimates that technicians would need to be supplied at a ratio to professionals of 3:1 (currently 1:1) suggested that active recruitment was needed from apprentices, school graduates and skilled tradesmen. A perceptive remark was offered that 'a new type of technical school may be called for to train technicians...Such schools would provide courses falling in between the present trade courses, and the 'professionally recognised' diploma courses.' Funding for technician programs, it was suggested, should come from industry and government and
semi-government organisations that made use of technician graduates. A strident call was made also for the Commonwealth to 'participate much more fully' in funding state-based technological education. It was a portentous agenda for two decades of change (Australian Financial Review, 1961, p. 13).

Creating a Paraprofessional Community of Practice: The Case of Victoria

Brian Lloyd's association with John Kepert, the first Director of the Victorian Technical Schools Division (TSD) (Spaull & Rushbrook, 2000, p. 10) began at about the time Lloyd and Wilkins were writing and presenting their evidence to the Engineers' Case. During this period, Lloyd extended further his 'systems' or functional division of labour based on what he believed to be a scientifically demonstrable, hierarchical distribution of enterprise positions filled by workers with matching, naturally distributed, ability. For example, he believed that 'there is little likelihood of substantial increases in the numbers of professional technologists because there is a limit to the upper intelligence stratum of the community from which such people are drawn.' His model was, essentially, an occupational caste system stratified by a careful matching of position with ability; only in exceptional cases would it be possible for a worker to aspire to a position beyond his or her natural calling.

From the assumption of a scientific division of labour according to the distribution of natural talent, leadership of the caste system was, naturally, ascribed to the Brahman-technologists. Indeed, according to Lloyd, the delegation of routine tasks to technicians ultimately determined the degree of career satisfaction enjoyed by the technologist: 'Professional engineers and their professional organizations therefore have a right and an obligation to be involved in questions related to sub-professional staff, through promotion of their education in adequate numbers and in appropriate ways, in creating suitable staff organizations and in managing work allocation.' This approach of the IEA, he claimed, 'looks beyond possible connotations of altruism on the one hand or self-interest on the other, to a vital need for the maximum clarity and order in the overall engineering employment structure (Lloyd, 1968, pp. 246–249).’

In effect, Lloyd's approach advocated a hegemonic system of industrial management both authored and administered by professional engineers. Because 'common-sense' directed that the construction of a system of line-management was complementary to the 'scientific' organisation of production, it was, therefore, an 'objective' solution to the efficient and effective ordering of modern industry. In other words, the complex tensions, contradictions and conflicts generated by the interaction of workplace capital and labour were simplistically re-formed as a series of engineering problems requiring engineering solutions; organisational 'clarity and order' became the desired value-neutral outcome. Issues related to workplace control and degrees of separation of conception and execution according to credentialled position, consequently, were masked by the engineers' self-serving and self-validating logic.

Armed with his 'naturalistic' technocratic and paternalistic assumptions, Lloyd began his work at the IEA with Kepert, a man he regarded as an 'energetic, enthusiastic and most likeable man, and a staunch fighter for the Victorian system (Lloyd, 1984, p. 29). Lloyd's agenda was seven-fold: to reserve the title 'engineer' for the exclusive use of professional technologists; to define clearly the function of the technician; to establish IEA/APEA stewardship of engineering technician education; to establish a class of technician education in Victoria that was neither an added-trades course nor a failed-diplomates course; to ensure that technician courses were 'terminal' and that in only rare circumstances would students be able to 'escalate' to professional engineering courses; to encourage the private and public sectors to employ technicians and consequently employ their technicians more efficiently; and to separate the
Technical Division from the Education Department in order to encourage greater clarity of industrial and professional purpose. His agenda was shared also by the many professional organisations whose members served on technician curriculum sub-committees, giving it wide-spread legitimacy.

The achievement of his goals drew him to Kepert because the TSD was a location where credentialling and professionalism were valued and legitimised, and a site from which award-based vocational education and training was conducted. Also, Kepert's status as a complicitous IEA councillor and 1961 Chairman presented a unique opportunity for insinuation of IEA/APEA policy into technical education (Spaull & Rushbrook, 2000, p. 10). And, the changes in the economic and educational climate provided a favourable context for innovation.

Initial discussions of the role of sub-professional engineers began in the 1950s in New South Wales and Australian Capital Territory branches of the APEA following the Australian Public Service's (APS) introduction of the skill category 'Technical Officer', or a person bridging the gap between the tradesman and the technologist. The federal council of the APEA considered the issue further and in 1957 persuaded the IEA to resolve to recognise the shortage of technicians and support moves to increase their formal training. Such training, however, 'should be suitably designated so that the possibility of confusion with the training of professional engineers may be avoided.' In 1958 the IEA established a Sub-Committee on the Training of Technicians, with Professor Charles Moorhouse as chair. Committee members included Kepert, then principal of Caulfield Technical College, and Oliver Nilsson, Chief Inspector of Technical Schools. The Moorhouse committee ultimately did not reach any firm conclusions. The Victorian members, possibly because of Nilsson's influence, could not move beyond the conception of a technician as either an added-tradesperson or a sub-diplomate. They ignored or at least failed to incorporate the important work of the University of New South Wales in establishing free-standing sub-professional courses; nor did they consider the implications of technician courses for burgeoning numbers of white collar positions, for example design drafting. Instead, they focused attention on developing the trade-technician courses introduced to the Technical Division in 1959 by Nilsson. It took a 1961 NSW APEA sub-committee to articulate clearly the need for demarcation between professional and sub-professional work in the APS. Meanwhile, professional hackles were raised by sub-professionals in some states attaching the word 'engineer' to their occupational associations (Lloyd, 1984, pp. 7–28).

Alarmed at the erosion of hard-won professional exclusivity, Lloyd proposed joint IEA/APEA action. Though this did not eventuate, the two organisations unofficially cooperated. In 1964 Lloyd joined the IEA technician sub-committee and in the same year the APEA formed a Special Committee on Engineering Technicians to 'examine matters related to education, training and employment of engineering technicians.' Lloyd argued for a single level technician while his Engineers' Case partner, Bill Wilkins, argued for two-tiered higher and lower skilled levels (the engineering technician and the professional aide).

Meanwhile, in 1964 the IEA technician sub-committee was re-constituted under Gordon Colebatch of the Tasmanian Hydro-Electricity Commission. Apart from Lloyd, the committee membership included Kepert. In July 1964 the committee resolved to use the term 'engineering technician' to denote an officer 'qualified by technical education and practical training' to apply techniques prescribed by a professional engineer. The IEA subsequently rejected the definition and questioned its involvement with the entire issue. However, in 1965 it reconsidered and approved a general definition of engineering technician that encompassed all qualified engineering personnel working between trade and professional levels. The IEA also called
for national accreditation of technicians and clarity of nomenclature. The Institution's display of mild interest only, according to Lloyd, was a missed opportunity 'for the Institution to step in forcefully and take charge of the development of education and employment of engineering sub-professionals, but attitudes of aloofness and lack of perception among the Council members clearly made such action not possible (Lloyd, 1984, p. 11).'

In the absence of IEA interest, action to elaborate the role of the technician was left to the APEA sub-committee. In April 1964 Lloyd and his cohorts released a statement outlining criteria for the educational structure of the upper of Wilkins's two technician strata: separation from trade and professional courses; national standardisation of courses and nomenclature; course accreditation by industry and professional representatives; and suggested course outlines. Kepert approved and the statement formed the basis of the VACTE's discussion of technician terminology (from this point, Lloyd claims, Kepert approved of the formal separation of the professional from the sub-professional). The SECV and the CPS also showed interest in the APEA's statement. In 1965 the APEA released a further statement detailing criteria for sub-professional employment, including clarification of professional-technician relationships in the workplace. In justifying the relationship, Lloyd quoted Briton Sir Willis Jackson, doyen of the 1960s professional engineer movement, who noted the trend for the 'continuous downward transfer of duties' from the professional to the sub-professional (Lloyd, 1984, p. 13).

In May 1965, Lloyd clarified his 'systems approach' to the engineering workforce in an unpublished paper that heavily influenced Kepert's views on the future of technician education. Lloyd outlined the national confusion that existed in technician education and the need to rationalise existing educational practices. Kepert, who was about to leave for England as one of three Australian representatives to the 1966 Commonwealth Conference on the Education and Training of Technicians, to be held at Huddersfield College, England, told Lloyd that a paper he was preparing drew heavily from his draft paper. Lloyd remarked that 'It was obvious that his [ie Kepert's] thinking had been influenced quite significantly by it (Lloyd, 1984, p. 14).'

Lloyd's quest for national coordination of engineering technician courses brought him to William McMahon, Minister for the Labour and National Service since December 1958. At a Council of Professional Associations (CPA — an association of industrial bodies representing CPS professional employees) conference in April 1965, Lloyd, as CPA secretary, became interested in a paper by McMahon on the relationship between technicians and professionals and from it suggested that the DLNS would be the logical body to coordinate national technician education. In a follow-up response some months later, McMahon, in the manner of private employers before him, stated a belief that on-the-job training and experience were a valid alternative to credentialled college learning.

The DLNS, however, agreed to a meeting with technical directors and representatives of professional bodies to discuss Lloyd's views. The two meetings held were chaired by Myer Kangan, First Assistant Secretary of the DLNS (Rushbrook & Mackinnon, 1998). At the first meeting, on 7 January 1966, the CPA asked the DLNS to consider the type of education that led to technician qualifications, the need for national uniformity, and formal national recognition of certification. The second meeting (including IEA and ACTU representation), held on 13 October 1967, considered the CPA agenda in more detail. The delegates, according to Lloyd, were intent on defending their own positions. Agreement was reached that professional education should be separated from technician education, though most supported (unlike Lloyd) the concept of student escalation. The ACTU was wary of the industrial repercussions of IEA/APEA control of sub-professional education and associations.
Kangan, like his minister and the trades unions, argued that qualifications in the subprofessional area did not matter, and interference in existing practices would generate industrial problems. The educators, DLNS representatives and employers present also expressed the belief that as far as they were concerned industry meant private industry, and should be separated from issues related to public sector awards and qualifications.

The lack of interest shown in technicians and technician education by ‘private sector’ union, employer and government peak bodies demonstrates three points. First, in spite of increased industrial disputation, both unions and employers benefited collectively from Keynesian settlement icons of full-employment and protection; to further contest the existing fragile industrial situation by introducing into the private sector a new level of training and credentialling may have destroyed what already precariously existed. The assumption was, therefore, that issues of professional and technician relations be left to the public sector. Second, the peak body reaction went some way to emphasise further and explain the marginality experienced by technical education in relation to large sections of private industry: credentialling simply was not widely valued. Third, and similarly, the disinterest and even hostility shown by the federal bodies to the APEA and the CPA may explain why professional associations were often drawn to technical education peak bodies: if the battle for recognition of professional exclusivity, status and authority could not be fought in the national arena, then smaller victories could be had in a forum that valued what they stood for.

**Conclusion**

The story of the Engineering Case and the development of technician, middle-level or paraprofessional education is illustrative of the politics of skills formation, and professional privileging and its protection. At a time in the early 21st Century when discussion of a range of theories informing the development of learning and skill acquisition focus on the imminent logic of unfolding globalisation and marketisation, the past is a salutary reminder that power and the illogicality of its application remains a factor in explaining the VET sector’s unfolding development. The creation of a paraprofessional community of practice, so much part of contemporary VET and now extending beyond the engineering and metals industries to embrace all VET training covered by AQF levels 5 and 6, remains as a legacy of one of these struggles.

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Technical and Vocational Education in China: History, Educational System and Achievements, Opportunities and Challenges

Dai Rongguang

"Technical and vocational education (TVE), as an integral component of lifelong learning, has a crucial role to play in this era as an effective tool to realize the objectives of a culture of peace, environmentally sound sustainable development, social cohesion and international citizenship." (UNESCO, 1999). The earliest vocational education in China may be traced back to the 1860's. And since China entered a new historical era of reform and opening to the outside world in 1978, the technical and vocational education in China has been injected with tremendous vitality for development, and has gained a lot from international exchanges of experience. In building the communities for the twenty-first century, China will make its great contributions. At the threshold of the twenty-first century, TVE in China meets both many opportunities and challenges as the great development of Western China starts.

As the UNESCO Recommendations (1999, Seoul) recommends "All nations require a coherent education policy and coordinated education systems within which technical and vocational education (TVE) must be a fundamental part", the history of vocational education in China may be traced back more than 130 years ago in the 1860's. The main content of vocational education at that time, i.e., the late Qing Dynasty, was to study the advanced technology from the western countries and train manpower with practical skills only.

The Schooling System of 1902 laid down a set of systematic regulations for vocational education while the Chinese Vocational Education Society which was established in 1917 and led by Mr. Huang Yanpei, set the precedence of joint provision of vocational education by the educational and industrial sectors in China. However, the slow and backward national economy, industry, agriculture and commerce in the old China before 1949 hampered the development of vocational education. In the old days, the whole nation had only 561 secondary technical schools with an enrollment of 77 000 students and 3 trade schools for training workers with an enrollment of 2 700 students. The total enrollment of the secondary vocational schools in old China represented only 4.2% of the total student population in the secondary schools.

The founding of the People’s Republic of China (P. R. C.) in 1949 marked a milestone in the development of vocational education in new China. In the 1950’s, vocational education in China had experienced some prosperity with thousands of vocational schools setting up. Vocational Schools here refer to the trade schools, technical schools and agricultural schools at primary and secondary level and other vocational education in various forms.

As the prosperity of the national economy went on in the 1960’s, manpower training and skill learning needed by all sectors of the society were accelerated, and the vocational education run a rapid development. But due to the outbreak of the so-called Cultural Revolution in the second half of the 1960’s, vocational education and other forms of education were deadly stopped. Vocational education in China has resumed its status and
has been injected with tremendous vitality for development since China entered a new historical era of reform and opening to the outside world in 1978.

Recognizing the importance of vocational education in elevating the nation's integrated strength, the Central Committee of the Communist Party, the State Council of P. R. C. and the Ministry of Education (MoE) of P. R. C. have formulated and approved many policies and regulations on technical and vocational education. And many Chinese high rank officials have also made various important remarks with the purpose of promoting vocational education. However, what is the most important matter in developing vocational education in China is the adoption of the first *Vocational Education Law of the People's Republic of China* in 1996, which provides legal protection for the development and perfection of vocational education.

**Vocational Education System in China**

The compulsory schooling is 9 years from the age of 6 to 14, while the vocational education system in China is divided into three levels: junior and senior high schooling and higher (tertiary) education.

Vocational education at the junior high schools, broadly located in the vast rural areas where the economy is less developed, aims at training the primary school graduates who will become relatively skilled peasants in the countryside and workers at townships. The junior high vocational schooling is a part of the 9-year compulsory education, lasting 3 or 4 years depending on different zones, and has being developed greatly in view of the student body and the number of schools (see Table 1).

Vocational education at the senior high school, corresponding to level 3 of ISCED, 1997, is a part of the post-compulsory education and consists of the specialized secondary schools (SSSs), the secondary trade schools and senior high vocational schools (SHVS) which are the mainstay of China's technical and vocational education. The term of specialized secondary schools is the direct translation from Chinese, referring certain professional and/or technical and vocational education at the secondary level.

SSSs consists mainly of the secondary technical school and the secondary school for teacher education, both of which enroll junior high school graduates with 3 or 4 years of schooling. But certain major subjects at SSSs can only admit senior high school graduates with a 2-year schooling. The general purpose

### Table 1

**Development of Junior High Vocational Education, 1990–99 (In 10 thousand persons).**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NO. OF SCHOOLS</th>
<th>NO. OF STUDENTS ADMITTED</th>
<th>ENROLLMENT</th>
<th>NO. OF GRADUATES</th>
<th>NO. OF FULL-TIME TEACHERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>1509</td>
<td>13.36</td>
<td>47.88</td>
<td>13.91</td>
<td>2.87</td>
</tr>
<tr>
<td>1991</td>
<td>1556</td>
<td>23.82</td>
<td>52.33</td>
<td>13.68</td>
<td>3.01</td>
</tr>
<tr>
<td>1992</td>
<td>1599</td>
<td>26.68</td>
<td>55.68</td>
<td>14.10</td>
<td>3.20</td>
</tr>
<tr>
<td>1993</td>
<td>1582</td>
<td>26.65</td>
<td>52.64</td>
<td>14.52</td>
<td>3.31</td>
</tr>
<tr>
<td>1994</td>
<td>1538</td>
<td>28.51</td>
<td>63.05</td>
<td>13.80</td>
<td>3.54</td>
</tr>
<tr>
<td>1995</td>
<td>1535</td>
<td>28.84</td>
<td>65.69</td>
<td>16.96</td>
<td>3.72</td>
</tr>
<tr>
<td>1996</td>
<td>1534</td>
<td>30.68</td>
<td>77.52</td>
<td>18.76</td>
<td>3.92</td>
</tr>
<tr>
<td>1997</td>
<td>1469</td>
<td>30.88</td>
<td>80.89</td>
<td>20.93</td>
<td>4.01</td>
</tr>
<tr>
<td>1998</td>
<td>1472</td>
<td>34.89</td>
<td>86.70</td>
<td>22.92</td>
<td>3.96</td>
</tr>
<tr>
<td>1999*</td>
<td>1319</td>
<td>33.76</td>
<td>90.08</td>
<td>24.14</td>
<td>3.94</td>
</tr>
</tbody>
</table>

Source: *Vocational Education in China*, prepared by the Department of International Cooperation & Exchanges, MoE, P. R. C.; *Essential Statistics of Education in China 1999* prepared by the Department of Development & Planning, MoE, P. R. C.

Note: All data in Table 1 include vocational education for adult.
of SSSs is to train professionals and skilled technicians for the forefront of production. And all the students are required to master the basic knowledge, theory and skills of their majors in addition to the basic cultural knowledge set for the regular (general) senior high school graduates.

The secondary trade school as its name suggests, trains students with skills who will be future workers and is open to junior high school graduates with 3 years of schooling. Graduates from this kind of school are quite capable of practicing and operating in production activities.

Developed on the basis of the structure reform of the secondary education and directly coming from the reorganization of regular senior high schools, the senior high vocational school admits junior high vocational and regular junior high school graduates and its schooling is 3 years. The main task of SHVS is to train the practical-skill-oriented talents with comprehensive professional abilities and all-round qualities directly engaged in the forefront of producing, service, technology and management. Accordingly, the specialties offered by SHVS are mainly related to the tertiary industry.

Recent development of senior high vocational education is undergoing a process of adjustment, rectification and reform. The state policy of developing TVE with a greater force remains unchanged (Technical & Vocational Education in China, No. 5, 2000) although the development of TVE is facing some difficulties and challenges. For example, the total number of students participating in technical and vocational education at the secondary level underwent some reduction in 1999 compared with 1998 (see Table 2). The secondary vocational schooling here includes vocational education carried out at SHVSs, specialized secondary schools, the secondary trade schools and the specialized secondary schools for adults. In spite of the decreased student population of vocational education at the secondary education but the proportion of students admitted to and enrollment of the secondary vocational education in 1999 occupied respectively 52.28% and 56.47% of that of the total secondary education (China Education Daily, 2000).

With the schooling lasting 2 or 3 years, tertiary vocational education in China admits graduates from regular senior high schools and senior high vocational schools. In recent years, the proportion of SHVS graduates admitted to the tertiary vocational education has been increased, establishing the proper link between the secondary and tertiary vocational education.

Table 2

<table>
<thead>
<tr>
<th>1998</th>
<th>NO. OF SCHOOLS</th>
<th>NO. OF STUDENTS ADMITTED</th>
<th>ENROLLMENT</th>
<th>NO. OF GRADUATES</th>
<th>NO. OF FULL-TIME TEACHERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialized</td>
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<td>166.83</td>
<td>498.08</td>
<td>129.31</td>
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<td>secondary schools</td>
<td>(3 962)</td>
<td>(163.37)</td>
<td>(515.50)</td>
<td>(140.15)</td>
<td>(27.37)</td>
</tr>
<tr>
<td>Of which:</td>
<td>3 234</td>
<td>134.89</td>
<td>405.97</td>
<td>98.37</td>
<td>21.50</td>
</tr>
<tr>
<td>Teacher</td>
<td>875</td>
<td>31.94</td>
<td>92.11</td>
<td>30.58</td>
<td>6.35</td>
</tr>
<tr>
<td>education</td>
<td>(815)</td>
<td>(29.12)</td>
<td>(90.52)</td>
<td>(30.90)</td>
<td>(6.19)</td>
</tr>
<tr>
<td>Trade schools</td>
<td>4 362</td>
<td>59.40</td>
<td>181.30</td>
<td>68.20</td>
<td>14.50</td>
</tr>
<tr>
<td></td>
<td>(4 098)</td>
<td>(51.55)</td>
<td>(156.05)</td>
<td>(66.25)</td>
<td>(15.03)</td>
</tr>
<tr>
<td>SHVSs</td>
<td>8 602</td>
<td>182.68</td>
<td>454.92</td>
<td>139.85</td>
<td>29.61</td>
</tr>
<tr>
<td></td>
<td>(8 317)</td>
<td>(160.38)</td>
<td>(443.84)</td>
<td>(143.69)</td>
<td>(29.61)</td>
</tr>
</tbody>
</table>

Source: Educational Statistics Yearbook of China 1998; and Essential Statistics of Education in China 1999, prepared by the Department of Development & Planning, MoE, P. R. C.

Note: Data in brackets refer to the year of 1999. And all data in this table include vocational education for adult.
At present, institutions providing technical and vocational education at tertiary level in China are classified into five categories. They are the technical institutes, technical colleges which are the main body for tertiary technical and vocational education, 5-year tertiary vocational classes run by specialized secondary schools other than SHVS, vocational education provided by some regular and/or higher education institutions, and the institutions reorganized from regular specialized secondary schools.

Tertiary vocational education in China at present is defined something similar to the U.S. community college education and the post secondary non-tertiary education, i.e. level 4 of ISCED 1997. But graduates of this kind are only granted diploma without any degrees; and this may hinder the further development of TVE in China. However, due to the rapid growth of school-aged population and the guidance of government policy, the development of tertiary vocational education is still going fast, and this can be seen from the development of technical colleges alone (see Table 3).

### Rapid Development of Vocational Education in Rural Areas

China is the largest developing country in the world with one quarter of the world population, and 80% of the country's population and that of the student live in the countryside (Forum on Vocational Education, No. 3, 2000). Sound and smooth development of TVE in China is an effective tool to realize the objectives of a culture of peace, building prosperous communities in the twenty first century, social cohesion and stability, and environmentally sound sustainable development. And the healthy development of TVE is the prerequisite to develop the West China where needs millions upon millions of well trained workers, technicians and engineers.

Since the 1980’s, significant progress has been made in vocational education in rural areas of China with the student body enlarged and the teaching quality greatly improved. Rural vocational education is mainly conducted by the specialized secondary schools of agriculture and forestry, rural vocational high schools and the cultural & technical schools for peasants. From 1984–97, the number of specialized secondary schools of agriculture and forestry increased from 406 to 420 with the enrollment increasing from 102 400 to 516 000 students. During the same period, the number of rural vocational high schools increased from 4 217 to 4 900 with the enrollment increasing from 895 100 to 2 194 700 students. Since 1984, these schools have produced over 7 million secondary vocational school graduates for the whole society. Most of these graduates have

### Table 3

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NO. OF COLLEGES</th>
<th>NO. OF STUDENTS ADMITTED</th>
<th>ENROLLMENT</th>
<th>NO. OF GRADUATES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>114</td>
<td>24 059</td>
<td>72 449</td>
<td>26 425</td>
</tr>
<tr>
<td>1991</td>
<td>114</td>
<td>22 930</td>
<td>64 359</td>
<td>24 943</td>
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<td>1992</td>
<td>85</td>
<td>27 053</td>
<td>66 219</td>
<td>20 315</td>
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<tr>
<td>1993</td>
<td>83</td>
<td>35 274</td>
<td>79 909</td>
<td>19 647</td>
</tr>
<tr>
<td>1994</td>
<td>87</td>
<td>35 518</td>
<td>93 939</td>
<td>21 455</td>
</tr>
<tr>
<td>1995</td>
<td>86</td>
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<td>80</td>
<td>44 665</td>
<td>112 092</td>
<td>29 818</td>
</tr>
<tr>
<td>1998</td>
<td>101</td>
<td>62 751</td>
<td>148 561</td>
<td>35 480</td>
</tr>
<tr>
<td>1999*</td>
<td>161</td>
<td>123 378</td>
<td>234 244</td>
<td>40 140</td>
</tr>
</tbody>
</table>

Source and note: The same as table 1 of this paper.
taken the lead in “Making a Fortune by Science and Technology” in the countryside, contributing immensely to the economic growth in rural areas of China.

The objective of the reform of rural vocational education is the implementation of the “Liaoyuan Program” which emphasizes the connection between economic development and reform of education & teaching; and emphasizes the integration of agriculture, science, technology and education with the overall planning of basic education, vocational education and adult education.

**International Cooperation and Exchanges on Vocational Education**

Globalization has become the common trend for the reform and development of modern education in the world. Along with the reform and opening to the outside world, China has been actively engaged in the international cooperation and exchanges in the field of vocational education. During more twenty years, the Government of China has sent many delegations to over twenty countries and regions where TVE is well developed and the delegates showed their unique characteristics to learn successful foreign experience. At the same time, China has received many foreign vocational education delegations, invited foreign experts to give lectures in China, and jointly provided education with foreign vocational education institutions to promote the development of Chinese vocational education. China has also made more contacts with the UNESCO, UNDP, WLO, UNPF, APEC and other international organizations while the bilateral cooperation and exchanges in education between China and other countries have been increasingly expanded.

In order to improve the all-round qualities of vocational educational teachers, since 1987 China has sent thousands of administrators and teachers who teach specialized courses to America, the United Kingdom, Germany, Italy, Australia, Canada and Japan for further studies. And this has turned out good results.

In 1990, the Chinese Government signed the *AGREEMENT on the LOAN for VOCATIONAL EDUCATION PROJECT in CHINA* with the World Bank, which consisted many sub-projects and began further to develop vocational education in the whole country. At present, the first session projects have been finished while the second session projects are already on the smooth way. The two session projects altogether will use $80 million loan from the World Bank and $100 million matching money from the Chinese Government. The implementation of the whole projects will significantly improve the conditions of teacher training bases for vocational education and advance the teaching qualities, and will make great contributions to many subjects in the fields of vocational studies. In 1990, the German Government agreed to provide the fund to set up the Chinese Central Research Institute of Vocational Education in Beijing, and two local research institutes respectively in Shanghai and Liaoning Province, China.

Since early 1980's, China and Germany have jointly set up over 30 cooperative projects in the field of vocational education and carried out the pilot reform, learning from the German Dual-tract System. This cooperation is nice and both sides benefit a lot from each other.

In cooperation with Canada and Australia, the teaching and training models of foreign were introduced to China. The experience of TAFE is of great importance.

In addition, China undertook the International Seminar of TVE organized by UNESCO in 1993 and hosted the International Seminar on Rural Vocational Education in 1997 with representatives from foreign countries and international organizations such as the World Bank and the World Labor Organization. China is determined to further opening to the outside world to draw all useful experience from other countries and regions for its educational development and TVE in particular.
Some Recommendations

From the view of a researcher, I would like to make some recommendations concerning TVE in China and in the world, and end this paper.

- The national policy on higher (tertiary) vocational education is the key to further and smooth development of TVE. The higher vocational education (HVE) in China should be arranged at the university level and graduate level and can not only be defined as non-university education. That is to say that HVE graduates should be granted bachelor, master and doctor degrees when they have reached the requirements set in vocational education. (It is said that a pilot 100 students were admitted to a university for bachelor studies in vocational education in Fall, 2000.) And students both in higher vocational education and in regular higher education should be provided continuous entry, exit and re-entry points with their credits earned recognized, and the students in higher vocational education track should be allowed to transfer to the academic track and vice versa. This is a way to clear the disparities between HVE and regular higher education and promote parity of esteem between the two. Otherwise HVE development will be further hindered and the negative profile is already appeared. For example, the only normal college for TVE in Henan province, China, planned at first to admit 540 students in Autumn 2000, but only 42 students were willing to be admitted [6].

- The reason for short of students in vocational education both at the secondary and tertiary level in recent one or two years is that the graduates of vocational education were hard to find jobs in the labor market. And even if he and / or she found a job, he and / or she were paid lower than their peers in the academic studies. And influenced by the traditional but old point of view not a few people regard vocational and technical education nothing but second. This reminds us that the status and prestige of TVE must be enhanced in the eyes of the community and the media. And molds of good practice in TVE at home and abroad must be publicized and disseminated, and the competitive abilities and practical skills of vocational graduates at all levels should greatly be enhanced.

- The input for TVE from various governments, ministries and enterprises is far from demand and tuition and other fees paid by students in higher vocational education are higher than those in general education. In this regard, policy makers at various levels should change their mind and thinking and recognize that TVE is an investment, not a cost, with significant returns including the well-being of workers, enhanced productivity and international competitiveness. Decision making in educational policy can not be mixed up with any wrong ideas, for any wrong decision will result in disasters for our next generations. The development of Western China provides both great opportunities and challenges for the development of TVE in China and also provides great opportunities for our foreign friends because it needs a great number of trained people and opens to the outside world. But successful and smooth development of TVE is the pre-requisites for developing China's west. And nobody can and will be willing to sit ideal.

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A National Study of Factors Contributing to Retention and Completion Rates of Apprentices and Trainees

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Heather Symons and Berwyn Clayton
Centre Undertaking Research in Vocational Education, Canberra Institute of Technology

Apprenticeships and traineeships are a key component of government policies aimed at increasing the quality and quantity of entry-level training and have been the focus of considerable change and debate during the implementation of training reform over the past decade. Yet attrition rates in these areas continue to baffle VET policy-makers and practitioners alike. This paper is built on an NREC-funded national study of the factors contributing to retention and completion rates. The quantitative phase involved analysis of national data on apprentices and trainees, from which a number of occupations were selected for further study. The qualitative phase involved interviews of apprentices and trainees, as well as their workplace managers/supervisors and RTO trainers, in order to delve more deeply into factors affecting retention and completion. These interviews occurred across five States/Territories. The paper presents some findings from the project and discusses their implications for policy and practice.
traineeships. The first section provides a brief background and provides details of the research questions and methods used in the study. Subsequent sections report key findings and some recommendations.

Background to the Study
For the purposes of this study, retention was defined as a process whereby people who enter an apprenticeship or traineeship are supported to remain in their contract of training. Completion is one event that can occur at the end of a contract of training. It is that point in time when an apprentice or trainee leaves the training system with a recognised qualification.

Studies examining the factors that affect attrition and non-completion of apprenticeships and traineeships as well as research on adult persistence provided a useful starting point for the study. This literature suggested that factors affecting retention are likely to fall into two broad categories:

- person-orientated factors which are particular characteristics of the apprentice/trainee, and
- context-orientated factors which make up the 'life world' of the apprentice/trainee.

Person-orientated factors include motivation, persistence, gender, highest level of education, interpersonal competence, and past life experiences including experiences of earlier schooling (Cervero & Kirkpatrick, 1999; DETYA, 2000; Mackinnon-Slaney, 1994; WADT, 1999). Context-orientated factors include:

- type and quality of social networks at work (Vann & Hinton, 1994)
- mandatory nature of training (Ree & Carretta, 1999)
- nature of work open to trainees/apprentices after they have completed their course (WADT, 1999; Ree & Carretta, 1999)
- type of contract of training (i.e. entirely workplace based or integrated) (DETYA, 1999, 2000)
- occupational area in which the apprenticeship / traineeship is being undertaken (DETYA, 1999)
- access to productive and meaningful work during the course of the apprenticeship/traineeship (WADT, 1998)
- quality of training (DETYA, 2000; WADT, 1999)
- quality of employment conditions (DETYA, 1999; WADT, 1999), and
- nature of the employer (enterprise, group training) (DETYA, 2000).

Research Methods
The research objectives of the study were addressed using both qualitative and quantitative approaches. The quantitative phase of the study was based on an analysis of data extracted from the NCVER Trainee and Apprentice collection. These data were extracted in two ways:

- the latest status of individual contracts of training was extracted from the March 2000 collection, and
- the latest status of individuals was extracted from the March 2000 collection.

In order to limit the scope of the study, the decision was made to focus in the qualitative phase on a manageable number of occupations identified in the quantitative phase as having either:

- high and low completions, or
- high and low numbers of cancellations and withdrawals.

Table 1 sets out the occupations included in the qualitative phase of the study.

Interviews were held with apprentices / trainees (including those who were currently employed under a contract of training and those who had recently completed their apprenticeship / traineeship), employers / workplace supervisors and teachers / trainers.

Key Findings from the Study
Analysis of data extracted from the national Trainee and Apprentice collection provided indicators of factors affecting completion in apprenticeships and traineeships. Those
Table 1
Occupations included in the qualitative phase of the study

<table>
<thead>
<tr>
<th>STATE/TERRITORY</th>
<th>ASCO</th>
<th>OCCUPATION</th>
<th>AOF</th>
<th>ASCO</th>
<th>OCCUPATION</th>
<th>AOF</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT</td>
<td>3291</td>
<td>Office Managers</td>
<td>II-III</td>
<td>4513</td>
<td>Cooks</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>6111</td>
<td>General Clerks</td>
<td>II</td>
<td>6211</td>
<td>Sales Representatives</td>
<td>II</td>
</tr>
<tr>
<td></td>
<td>4411</td>
<td>Carpentry &amp; Joinery Tradespersons</td>
<td>III</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NSW</td>
<td>4114</td>
<td>Aircraft Maintenance Engineers</td>
<td>III</td>
<td>4513</td>
<td>Cooks</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>412</td>
<td>Fabrication Engineering Tradespersons</td>
<td>III</td>
<td>4931</td>
<td>Hairdressers</td>
<td>III</td>
</tr>
<tr>
<td>South Australia</td>
<td>7993</td>
<td>Storepersons</td>
<td>II-IV</td>
<td>4513</td>
<td>Cooks</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>1311</td>
<td>Mixed Crop &amp; Livestock Farmers</td>
<td>I-III</td>
<td>412</td>
<td>Fabrication Engineering Tradespersons</td>
<td>II-IV</td>
</tr>
<tr>
<td>Tasmania</td>
<td>6211</td>
<td>Sales Representatives</td>
<td>II</td>
<td>4513</td>
<td>Cooks</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>8211</td>
<td>Sales Assistants</td>
<td>II</td>
<td>4931</td>
<td>Hairdressers</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>3294</td>
<td>Computing Technicians</td>
<td>II</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victoria</td>
<td>8211</td>
<td>Sales Assistants</td>
<td>II</td>
<td>4513</td>
<td>Cooks</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>9918</td>
<td>Electrical &amp; Telecommunications Assistants</td>
<td>II</td>
<td>3294</td>
<td>Computing Technicians</td>
<td>II</td>
</tr>
</tbody>
</table>

Factors that appear to influence positively the completion of contracts of training included:
- being aged between 20 and 24 years when commencing a traineeship/apprenticeship
- not having a disability
- speaking Southern European, Eastern European, Eastern/Southern/Southeastern Asian languages at home
- being born in Australia
- not being an indigenous Australian
- completing Year 12 at school
- completing a post-compulsory qualification
- receiving credit for prior education
- participating in a Certificate II or IV traineeship/apprenticeship
- participating in occupations with high levels of completion and retention
- undertaking a traineeship/apprenticeship of two to three years duration
- undertaking a traineeship or apprenticeship on a part-time basis
- being employed by a large organisation, and
- being prepared/able to move between employers rather than leaving a contract of training.

Analysis also revealed that some occupations have poor levels of completion and high levels
of cancellation and withdrawal, despite having a trainee/apprentice profile which should lead to improved completion of contracts of training. This suggested that additional factors, not immediately apparent in the quantitative analysis, could be mediating the process of retention. The data generated from the interviews provided insight into some of these additional factors.

The two most importance factors identified during the interviews were:

• a strong sense of individual motivation and personal agency on the part of the apprentice/trainee, and

• support from family/partner/significant other.

Those learners who demonstrated individual motivation and personal agency were described as ‘having what it takes’. These persons demonstrated self-confidence, an ability to make friends and talk easily with adults/authority figures, and an ability to work towards long-term goals. In many respects, these attributes were viewed by employers, supervisors and trainers as baseline attributes and capabilities, without which a contract of training would not be entered into. Other factors contributing to retention identified by respondents included:

• suitability of initial placement
• previous satisfying work experience or school experience related to a particular occupational area
• supportive supervisors
• supportive work culture
• participation in structured training
• reliable transport
• the availability of alternative career pathways, and
• the value placed on the qualification.

Respondents noted that the factors that affect retention could change over time. The types of interventions needed to assist a newly appointed apprentice or trainee and encourage them in their commitment to their contract of training were different from those needed for an apprentice or trainee in the last few months of their contract of training.

Another important feature of the process of retention highlighted by this study is its occupational specificity. The phenomena of retention and completion are strongly influenced by a particular occupation’s culture. Examples from two of the occupational areas examined in this study illustrate this conclusion.

Cooks — Certificate III Commercial Cookery

The national shortage of trained cooks is compounded by the low completion rate for apprenticeships in this industry. Examination of the overall age profile of apprentices/trainees for each year showed that there were a higher than average proportion of apprentices aged 16 to 19 years commencing apprenticeships between 1996 and 1998. Analysis of data suggested that these apprentices were less likely to complete their contract of training. Data pertaining to the highest level of schooling profile of apprentice cooks indicated that for 1996 to 1998, a higher than average proportion of apprentice cooks completed Year 11 or Year 12 at school. Given that the likelihood of completing a contract of training increased with higher levels of schooling, the schooling profile of apprentice cooks should have provided a positive influence on completion. The employer size profile for cooking apprentices showed a large proportion of cooking apprentices were employed in small to medium sized businesses. Since completion was more likely by apprentices employed by large organisations, this factor was likely to have a negative influence on completion.

Respondents noted that employees in the hospitality industry have heavy demands placed on them because of the high pressure of work and the nature of their working life (e.g. excessive and often unpaid overtime, broken shifts). Moreover, whilst on the job, apprentices cooks worked under especially high pressure because of the physical demands of kitchen work (e.g. heat, steam, lifting). There is also a strong residue of the tradition
of hierarchical and aggressive working relationships in the cooking trade:

... you still get a lot of chefs who have the attitude, "well, my arse was kicked when I was an apprentice, so I'm going to kick your arse.

In spite of these adverse conditions, many apprentices endured the long hours and stress if they felt they were learning, but there were limits to this persistence. For many, the motivation to complete their apprenticeship was primarily extrinsic. They stayed in the course for the status of the certificate and to enter a well paid career that could lead to overseas travel. Love of the work was also an important motivating factor for apprentices. Some apprentices reported that enterprise agreements in large enterprises were a positive factor in supporting retention. Respondents also suggested that apprentice cooks needed to be very clear about the potential rewards that their training might offer, as staying to the end required a high degree of personal maturity.

Fabrication Engineering Tradespersons — Certificate II — IV in Metal Fabrication (Sheetmetal)

This is an industry which can be characterised as one of the traditional, male-dominated trades where there has been a sharp decline in the number of apprenticeships over the last few years. Training wages are low and a number of apprentices and trainees commented that they could earn much more outside the trade (e.g. as installers, rather than makers, of duct work).

The age profile of apprentice fabrication engineers from the national data showed that fabrication engineering generally had a higher than average proportion of apprentices aged between 15 and 18 years at the start of their contracts of training. Although the modal age of apprentice fabrication engineers is 20 to 24 years, there were significant proportions of younger apprentices who were less likely to complete their contract of training. The highest level of schooling profile of apprentice fabrication engineers indicated that for 1995 and 1996, a higher than average proportion of apprentice fabrication engineers completed Year 10 or 11 at school. In 1997 and 1998, a higher than average proportion of apprentice fabrication engineers completed Year 11.

The training system for this occupation is highly structured, with most trainees 'rolling over' into an apprenticeship at the end of their first year. Apprentices reported that they found the early years daunting. As well as low training wages, they also sometimes had to endure close supervision and harassment from work colleagues.

One of the biggest problems in maintaining retention rates in this industry was attributed to predominantly male trainees and apprentices who are torn between the demands of their training program and the workplace on the one hand, and the perils and lures of adolescence on the other.

The biggest hurdle ... what people have got to understand is that when kids are serving their apprenticeships, they're going through the most awkward period of their life — they’re bloody teenagers. ... It's a very trying time for them while they're going through mixed emotions ... I mean a kid just explodes. They might have pressure from home, there’s pressure from a girlfriend, there’s pressure from all different areas. ... They seem to get on a spiral ... and you've got to try to have a supportive situation whilst they're here.

In such a context, the ones who survived training were those who had long-term goals such as attainment of the qualification. Personal support was important for young trainees and apprentices, especially from their families. As well as providing background stability, families also offered help in more direct and practical ways. This is especially true in the case for those apprentices from rural areas:

We've got lads here that come down from Renmark ... now we're talking three to four hours drive to here, and if their parents are not willing to help them with that process, they don't come here.

During the course of the interviews, some feedback from respondents suggested that there was tendency between all parties
(apprentices /trainees, employers, teachers and trainers) to blame each other for the perceived 'problem' of poor retention. The evidence suggests, however, that this strategy of apportioning blame to one party is an oversimplification. The factors that influence the process of retention do not exist in a simple cause / effect relationship. Rather it is more productive to view retention as the collective responsibility of all parties involved in vocational training. It is clear that, while factors associated with the 'personal agency' of the individual apprentice and trainee (motivation, confidence, and other personal resources) were central to their decision to remain in a training program, there were also a number of other factors external to the individual which affected this decision.

Conclusions and Recommendations

For each individual entering the apprenticeship/traineeship system, there are personal factors they bring with them (antecedent factors) that will greatly impact on their retention and the likelihood of completion. These include personal characteristics (such as age and gender), prior experiences of education and perhaps work, and personal attributes (such as learning skills and self-perceptions) developed from the preceding characteristics and experiences. As they enter the training system and progress through it, there are also factors or circumstances pertaining to their environment (context factors) that will play an important part in the retention or otherwise of the individual. These include community and family networks and supports and the actual form of their training contract. On the journey through the training system, there are therefore features in their on-the-job and off-the-job training (process factors) that will again play a major role in determining whether they complete or do not complete. There are also a number of 'accidental' factors that can impact on the process of retention. These can be either work-related (e.g. retrenchment due to closure of a business) or personal (e.g. relationship breakdown, health related issues). They are usually unpredictable, and can be great sources of stress that can severely limit the amount of time and energy an individual can give to their work and learning.

Within each of these three groups of factors, some can be identified as 'static' because they are relatively stable and are difficult or not possible to change (e.g. individual characteristics). Other factors, such as those that impact on the quality of the processes that comprise the contract of training, may be more amenable to change and, in fact, may ameliorate some of the effects of other more static factors. Enhancing the process of retention, therefore, requires that the factors most amenable to change be the sites for primary intervention. Based on this reasoning, Table 2 sets out some possible interventions that may be used to enhance the process of retention in traineeships and apprenticeships.

Table 2
Possible Interventions to Enhance the Process of Retention in Traineeships and Apprenticeships.

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>POSSIBLE INTERVENTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERSONAL</td>
<td></td>
</tr>
<tr>
<td>• Prior skill development / work experience</td>
<td>• Apprentices and trainees should have access to career counselling</td>
</tr>
<tr>
<td>• Long-term goals</td>
<td>• Curriculum development practices should enhance linkages between work experience/pre-vocational programs and traineeships/apprenticeships; and should also include recognition of prior learning / current competency</td>
</tr>
<tr>
<td>• Support from peers, family, partner, friends</td>
<td></td>
</tr>
</tbody>
</table>
Table 2 continued
Possible Interventions to Enhance the Process of Retention in Traineeships and Apprenticeships.

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>POSSIBLE INTERVENTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Competing demands for time, energy</td>
<td>• Support and resources for employers to enhance their selection processes should be provided</td>
</tr>
<tr>
<td></td>
<td>• Induction processes should ensure that expectations of all parties are clarified and understood</td>
</tr>
<tr>
<td></td>
<td>• Expectations in relation to learning processes and outcomes should be clearly documented in training plans and used as a basis for monitoring progress over time</td>
</tr>
<tr>
<td></td>
<td>• Induction processes, information and awareness-raising strategies should be designed to include parents/family to inform them of the expectations, requirements of the contract of training, etc.</td>
</tr>
<tr>
<td>INDUSTRY AND LABOUR MARKET</td>
<td></td>
</tr>
<tr>
<td>• Entry requirements</td>
<td>• An improved industrial relations system for apprenticeships and traineeships should be examined including:</td>
</tr>
<tr>
<td>• Value / marketability of qualification</td>
<td>• established industry benchmarks for breaks, hours, trainee wages via the award system</td>
</tr>
<tr>
<td>• Career prospects</td>
<td>• encouragement of enterprise agreements</td>
</tr>
<tr>
<td>• Wages and conditions available outside the occupational area</td>
<td>• Improved efforts need to be directed to maintain the currency and value of qualifications within specific industries and to ensure that the skills and knowledge required by apprentices and trainees after graduation are developed (e.g. small business skills)</td>
</tr>
<tr>
<td>WORKPLACE</td>
<td></td>
</tr>
<tr>
<td>• Breadth and depth of work available to apprentices and trainees</td>
<td>• Information, resources and training should be made available to employers and workplace trainers to enhance their knowledge and skills on a range of issues including communication, organising and structuring work to facilitate learning and providing feedback to apprentices and trainees</td>
</tr>
<tr>
<td>• Level of work demands</td>
<td>• Mechanisms should be established to deal with reported incidences of workplace harassment and bullying. Possible strategies include the availability of an independent and confidential hot-line or ombudsman to receive complaints from apprentices and trainees</td>
</tr>
<tr>
<td>• Peer support</td>
<td>• Requirements relating to occupational health and safety should be monitored in a consistent and on-going manner. Responsibility for monitoring and reporting breaches of occupational health and safety, bullying and harassment (by whom, how, etc.) should be clearly articulated.</td>
</tr>
<tr>
<td>• Work conditions</td>
<td>• Induction programs for apprentices and trainees should specifically include training in how to manage learning in the workplace (&quot;learning to learn&quot; skills) and survival skills to counter potential workplace harassment, exploitation, etc.</td>
</tr>
<tr>
<td></td>
<td>• Curriculum development practices should enhance linkages between work experience / pre-vocational programs and traineeships / apprenticeships (including recognition of prior learning / current competency to reduce length of contract of training)</td>
</tr>
<tr>
<td></td>
<td>• Study skills support should routinely be made available</td>
</tr>
<tr>
<td>NATURE OF TRAINING PROGRAMS</td>
<td></td>
</tr>
<tr>
<td>• Structure of training</td>
<td></td>
</tr>
<tr>
<td>• Length of contract of training</td>
<td></td>
</tr>
<tr>
<td>• Level of integration between other qualifications</td>
<td></td>
</tr>
<tr>
<td>• Course demands</td>
<td></td>
</tr>
<tr>
<td>• Integration of on- and off-job learning</td>
<td></td>
</tr>
</tbody>
</table>
Table 2 continued
Possible Interventions to Enhance the Process of Retention in Traineeships and Apprenticeships.

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>POSSIBLE INTERVENTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strategies should be implemented that assist apprentices and trainees integrate their learning from the multiple learning environments they may encounter over the period of their contract of training.</td>
<td></td>
</tr>
<tr>
<td>• Greater efforts to promote the value of withdrawal of apprentices / trainees from routine work for training purposes should be explored (to counter effects of isolation, increase exposure to different ideas, interaction with people, etc.).</td>
<td></td>
</tr>
</tbody>
</table>

‘ACCIDENTAL’ FACTORS

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>POSSIBLE INTERVENTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Changes in personal workplace circumstances</td>
<td></td>
</tr>
<tr>
<td>• Personal counselling services and access to emergency financial support should be investigated and be made available where needed</td>
<td></td>
</tr>
<tr>
<td>• Mechanisms such as those that currently exist within group training schemes to transfer apprentices and trainees between employers should be further developed.</td>
<td></td>
</tr>
</tbody>
</table>

Retention is a process that is the collective responsibility of all key stakeholders within the vocational education and training system. In many respects, retention is one of the products to derive from a quality training system where an appropriate and realistic balance is achieved between the learning needs and aspirations of apprentices and trainees and the needs and expectations of employers and industry.

Acknowledgements

The authors sincerely thank Bev Pope, Gail Cummins, Ken Bridge and John Bone for their assistance in the gathering of data for this project.

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Practice Development Units —
A Framework for Inclusiveness in
Post-Compulsory Education

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Within nursing practice development units have been promoted as a means of developing individuals, teams and organizations as well as the cultures within which the practice occurs. McCormack et al. (1999) propose a framework for practice development located in the philosophy of critical social science. They suggest that critical social science philosophy enables the growth and development of the practitioner, empowerment of the individual and the generation of cultural change that sustains continuous growth and innovation in practice. The framework McCormack et al. offers considers issues of, the development of clinical career pathways, organizational development and external collaborations. The focus of this paper is a critical examination of a practice development framework and its applicability to the broader field of post-compulsory education per se, particularly as a strategy for enabling practitioners to become actively involved in the development of their practice and hence the shaping of their future.

The concept of practice development units in nursing is not a new phenomena, they have been around for a couple of decades in the United Kingdom (Avallone & Gibbon, 1998; McCormack et al., 1999). What is new, is the development of a structured framework to guide the process of practice development. Whilst McCormack and his co-authors have in recent years had a plethora of literature published on their work, there does not appear to be a critical review of their framework. Furthermore, from a literature search conducted there appears to be scant evidence of such developments occurring in nursing in Australia, apart form the work of Alan Pearson in late 1980's early 1990's and Greenwood in the 1990's. This generated for the authors of this paper, some questions:

1. What is meant by the term practice development (PD)?

2. Is critical social theory an appropriate philosophy to support a framework for practice development? and

3. Can the strategies underpinning a practice development framework be utilized as a pedagogy for post-compulsory education?

It is our intention to address the above questions in this paper and in doing so demonstrate how we are attempting to implement the framework of PD in a midwifery-setting.

Practice Development as a Concept
Within nursing in the United Kingdom the term 'practice development' has been widely used in an inconsistent manner as McCormack and Garbett (2000) noted, it has been used to address a broad range of educational, research and audit activity. They
suggest this has resulted in an increasing number of nurses whose work involves practice development having difficulty in focussing their efforts. This may have arisen because there appears to be two schools of thought on what is practice development. The term practice development has in both literature and practice been primarily associated with the continuing education of practitioners. Whilst another school of thought is that practice development is mainly concerned with development of patient care with little regards to education (McCormack & Garbett, 2000). Certainly, in searching the literature we found the term Practice Development Unit (PDU) appeared to be used interchangeably with Nursing Development Unit (NDU) with no apparent consistency in the use of the concept. Here in Australia, in Western Sydney, the preferred title is Clinical Development Unit (Nursing) CDU(N), as Greenwood (2000) contends, this makes CDU more representative of the multidisciplinary nature of the contemporary health care and emphasis that practice development is nursing led. In her paper on CDU(N), Greenwood (2000), goes onto explain the ethos behind CDU(N)s namely the promotion of nursing excellence through the following three strategies:

1. Provision of a client centred care based on systematic needs assessment where client autonomy and empowerment are promoted;
2. Strategic development of nurses — promoting creativity, questioning and autonomy, through the provision of frameworks eg Personal Development Plans; and
3. Optimization of quality of care through reorganization of nursing work and implementation of evidence or ‘evaluation’ based practice. (p. 36)

McCormack and Garbett (2000) in their concept analysis of practice development argue that the most complete definition of practice development to date is that offered by McCormack et al. (1999, p. 256) namely: “practice development is a continuous process of improvement towards increased effectiveness in patient centred care, through the enabling of nurses and health care teams to transform the culture and context of care. It is enabled and supported by facilitators committed to a systematic, rigorous continuous process of emancipatory change” This definition of practice development, which has evolved from several years of work by the authors with the Royal College of Nursing Institute (UK), not only takes into account the above strategies by Greenwood but also acknowledges the transformation that needs to occur within the work environment to enable practice development to happen. It can be seen from McCormack et al.’s definition, the influence of critical social science is evident by the use of such phrases as ‘transform the culture’ and ‘process of emancipatory change’. To those readers unfamiliar with the nursing profession a slight digression is warranted to set the scene, before discussing the appropriateness of critical social science philosophy as a framework for practice development.

In Search of Professionalism
An examination of literature on teaching and nursing highlights several parallels between the two disciplines in their quest for professionalism, particularly with nursing’s pursuit of an established body of knowledge and desire for recognition as a professional body. Teaching is often considered a craft with teacher education being viewed as an enterprise of traditionalism and apprentice training (Tom & Valli, 1990). Examination of the works of Dingwall et al. (1988) clearly demonstrates the parallels between teaching and nursing in relation to a history of apprenticeship, craft and tradition. Over the last century nursing has been described under an assemblage of terms including vocation, practice, art, science and craft. These changing terms of reference have to some extent evolved in the same way as nursing has, that is, as a sub-system of society that changes in
response to changing social needs (Mellish, 1978).

Whilst nursing today is recognised as a distinct profession and is developing an autonomous practice it has not been without considerable discourse associated with the contentious issue of what is nursing knowledge. Consequently, as Behi (1995) suggest ‘many nurses strive to develop knowledge that is unique to nursing’ (p. 114). Sykes (1991) notes, however, that new knowledge must produce a demonstrative effect, a convincing display of its power and it could be argued that nursing knowledge to date has not done this. Nursing knowledge has struggled for recognition in its quest for professionalism due to several barriers.

Firstly, there is a continual debate surrounding the nature of nursing and what constitutes knowledge in nursing. Formal development of a body of nursing knowledge through theoretical exposition is dependent upon the amount of cohesion achieved in relation to values and beliefs concerning the nature of nursing (Oldnall, 1995). However, the nature of nursing is a highly contentious issue, generating considerable discourse on whether nursing is primarily an art and calling, or a science requiring a sound intellectual grasp of a range of technologies (Kitson, 1993). Secondly, nurses do not exert exclusive control over their knowledge and practice. They have had to borrow knowledge from other disciplines and they are dominated by the power, authority, regard and knowledge their medical colleagues have. In society the traditional image prevails of the nurse as the doctor’s handmaiden or as Greenwood (2000) alludes to the characteristics of donkeys and ingratiates. Nursing is still having to break free from a cultural tradition, where the caring role is perceived to be a woman’s work which requires little in the way of formal training. Seller’s (1994) study clearly demonstrates this subservient image held of nurses, despite that fact that nurse education has been in tertiary institutions (in Australia) for close to a decade. Thus, it is against a history of subversion that nursing is continuing to develop as a profession where critical theory could provide a suitable catalytic agent to overthrow the status quo (Fay, 1987).

Critical Social Science

Critical social theory is concerned with critical ways of understanding the world and the systems within it (Carr & Kemmis, 1986; Fay, 1987; Habermas, 1985). For a social theory to be considered critical and practical as well as scientifically explanatory there are, Fay (1987) suggests, certain conditions to be met. Firstly, there is a ‘crisis’ within a social system, and secondly, this crisis has in part arisen from a ‘false consciousness’ or mismatch between, for example, the perspectives of individuals and organizations. This ‘false consciousness’ may be founded on opposition between ‘workers’ who are oppressed and accept their oppression and ‘managers’ who are the oppressors and in nursing is representative of the hierarchical dominant power relationships described between medicine and nursing (Waterman, Webb, & Williams, 1995).

To address such concerns critical social science researchers actively examine correspondences and non-correspondences between, for example, theory and practice, and practice and institutional policies with the intention of uncovering and resolving such distorted understandings associated with such hierarchical power relationships, that is moving the participants towards emancipation (Carr & Kemmis, 1986). Thus, the first stage of critical social scientific endeavour is a systematic critique of participants’ self-understanding and social practices in order to identify the most appropriate means for addressing the issues that arise (Fay, 1987). This accentuation, on starting from the perspective of those engaged with the practice, has provided a compelling argument for the use of critical scientific approaches in practice development in that, there is a commitment to practitioner ownership of desired changes and organisational recognition of practitioners’ concerns (McCormack et al., 1999).
Furthermore, McCormack et al. argue, by adopting a critical social science perspective to practice development it entails a commitment to organisational change founded on collaboration, mutual support, critical challenge, reflexivity and empowerment or Model II Organisational Behaviour as described by Argyris & Schön (1989) (see Figure 1). Such an approach they suggest acknowledges the perspectives of key stakeholders and focuses on finding methods of data collection that uncovers the contradictions embedded in the organization. Central to this approach are the notions of enlightenment, empowerment and emancipation (Fay, 1987).

Empowering Nurses

Practice development, as McCormack and Garbett (2000, p. 42) state, “is concerned with bringing about change to individuals and the environment within which they work”. The evolution of PDU’s and CDU’s has been in response to changing societal demands — a more patient centred/client centred care coupled with a growing dissatisfaction amongst nurses of a task orientated approach to care. Previous innovative approaches to care that focussed on the needs of the individual patient, the nursing process and primary nursing, were ideologically at odds with government health management that emphasised efficiency and productivity. Certainly, within the U.K. recent reforms in the health care system have provided a more favourable environment for person-centred care and enabled the development of such nursing initiatives as nursing beds and a gradual increasing numbers of independent practitioners (McCormack & Garbett 2000).

Despite the development of such posts which enable nurses to demonstrate their creative, critical and independent thinking there is still a body of managers and some nurses within healthcare settings that continue to hold an image of nurses as donkey and ingratiates (Greenwood, 2000). It is against this prevailing culture that the ‘thinkers’ in nursing need to make inroads. Therefore, to empower these nurses to create change within practice— it would appear that a conceptual framework that offers a structure and systematic approach based on the philosophy of critical social science that recognizes the complexity of successfully creating change within a complex organization, is a much needed strategy. As McCormack and Garbett (2000) note with the increasing demands for clinical effectiveness and evidence based practice where nurses are needing to be seen to be developing practice, a coherent approach is required.

Applying the Framework to Post Registration Nursing/Midwifery

Currently, in Australia, health service provision is experiencing an expansion of person-centred, nurse-midwife initiated and managed programs. Participation in these initiatives enables midwives and nurses to think critically, creatively and independently and to demonstrate the importance of clinical effectiveness, evidence based practice and improved patient outcomes. Whilst many nurses and midwives are excited about these opportunities and embrace the challenge taking responsibility for acquiring these desirable attributes, their formal pre-registration education has provided very little scope for development of the required knowledge and skills. Reflective practice is one example of a

![Figure 1](conceptual_framework.png)

Figure 1

Conceptual framework for practice development. Adapted from McCormack et al. (1999)
desirable skill in nursing and midwifery for which limited attention is devoted in pre-registration programs despite the fact that reflective practice is an expected competency of the registered nurse (Newton, 1999).

Ongoing personal and professional development for nurses and midwives needs to be guided and nurtured in the practice environments to facilitate the practitioners' ability to modify practice and acquire the additional practice skills necessary to support evolving and expanding roles. A practice development framework implemented sensitively in a practice setting would support groups and individuals seeking to meet these needs. The fundamental understanding on which the practice development framework would be overlaid, would be the active promotion of the notion that "nurses are thinkers engaged in intelligent action" Greenwood (2000, p. 35). The accumulation of positive experience through exposure to practice environments which actively values professional development, rewarding individual achievements will ensure a sustained cultural change within nursing and midwifery practice settings over time.

Enabling factors intrinsic to successful outcomes when adopting a practice development framework, as described by McCormack et al. (1999) within post-registration nursing and midwifery practice environments include:

- Recognition that for change to be successful it needs to be owned and in many instances driven by the nurses and midwives in practice. For example the impetus for research and the research ideas are best owned by the practitioners, however the research process may require to be driven by another for example an academic, to reduce the burden associated with this activity.
- Organizationally supported and undertaken using a systematic approach. The employer must value the notion of practice development and provide adequate access and resources to support activities. Performance appraisal criteria must recognize the efforts of nurses and midwives actively involved in practice development.
- An understanding of the context and culture of the organization must be clearly articulated and matched with specific practice development goals to ensure that initiatives are culturally and contextually appropriate.
- A commitment to user involvement must be demonstrated where nurses and midwives involved in practice development contribute towards the evaluation of initiatives and have the opportunity to make recommendations for modifications or changes which will ultimately impact on them.
- A recognition of desired practice approaches that are clinically and cost effective, as clinical efficiency is the measure by which all nursing and midwifery work is evaluated an outcome of which is necessary for securing ongoing recurrent funding.
- A culture that fosters a commitment to team development as a component of clinical effectiveness is required, as nursing and midwifery practice is embedded in team relationships and their functions.

Figure 2 is a representation of how a practice development initiative could be implemented utilising the practice development framework in a midwifery setting.

Inclusiveness for Post-Compulsory Education

Incorporation of a practice development framework to post-compulsory education within higher education would stimulate individualised accessible professional development in a genuinely inclusive program for all those involved. The practice development framework empowers individuals to establish professional goals and devise a program capable of supporting the areas of development necessary for the achievement of these goals. This framework provides the potential to explore new frontiers in post-compulsory education. Where access and affordability for
suitable education services may have been exclusive in nature, this framework facilitates access in the practice environment, components of which can be subsumed into daily working roles or activities. Financial considerations have contributed towards a trend to the main-streaming of post-compulsory education programs, the practice development framework provides much needed flexibility for individuals to develop their particular strengths and areas of expertise in a meaningful way.

Developing a systematic approach to practice development structured on critical social science will not only reflect the interests of those working in management and higher education but also reflect the interests of the practitioner by providing an audit trail of decision making that can give rise to practical and strategic information. Through rigorously accounting for the decisions, approaches and activities whilst developing practice will contribute to a deeper understanding at a theoretical level and is therefore more likely to have a political and strategic impact (McCormack & Garbett, 2000). As educators we need to become the facilitators of practice development to enable our practitioners to become actively involved in the development of their practice and hence the shaping of their future.

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Building Creative, Work Based Learning Partnerships: The Key to Effective Knowledge Sharing

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This paper describes research into the human and structural relationships in one TAFE Institute, and identifies the way those relationships enable the sharing, and generation of organisational and individual knowledge. The research aims to identify and further explore the tensions resulting from the diverse drivers for organisational growth and development for the Institute. As part of a wider research thesis, an action learning approach was used to examine the way in which organisational systems in a TAFE Institute enable individuals and groups to generate new knowledge in an equitable and mutually transformational way. The research uncovered not only a diverse range of creative practices and learning communities, but also a plethora of barriers (real and perceived) to the development of more widespread work based communities of practice. An aim of the research is to provide a shareholder model for knowledge generation constructed within a human service organisation. Staff within such organisations may find that the model proposed recognises a range of issues that acknowledge their concerns, and provides a means by which they can benefit from learning through dialogue, shared practice and the development of communities of practice. This paper provides a discussion of the background and context of the research, and outlines the methodology used by the researcher. Some preliminary findings are highlighted.

A learning organization is an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights. (Garvin, 1998, p. 51)

The world as experienced by any person and particularly workers, has changed significantly in the last 50 years, and will continue to change at an increasingly rapid pace. Most people have become used to the fact that there is less stability in the way they work, the places in which they work, and the nature of the groups that make up work units. While organisations have changed in response to the challenges of deregulation, breaking down of trade barriers and the development of a global economy, the ways in which people and groups learn with and from each other are changing as well.

In many organisations the value of a worker now lies in what they know or can readily access, and how that knowledge can be used for the immediate benefit of the organisation or employer. This worker however, is increasingly required to accept conditions of employment that offer little security, and is subject to continual appraisal based on performance at highly specified levels.

The Victorian TAFE workforce is not alone in being subjected to major changes resulting from global shifts in directions and operations, the impact of technology and new ways of working in new organisational structures. These changes are juxtaposed to an ageing workforce, blurring of traditional practice boundaries, increasing commercialism within continuing government constraints, and increasing use of sessional
and casual staff. Recent departures from the workforce have resulted in a diminished organisational knowledge that is not only lost to the organisation but often becomes a source of competition. The fact is that the Vocational Education and Training system, and the organisation, often have no idea of what they have lost in terms of tacit and explicit knowledge.

Many employees find themselves in a professionally isolated working environment, forced to be self-reliant, resourceful and competitive, and increasingly constructing their own working contexts. In order to remain current, and therefore employable, these people must rethink the opportunities they have to communicate with their peers and colleagues, and engage in the social activity of dialogue and learning.

The question is, how do they do that? While much has been written about the 'learning organisation', there is a need to focus on the way the person in any organisation is really able to contribute to, and benefit from, their time committed to working in such an organisation. This requires an examination of the structures, systems, culture and practices of the organisation, and the way in which these features facilitate or inhibit individual and collective learning between its employees.

Background to the Research
This research study is situated in the Vocational Education and Training (VET) context, specifically as a study of a newly amalgamated Institute of Training and Further Education. Chisholm Institute is a major applied education and training provider resulting from the merger of three TAFE Institutes in the southeastern metropolitan Melbourne region of Victoria. With over 2,000 staff comprising teachers and trainers, administration and technical support workers and managers, the Institute provides a complex picture of diverse histories, practices and experiences. Within this organisation, these groups of staff work to support and deliver the core business of the organisation; however, their roles are increasingly becoming blurred as the forces of market models, competition and 'the bottom line' take precedence.

There have been dramatic changes in the conduct of the core business of education and training, and the profiles of staff at all levels in terms of composition, hours worked and staffing categories. Recent voluntary departure packages partly as the result of organisational downsizing, have made it apparent that in terms of memory and learning, the collective knowledge of the organisation is recognisably diminished and often becomes a competitive force.

But while some members of the organisation might believe that they should creatively accumulate the collective know-how and experience of its staff, it must be recognised that it is difficult to disconnect an individual's thinking and doing for the purposes of packaging that 'knowledge' as a transactable commodity. An individual's tacit knowledge is developed within a unique environment, often a range of workplaces, and as a result of individual histories, networks and experiences. This capacity is living, continually reworked and transformed as a result of collaboration and communities of practice.

To be able to acquire, assimilate, share and create knowledge is, according to Jordan in Johnston (1998) the 'ultimate organisational capability, a meta-competence which allows an organisation to consistently outperform its rivals'. For this to happen, there needs to be equitable learning and working arrangements through which the organisation and the individual can be mutually transformed. This transformation can only be achieved as a result of sharing and generating new knowledge and new guides for action that each person is able to use for further individual and organisational competitive sustainable growth.

Drivers of Change
The significant changes recognised within this research are those of a social, organisational and technological nature. The notion of globalisation, while considered by some as a
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'catch-all expression' (Jakupce & Garrick, 2000, p. 12) for a wide range of different concepts, encompasses main ideas relevant to this work. It can be seen as driving the redistribution of workforces and the rise of people within those workforces nominated as knowledge workers. The increasing influence of advancing technology on the economy, culture and society is interwoven with a rapid increase in the pace of change. This is demonstrated through a picture of more organisations operating beyond their traditional geographical boundaries, i.e., becoming global in their operations and virtual in their presences.

New forms of organisations require a personal aptitude for working across different sectors and also competing with other sectors for scarce resources, and presume that a person has the ability to assume responsibility for the ongoing design of their work place. However, the reality is that while organisational hierarchical structures are becoming flatter, organisational restructuring, together with outsourcing and globalisation, creates the challenges of 'knowledge loss and distributed working' (Hildreth, 1999, p. 347).

While the drive in organisations is for flexibility, efficiency and creativity, in many instances this will come at a huge cost. Although the postcorporate organisation (Limerick et al., 1998) may seem some years away yet, it is interesting to note the use of the words 'flexibility, efficiency and creativity' as they permeate strategic directions documents produced by the Australian National Training Authority (ANTA) and the Office of Post-compulsory Education, Training and Employment (PETE). Tomorrow's world is already happening. The question that is important to this research is 'to what extent is this a picture of organisations such as TAFE Institutes?'

Not only is the nature of work in organisations altering significantly, but so too are the labels being affixed to these organisations. Of greatest significance to this research are those labels pertaining to 'knowledge'. As early as 1981 Dale Zand characterised a 'knowledge organisation' as one in which the ratio of knowledge workers to production workers was increasing, the relationship between the two groups was changing, and where knowledge was becoming the leading edge of the competitive effort. Terms such as 'organisational wealth' (Sveiby, 1997), 'managing knowledge' (Albert & Bradley, 1997), 'working knowledge' (Davenport & Prusak, 1998) and 'learning staff and staff development' (NCRVE, 1998) are being used to describe the increasing value placed on the knowledge held by individual employees, and collectively by the enterprise. It is somewhat paradoxical though, that despite the rhetorical importance that enterprises frequently accord to the value of the human capital embodied in their employees for organisational success, few enterprises have developed systematic ways of identifying and managing their employees' skills and knowledge. In times of high labour mobility, enterprises face a particular challenge in finding ways of retaining the knowledge held by key employees after they have left. According to Kelleher:

the rapid introduction of new information and communication-based technologies, coupled with recognition of the need for reliable, high quality, flexible production techniques have created an environment in which older notions and individual employee needs have been challenged. (1999, p. 3)

The model of a 'knowledge worker' has been strongly promoted over the last decade (Thurow, 1992; Drucker, 1993) indicating that knowledge, and its use to rapidly create new knowledge, is becoming the most significant competitive weapon in the twenty-first century. What has changed in the last few years is that there has been a shift from emphasising skilled people as the only sustainable competitive advantage to an increasing reliance on the knowledge worker as the organisation's greatest asset in the future. Based on the arguments of these and other authors, we come to a definition of knowledge work as 'work in which most activities are information-based, knowledge intensive and knowledge generating'. Given this definition,
how much of the work of TAFE teachers could be termed knowledge work?

In the new social structure termed a network society by Castells (2000, p. 7), meaning is constantly produced as a result of individuals’ actions and interactions that result in meaning sharing and practice shaping, both of which impact on the evolution of cultures — systems of values and beliefs that inform codes of behaviour. Kurtz (1998, p. 57), further describes this concept of network as ‘organizational interconnectedness’ in which those with similar interests can associate with others like them so that they can develop and access ideas, information, support, and other resources that enable them as network members to improve what they are doing or to achieve goals. These interpretations are used in this research to examine the nature of groups and communities within the TAFE Institute, and determine the level to which the organisation operates as a network, as opposed to a traditional ‘silo’ structure that compartmentalises its people and the knowledge they have.

Looking further at this concept of knowledge in the organisation, the OECD, in a recent critical report on the subject of ‘Knowledge Management in the Learning Society’, distills the enormous number of contemporary references to the knowledge economy, and offers the following features of a ‘knowledge intensive organisation’:

The organisation involves intensive use of knowledge (not just information, since knowledge is stock of experience not a flow of information). Individual professional members of the organisation have high levels of esoteric knowledge that cannot be widely shared, that is, such members are specialised and cannot readily be substituted for one another. (2000, p. 57)

Through this analysis, it should be possible to answer the earlier question, How much of the work of TAFE teachers could be termed knowledge work? Based on the features described, staff in a TAFE Institute — teachers, managers and administration workers — should be regarded as knowledge workers in a knowledge intensive organisation. The fact remains that there is no research to hand that actually describes TAFE Institutes, and their staff, in this light. Part of the problem is that while many examples of such organisations are cited in the private ‘high tech’ manufacturing and product oriented organisations, almost no analyses exist of public sector organisations such as education.

Knowledge, defined by Senge (1998) as ‘the capacity for effective action’, originates and is applied in the minds of the knowers — this is why one person’s knowledge cannot be stored for ready use by others. It is a ‘fluid mix of framed experiences, values and contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information’ (Davenport and Prusak, 1997). The question is thus raised as to the extent to which tacit knowledge can be made explicit. The process is far more complex than popularly maintained.

In organisations knowledge often becomes embedded not only in documents or repositories, but also in organisational routines, processes and norms. However, these documents or actions can become organisational defensive routines in that they create an environment of ambiguous meaning and undiscussability (Argyris & Schön, 1996, p. 99). If knowledge sharing occurs when people are genuinely interested in helping one another develop new capacities for action (Senge, 1998) then an organisation needs to support an environment that nurtures a motivation to enter into dialogical knowledge sharing and generation of new guides for action. An organisation may be said to have learned when it has acquired ‘information (knowledge, understanding, know-how, techniques, or practices) of any kind and by whatever means’ (Ar gyris & Schön, 1997, p. 3). This requires an alignment of the organisational structures, systems and processes in such a way that individuals are able to identify a raft of ‘sites’ in the organisation that they can call their own, as they need. The purpose of this research is to
identify such sites, and the factors that enhance their development.

The ability to create, acquire and transfer knowledge in an organisation is, to a large extent, dependant on the way the structure supports learning groups. A number of writers acknowledge the importance of teams for the future success of organisations, and the challenge of creating teams in and between different types of workforces. NCRVE (1998) places critical emphasis on team learning rather than that of the individual. Team learners listen, publicly acknowledge mistakes and learn from them, share perceptions, participate in discussions that raise conflicts to the fore and thereby help to resolve them, connect one another to the organisation, and become partners in helping the organisation reach its goals. This work aligns with Wenger’s (1996) concept of communities of practice, and the works of Senge (1998), Dixon (1994), Argyris and Schön (1996) and Flood (1999) on organisational learning and development of learning communities. The exploration of these works is an integral part of the work of the Action Learning Set in the research phase, in that the individuals used some of these works to examine more closely the paradoxes that surfaced within the organisation.

Methodology
This research investigated a ‘contemporary phenomenon within its real-life context’ (Yin, 1989, p. 23), exploring the ill-defined boundaries and relationships between phenomena and the context within which they are observed, and using multiple sources of evidence. Two Case Studies are used as lenses for the analysis of a model of knowledge sharing within the Institute. The first Case Study focuses on the way the participants interact, learn with and from each other, and come to new understandings that enable them to frame new guides for action and development. The focus in the second Case Study is in the way in which the organisation is a site for tensions, agendas and goals, and the way in which formal groups and loosely connected communities are supported to, or inhibited from, learning with and from each other in ways that enable them to work in the organisation.

Using an Action Learning framework, this research examined cultural and professional perspectives of the membership of Chisholm Institute. To achieve this, the research explored the:
- tensions between the perceived value of individual and organisational knowledge
- workplace systems that support and recognise the generation of organisational knowledge, and
- potential for the development of new stakeholder/shareholder models of organisational working knowledge.

In this research, Action Learning provided a forum within which participants continually raised questions in a spiral process, confirmed, challenged or refuted current assumptions about embedded workplace practices, and developed real alternatives for innovative models of equitable knowledge generation within the organisation. In some instances it enabled the participants to see how barriers could be broken down between functional components of the organisation — a capability considered by Dotlich and Noel (1999) to be a strength of the method.

The research questions derive from extensive exploration of the literature in terms of the changing nature of work, the structures, systems and processes within organisations, and individual and organisational learning practices. Significantly absent are discussions and analyses of the ways in which people in organisations, particularly large enterprises, learn from each other, share new ideas and create new knowledge that assists them in their evolving practice, and enable the organisation to maintain its competitive edge. Further there is little reference to the construction of equitable frameworks that support inclusive approaches to knowledge creation.

The questions therefore, reflect the recognition of the innate tensions that result from the outcomes of the diverse drivers for organisational growth and development, and ask:
LEARNING TOGETHER, WORKING TOGETHER

- Is knowledge (tacit and explicit) valued as a basis for professional practice and organizational growth in TAFE?
- What are the facilitators/inhibitors to knowledge generation in a TAFE organisation?
- What is the relationship between organizational systems and individual and organizational learning?

For this research the selection of the participants was of critical importance. If the set was to really represent a ‘microcosm of the organisation’, then it was imperative to ensure that the participants were representative of the diverse professional groups employed, and all levels of the hierarchy. The set comprised six members of staff of Chisholm Institute who represented this diversity. In the words of Tenkasi & Boland, this set was a ‘community of highly differentiated yet reciprocally dependent individual specialists who through an ongoing process of mutual perspective taking were able to surface, reflect on, exchange, evaluate and integrate their individual knowledge and theories of meaning with others in the organisation’ (1998, p. 5). All but one of the participants came from a formal teaching background.

Preliminary Findings

The Action Learning set, the basis for the first Case Study, highlighted the participants as a small, but representative group of Chisholm staff, who brought to life real problems, experiences and learnings that might be similar to the experiences of their colleagues throughout the Institute. Through this research, this particular group of participants had the opportunity to further understand their own and others perspectives; a learning that moved through the reflective and experiential learning cycle to framing possible guides for new action in the organisation. This reflection was recorded in the reflective journals that the researcher and the participants maintained throughout the process.

The second Case Study examined the Institute as part of a larger state and federal system, and explicated the issues that drive and challenge its capacity to operate as a public training and education organisation. The experiences of the participants in the action learning set were used as a means of questioning and challenging the practice frameworks constructed by the organisation through its structures, policies and procedures, and cultural mores.

As the research is further written up, the key features of the two case studies are being juxtaposed to provide a basis for surfacing and examining the values, structures and practices that facilitate or inhibit the equitable sharing of knowledge in this organisation. This analysis is being divided into three parts:

- conclusions about the degree to which the organisation can be considered to be a knowledge-sharing organisation
- the proposition of an illustrative model that encompasses those practices, structures and learning relationships that are considered to be the most successful in developing a culture of knowledge sharing and new knowledge creation in this organisation, and
- the identification of ways in which this model might be customised for application in other similar organisations.

This will be the basis of discussion at the ‘Learning together, working together: Building communities for the 21st century’ conference.

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Learning Careers: Conceptualising Transformations in Young Lives and Learning

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This paper draws on data from a four-year longitudinal study of 50 young people aged 16 to 19 in the UK. The study mapped their changing dispositions to and experiences of learning, through a combination of life history and 'real time' life course development, using repeated interviews. This paper focusses on the need to reconceptualise learning in order to make sense of our data, in ways which emphasise the inter-relationships between formal learning, informal learning and wider lived experiences, including home, leisure and work. The concept 'learning career' is being developed to do this through a central longitudinal dimension, linking past learning and past experiences to current experiences and dispositions. Based upon our data, learning careers entail complex tensions, balances and inter-relationships between changing and unchanging perceptions and characteristics, and between structure and agency. In developing the notion of 'learning career', we are seeking to incorporate aspects of three related, but seldom formally connected, bodies of theorising: symbolic interactionism; situated learning; and Bourdieu's concepts of habitus, capital and field. The paper explains the advantages of doing this, whilst highlighting some of the tensions inherent in this problematic integration.

The paper reports a four-year longitudinal study of 15–19 year-olds' experiences of learning (Bloomer & Hodkinson, 1997; 1999; 2000). One aim of the study was to develop a theoretical model to aid the description and-analysis of young people and their learning. Underpinning much contemporary policy are assumptions that learning can and should be regulated by teaching and standards monitoring, that learning progression can and should be predicted and controlled, and that learners' choices are, or should be, made on a largely informed rational basis. Following Bloomer's earlier (1997) study, our research suggests that the life-courses and learning of young people do not fit these assumptions. Instability, pragmatic rationality and unpredictability are commonplace, while learning is intricately bound up with a wide range of life experiences. This paper presents research findings showing how experiences located outside educational institutions are linked to learning, and advances the concept of learning career as a means of harnessing problems of structure, agency and life-course to the study of learning.

Research Methods
We conducted a four-year longitudinal study, from 1995 to 1999, funded by the Further Education Development Agency (FEDA). Data were obtained from semi-structured interviews with 50 young people, in their final year of compulsory schooling and on five or six subsequent occasions. A quarter lived in an urban conurbation in the North of England and the rest in small cities, towns and villages in the South West. Males and females were represented in equal number and the sample included five young people of
South Asian ethnic origin. Our sample contained smaller proportions of young people from the most and least wealthy families than would be found in the population at large. At the time of the first interviews, subjects attended state schools in England and intended to proceed to full-time further education. By the time of the final interviews they were to be found studying in higher education, taking a year out of formal education, continuing or repeating post-compulsory courses, in full-time, part-time or casual work, unemployed or adjusting to parenthood.

Interviewees were asked to focus upon their wider educational, employment, social and other life experiences, and upon relationships with others. Attention was given to the ways in which they conceptualised and evaluated knowledge and learning opportunities and to their perceptions of changes in their dispositions to knowledge and learning.

Amanda Ball

To illuminate processes of transformation in learning, we focus on Amanda Ball. Hers is an unusually vivid story, which illustrates certain experiences of learning and the processual complexities that we found, which were shared in some measure and in some form by most of the other young people who participated in our study.

Amanda enrolled on two-year A-level courses in English literature, theatre studies, philosophy and history. (‘A-’ or ‘Advanced-level’ General Certificate in Education is the most prestigious English qualification for 16-19 year-olds.) However, she withdrew from history within the first few weeks and from her other A-levels before the end of the first year of her course. She had held hopes of becoming an archaeologist or an actress but these appeared to be ‘based more on dreams and imaginings than on deeply held, thought-through possibilities’ (Bloomer & Hodkinson, 1999, p. 42).

I decided that I didn’t want to be an archaeologist any more so I’m not taking history...That was probably just a phase and everybody goes through phases...But it’s only when that programme’s on telly [Timetam]...otherwise, I probably wouldn’t give it a second thought.

The realisation of the frailty of some of her aspirations contributed to Amanda’s reappraisal of her post-16 career. However, other facets of her life seemed more important. She had been living on her own since the middle of her final year at school, having failed to agree with her parents on the conduct of family life, and had had to bear the full financial and psychological burdens of independent living. The management of her life had become a little easier with experience, as she developed coping strategies for dealing with day-to-day intrusions into her affairs. Yet the intense strain of her predicament remained the enduring context of everything she did or thought about doing. Then there was Sash, a fellow theatre studies student with whom she formed a relationship whilst on the A-level course. Sash moved into Amanda’s flat and, some three years later, their partnership was stable and flourishing. However, Sash had health problems, and Amanda took on a responsibility for nursing him: ‘it was the right thing to do at that time.’

But there is another dimension. Amanda valued the development of her own thoughts and ideas. She voiced a strong interest in disputable knowledge and a preference for the free exchange of ideas among learners and tutors. Her philosophy course matched her interests well, as written and spoken argument was encouraged. However, her experiences of English literature did not. ‘You can’t put your ideas and your thoughts into that at all’, she claimed. Her response was one of strategic compliance with the expectations she perceived her English teacher to be projecting. Her frustrations were evident and form part of the story of her disengagement from formal education.

Having withdrawn from A-levels, Amanda addressed the problem of money. She decided to take an Advanced General National Vocational Qualification (GNVQ) course in business. This was supposed to be
equivalent to two A-levels, but in practice has lower status. She intended to ‘get this qualification so I could get a job in an office anywhere.’ She believed she could enrol in a high fliers’ group, effectively joining the second year of a two-year course. Her interests in knowledge and learning had shifted dramatically since commencing her A-levels. Her decisions were now pragmatic rather than whimsical and her evaluations of educational opportunities had become time-constrained and instrumental. She wanted knowledge with earning potential, not self-fulfilment.

Amanda held ambitions for acting or singing as a career, which were not entirely unrealistic, for she had recorded music to a publishable standard and had been acclaimed for her acting performances in several local productions. Unlike her aspirations to be an archaeologist, her ambitions for a career on the stage did not disappear. Alongside with her relationship with Sash, they retained a central place in her thinking and being.

Unfortunately, Amanda’s GNVQ plans did not work out. The high fliers turned out to be a one-year group studying for a lower status National Vocational Qualification (NVQ) award:

I was put in with people a year younger than me and a couple of groups lower than I should have been in... So I left that... and I went to the Careers Centre and said that I wanted to get a job where I could get training as well.

She had little trouble finding the sort of work she wanted, in a solicitors’ office, with training for an NVQ. At this point, she was optimistically planning for the future. Sash was to complete his A-levels and go to Drama School, while she worked to support them both. In time, when Sash could take his turn at bread-winning, Amanda would embark upon her own artistic career: ‘And in the end, I’d like to go into singing because that’s the only thing I’ve been able to stand out from everybody else.’ Without her musical aspirations, it is possible that Amanda would have planned a different future.

Amanda’s learning career shifted from one set of purposes to another, and the career course taken was partly attributable to events outside her control. She sought to impose herself on her world but this became more difficult as her life unfolded. Some features of her story, such as her dropping-out of the A-level course, attempting to enrol on the GNVQ or seeking employment, are visible landmarks in her career of twists and turns. However, these should not be allowed to obscure other changes that were taking place. She was becoming hardened as she put it, and utilitarian, while her dispositions to knowledge and learning were transforming within the same process.

Theorising Learning and Change
For Amanda, learning was not simply a matter of ‘tuning in’ to her teachers’ expectations of what and how she should learn or of assimilating the experiences to which she was systematically exposed. She made her own sense of, and acted upon, those planned experiences. She had entered her A-level courses with dispositions to knowledge and learning, formed prior to her first encounters with her tutors and fellow students. Subsequent changes in those dispositions can be linked not only to events that occurred within her formal education but also to her life outside it. Moreover, Amanda learned a great deal through informal life experiences, not least those connected with her independent living and personal relationship. For her and others, learning is ubiquitous in ongoing activity. It is a participatory act — a profoundly social and cultural phenomenon, not simply a cognitive process.

This characterisation of learning as a social practice ties in with the claims of symbolic interactionism. The premises of symbolic interactionism are that individuals act according to the meanings which they attribute to their experiences; that meanings are generated through processes of social interaction; and that they are continually reinterpreted and modified as the result of further social interaction. It is through
processes of social interaction that actions are constructed 'by actors out of what they take into account' (Blumer, 1969, p. 74) and through which learning takes place.

Linking meaning, participation and action is disposition. By disposition, we mean orientation or inclination to practice, in this case the practice of learning. The symbolic interactionist view is that dispositions to learning are founded on the meanings that learners attribute to knowledge and learning, and on their definitions of what knowledge is and of what learning entails. They also rest upon subjectively maintained notions of the intrinsic or extrinsic value of given learning opportunities. These meanings and notions are formed and reformed as part of the meaning-making which takes place in social interaction while giving shape and direction to that same process.

Whereas symbolic interactionists see dispositions as grounded in subjective experience, Bourdieu emphasises their relationship with position (Bourdieu & Wacquant, 1992). He talks of a person's habitus: a portfolio of dispositions to all aspects of life, largely tacitly held, which constrain and enable actions in any situation. The habitus is influenced by the person's position in society, such as their social class, gender and ethnicity. It influences and is influenced by their interactions with others, occupying different positions, in what he terms a 'field'. The nature of the field determines the sorts of capital (social, cultural and economic) which are valuable within it and, in turn, the capital possessed by an individual or group affects their ability to succeed in the field and to influence its nature. The influence of field and habitus go beyond inter-subjectivity, for the field impacts upon people's lives, whether they make meanings of it, or not. This theoretical perspective highlights the breadth of context and experience that interact with, influence and are influenced by dispositions to learning. For Bourdieu, it makes no sense to separate dispositions from habitus and field.

The symbolic interactionists have been accused of failing to account for social structure (Skidmore, 1975). In making sense of our data, we struggled to retain both perspectives.

The relationship between learning and context is also central to situated learning theory. From this perspective, context is constructed in the course of social interaction and social practice, as is learning, which cannot be separated from it. Thus, action and learning exist in a mutually constitutive relationship with context or situation. Moreover, contexts do not have an independent existence of one another such as is implied in the common distinctions between home, school, peer group, college or work contexts. Rather,

...local practices must inevitably take part in constituting each other, through their structural interconnections, their inter-twined activities, their common participants and more (Lave, 1993, p. 22).

These interconnections have a temporal dimension. Thus, as Amanda's story illustrates, 'one way to think of learning is as the historical production, transformation, and change of persons' (Lave & Wenger, 1991, p. 51).

This potentially problematic mixing, of symbolic interactionism, situated learning and Bourdieu's notion of habitus, reveals something of the complexity of our data. Many of our young people changed in their learning dispositions or activities over the four-year period of the project in highly visible ways; in some cases, like Amanda's, changes were of major proportion. Such changes were often unpredictable although they could usually be understood with hindsight. Yet, as in Amanda's case, not everything about a person's disposition altered, and very few, if any, broke free of the patterns of educational and employment progression, predicted for the broad social categories, particularly gender and class, to which they belonged. To further explore this tension, we drew the temporal dimension to the heart of our analysis, in a manner, which recognised the situatedness of learning and its relationships with other facets of life.
Learning Careers

We built our theorising around the concept of learning career, where career refers to ‘any social strand of any person’s course through life’ (Goffman, 1968, p. 119). The strand in this case is learning. This is different from the common notion of ‘career’ which suggests a “fixed and inevitable process”...[and] depicts...an ideal-typical path of upward progression' (Armstrong, 1987, p. 9). Such a notion carries assumptions that metaphors of linearity, stability and trajectory are adequate for description. For the young people in our study, instability, unpredictability and idiosyncrasy were often better descriptors. Moreover, our cases highlighted the importance of career as a partly subjective experience, and as a transformative process intricately bound up with other life experiences, in ‘an evolving, continuously renewed set of relations’ (Lave & Wenger, 1991, p. 50).

A learning career is ‘the moving perspective in which a person sees his life as a whole and interprets the meaning of his various attributes, actions and the things which happens to him’ (Hughes, 1937, pp. 409–410). ‘It is not experienced; it is the experience’ (Tripp, personal communication) and constrains and enables future experiences. It is a career of events, activities and meanings, and the making and re-making of meanings through those activities and events, and it is a career of relationships and the constant making and re-making of relationships, including relationships between position and disposition.

Learning career refers to the development of dispositions to learning over time. In this way, learning and dispositions to learning are seen through their relationships with other material and cultural phenomena, including the meanings which learners attribute to those phenomena. Amanda’s salient experiences, during the first twelve months that we knew her, included her own economic independence, the contrasts between her English literature and philosophy courses and her relationship with Sash. Each had a bearing upon the development of her dispositions to learning. But it was not only Amanda’s dispositions to learning that underwent change. So did her personal identity, evidenced by changes in her values, her appraisals of her situation and her aspirations. There was also a parallel continuity in Amanda’s dispositions, for her reactions to the difficult situations in which she found herself became increasingly typical of impoverished working class young women.

Learning careers involve continuity and change, although the balance between them differs markedly from case to case, time to time and situation to situation. Consequently, the notion of ‘transformation’, where something of the original is retained, but in a modified form, appears better suited to describing the development of learning careers than that of change on the one hand, or trajectory on the other. However, all terminology has limitations, and we wish to distance ourselves from the dramatic implications of the term. Amanda’s story is misleading, in this respect. Often, the transformations our sample underwent were gradual, relatively insubstantial, and only recognisable with hindsight.

Transformations in learning careers take many forms. They are not predetermined, although they are orientated by the habitus, and by the contexts in which a person is positioned. That is, at any moment in time, a person has ‘horizons for action’ (Hodkinson et al., 1996), which enable and constrain their actions and perceptions, and within which their learning career develops. These horizons are composed of interactions between the material conditions in which the person is located; their perceptions of those conditions and of themselves, within their habitus; and the meanings they make in that situation at that time. As Amanda’s story demonstrates, horizons can also be altered by serendipity.

We are not able to give a detailed account of the formation of Amanda’s dispositions to learning prior to the commencement of our research, although we did gain some insights. Her commitment to continuing in full-time education was linked to her desire to escape
the fate of her working-class parents whom
she saw as being 'in a rut'. Amanda indicated
that liberal values had assumed increasing
importance during her teenage years, and
might have influenced her choice of A-levels.
Also, she recalled from her primary school
years losing any enthusiasm she had for
mathematics: 'I can remember...just not
being able to do it and getting told off and
stuff like that. But since then, I've closed my
mind to it.' Finally, although she did
attribute some utilitarian value to the study of
drama, she also regarded it as an opportunity
to escape the pressures of everyday life.

You can be feeling all fed-up and bored and
everything, and then you go and do a piece
of drama...and all of a sudden you've got
other things to think about...When I was
doing 'Golden Grove', I was this girl called
Sharon, and for all of the months that I was
doing that, half of my brain was thinking
about all of Sharon's problems while the
other half was thinking about my life and
getting on with it...it's a bit refreshing; it's
just a change. It's not often that you get the
chance to change your life totally but acting
gives you that opportunity.

Amanda's identity and habitus were signifi-
cant forces in the transformation of her learn-
ing career and were altered through that
process. Her commitment to performing arts
was a cornerstone of her identity, throughout
the time we knew her. However, she had also
become hardened and streetwise from the
experience of independent living and had
assumed the responsibilities of partner and
breadwinner over that same period. This had
proved the most powerful learning experience
of all for Amanda. Her identity as a singer
and performer became modified as she built
up her role as carer and partner in her
relationship with Sash. As such, she was
typical of many young women, who were
more likely than young men to place family
before career. For this complex combination
of reasons, Amanda's habitus had become
partly transformed and also, for example in
class and gender terms, largely confirmed.
Her love of drama held a different signifi-
cance at 17 to the one it had held when she
was 16.

The stories related by most of the young
people in our study told of transformations in
their learning careers. On the one hand, we
were drawn to describe them as resulting
from changes in the contexts of learning
careers, as though movement in external
structures was the principal force in the
generation of meaning. On the other hand,
context was the product of actions and trans-
forming perceptions. In some instances, we
were fairly certain that there had been identi-
fiable changes in context, which were linked
to changes in dispositions to learning. The
onset of Sash's illness, for instance, had
contributed to concerns with earning money
becoming foregrounded in Amanda's percep-
tion and appraisal of her circumstances. In
other instances, however, specific triggers or
stimuli were harder to discern, despite
abundant evidence of shifting perceptions and
evaluations, as when Amanda realised that her
aspirations to become an archaeologist had
little substance. It was not that contextual or
situational elements were not relevant in such
cases but that their relations with transform-
ing perceptions and evaluations were of such
complexity as to defy simple description.
These complex inter-relationships were reflex-
vively fluid, making simple causality impossi-
ble to identify. Indeed, it is often dangerously
misleading to attempt it, despite overwhelm-
ing policy pressures to do just that.

Benefits of the Learning Career
Approach
The concept of learning career widens oppor-
tunities for theorising learning and transfor-
mation in people's lives. Firstly, it provides an
attempt at the integration of structure and
agency and the analysis of the dynamics of
structure-agency relationships. Secondly, the
central positioning of subjective experience in
the learning career enables the integration of a
wide range of experiences. There is a method-
ological irony here, for it is in focussing on
individual perceptions that the impact of
wider social, cultural and economic factors on
learning can be brought into view. This makes for the contextualisation of experience and aids illumination of the situatedness and relational nature of learning. It also enables categories (such as ‘work-based learning’ and ‘formal institutional learning’) to be partly transcended. Thirdly, the concept of learning career offers opportunities for theorising a longitudinal dimension to learning without simplistic recourse into teleological personal growth, unchanging psychological traits, determining social structures or, alternatively, complete unpredictability in a post-modern flux. It offers a crucial life-course dimension, ironically often missing from accounts of learning, given the current rhetorical ubiquity of lifelong learning. Fourthly, it allows for exploration of the uniqueness of individual careers, without loosing sight of broader social, cultural and economic conditions. It enables learners to be understood in terms of their intrinsic qualities, not their type.

Transformations in learning careers have implications for our understanding of learning. They demonstrate that a longitudinal perspective on learning is important. Furthermore, they show how inadequate it is to model learning, even implicitly, around notions of fixed personal styles, traits or schemata. Our study suggests that learning careers are best seen as complex inter-relationships between the constant and the flux, the balance between the two varying from person to person, from time to time, and from situation to situation.

References
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Learning Together: The Coexistence of Being a Teacher and a Learner

Dale Sheehan and Therese La Porte

Christchurch College of Education

This evaluative case study explores the effectiveness of teaching and learning strategies introduced on a critical thinking course within the Diploma of Adult Teaching and Learning. In the first year the course was offered, some participants struggled with the practicalities of critical thinking. In order to address this we set out to design and trial a process that would role model critical thinking skills and practices, making these explicit and visible to the group. We selected three modes of critical thinking to role model: Three levels of critical reflective journaling, One on One critical dialogue and what we called a "pondering round". A structured group process where questions were shared and generated.

This paper describes the teaching strategies used, shares the experiences of the tutors, discusses the outcomes of the evaluation undertaken, raises ideas and possible research questions relating to the coexistence of being a teacher and a learner and the power of consciously exposing this within an adult learning context.

The Christchurch College of Education offers a Diploma of Adult Teaching and Learning. One of the papers within this qualification is Critical Thinking and the Professional Practice of Adult Education. This paper is designed to explore the field of critical thinking and to build a skill base for a co-requisite paper exploring current contemporary issues in adult education.

Learning outcomes include the following:

- Explore strategies for developing and enhancing critical thinking in self and others
- Explore the role of teacher facilitator and practitioner with regard to critical thinking and reflective practice.

In the first year the paper was offered some participants struggled with the practicalities of critical thinking, including journaling, critical reflective practice, and taking multiple perspectives. Some participants appeared to lack confidence in the worth and value of their personal reflections, recording their critical thoughts, and found it difficult to distil their own ideas.

In order to address this we decided to design and implement a process that would role model these skills and practices, making these explicit to the group. The goal of this evaluative case study was to review through reflection, peer dialogue and student feedback, the effectiveness of the teaching and learning strategies we trialed.

The Literature That Provided the Basis and Inspiration for the Project

The literature on critical thinking abounds and most refers to metacognition, the mastery of intellectual skills, reflection, disciplined thinking and analysis, dialogue, the need to take multiple perspectives and to identify authors' or speakers' perspectives. We reviewed the course literature as a conceptual framework and base for our trial. Then we identified skills and processes recommended
on the literature we were sharing with our students and which we believed, if modelled, would assist their learning.

Stephen Brookfield identifies three concepts closely related to Critical Thinking (1987):

1. Reflective thinking as a process of internally examining and exploring issues in order to gain new understandings and appreciation.
2. Emancipatory learning where the learner becomes aware of the history that brought them to their current situation and allows them to see a new direction and to take action to change aspects of their lives.
3. The development of logical and analytical reasoning abilities including discourse and argumentative capacities, curiosity, and questioning abilities.

These three themes where selected as underlying themes from which to develop teaching/learning strategies.

Reflective Thinking

Reflective thinking can be both an interpersonal and intrapersonal experience. David Walker (in Boud et al., 1987) suggests that important issues in portfolios need to be shared with others.

Talking about one's ideas, thoughts and reflections will bring feedback that can deepen them. These deepenings can then be recorded in the portfolio (ibid, p. 56).

Walker recommends sharing not just the content but also the method of journaling.

Emancipatory Learning

The Alverno College Model of Critical Thinking (1985) includes the awareness of values, collaborative thinking and communicating and openness to contradictory ideas in its list of 13 key skills for critical thinking. Bennet et al. (1997) write of the experience of such a group and highlight the issues arising from the power differential between students and tutor, and discuss the process that enabled them to build a critical friendship group. They talk of the advantage of reducing the distance between tutor and students through open discussion.

Questioning

The importance of asking the right question is the focus of Anne Kerwin's writing and teaching on Medical Ignorance (1994). She utilises the notion of a "pondering round" where people talk about what they do not know and the focus is on the quality of the questions, on the unknown rather than the known.

Rosemary Barnitt (1990) also stresses the importance of a climate of curiosity and questioning and the opportunity to engage in dialogue if learners are to develop the divergent thinking skills required for critical thinking.

Finally, the concept of the teacher as a learner is one that has influenced this project.

The teacher-of-the-students and the students-of-the-teacher cease to exist and a new term emerges: teacher-students with student-teachers. The teacher is no longer merely the one who teaches, but one who is himself taught in dialogue with the students, who in turn while being taught also teach. They become jointly responsible for the process in which all grow. (Freire, 1972, p. 53, cited in Tennant & Pogson, 1995, p. 172).

This concept, that we are simultaneously both a learner and a teacher, is present in Maori concepts of teaching and learning. The word ako means to learn as well as to teach.

In the Maori world it is an acceptable practice for the learner to shift roles and become the teacher, and for the teacher to become the learner (Arapera Royal Tangataere, 1997, p. 52).

It is also embedded in the concept of tuakana/reina. Tuakana means older sibling and reina younger sibling. The idea of the learner taking responsibility for another and becoming the teacher is encouraged from an early age, and is the essence of love and care for one another within the whanau or family.

The challenge was to find a way of demonstrating each of the Brookfield's three
concepts and to do it in a way that also role modelled our acceptance that we are both teachers and learners. We also wanted to demonstrate that we are ourselves on a never-ending pathway as critical thinkers and adult learners.

Teaching Strategies Used
We adapted the three modes of critical thinking identified by Brookfield and decided to model the following skills within the context of a three day seminar on critical thinking:

- Three levels of critical reflective journaling and sharing and discussion of this with other learners
- A one on one critical dialogue where personal views and perceptions would be challenged, with the option of this being extended to the group as a whole
- A “pondering round” which we conducted as a structured group session where questions on a key theme in adult education were shared and generated.

Reflective Journaling
In the introduction to the Critical Thinking course, Dale joined the group and shared her reflections and journal entries. The journal was authentic. The section read aimed to demonstrate three levels of critically reflective journaling.

- Linking emotions to reflection and emotion as a trigger for reflection
- Linking experience to the literature that Dale was struggling with
- Linking the reflection which was quoted and explained, and then generating potential research questions.

Our intended learning outcomes:
- To present an authentic rather than a simulated journal (It wasn’t pretty or window dressed.)
- To model and demonstrate critically reflective journaling
- To link critical reflection and the literature.

Critical Dialogues Role Modelled
Therese and Dale prepared and role modelled a critical dialogue to show two different perspectives on one topic. This aimed at exposing a socially critical dialogue. One person consciously challenged her own perceptions by deliberately seeking someone with a different point of view.

This dialogue was extended and the group were invited to join in the dialogue.

Our intended learning outcomes:
- To show one example of a socially critical dialogue
- By taking a risk ourselves we hoped to work towards creating an environment where it is safe for people to explore issues and share their perceptions.

The Pondering Round
The group selected a topic “A critical review of self directed learning”.

Therese prepared the group by reviewing literature previously covered and drawing on the students’ own experiences of self directed learning and on the questions they had raised.

Dale joined the group and took the discussion point, “Is adult education synonymous with self directed learning?”

A series of thoughts were on overheads to stimulate discussion set out as:

- Ponderings
- Examples of research and quotations
- Questions to students.

Further discussion followed.

This was a warm up to reading and critically reviewing an article linked to self directed learning and part of the assignment for the course.

At the point of writing, the students had yet to return with the course assignments.

Our intended learning outcomes:
- To model ways of generating questions using ideas, linking them to literature/research and linking these to experience
LEARNING TOGETHER, WORKING TOGETHER

- To recognise that all authors have a perspective and encourage students to ask questions about that perspective
- To model ways of immersing yourself in the topic — life experience, literature, prior learning
- To empower students by validating their life experiences and linking these experiences to generating questions
- To encourage questioning of prior learning. (We exposed the way that Self Directed Learning had been taught on the Certificate of Adult Teaching, which is essentially a skills based course, and encouraged the group to review this).

The Outcomes
Two processes were used to evaluate the effectiveness of these strategies.

1. Our own reflections and shared dialogue about the process, our experience and our perceptions of the outcomes following each session and retrospectively two months later.

2. Structured written feedback from the students about their experience of these processes. We shared our own reflections with the students and invited them to comment on our reflections.

Reflective Journaling
The tutors’ immediate reflections were that expected outcomes were met. The group asked questions about the tutors’ journal entries and the group facilitated further reflections that were later expanded on and added to the journal.

An unintended outcome was the contribution this made to the building of trust in the group and with the tutors. As a result of this experience students volunteered excerpts from their own journals to be shared with the tutors and the group. In the sharing of these journals we also observed an enhanced willingness to incorporate literature and research into the students’ own reflections and to draw connections between experience and reading.

As educators we were also reminded of the need for adult educators to take risks in order to build trust. The strength of this activity was the value of using authentic experience rather than intellectualising the process and the value of sharing as a co-learner and not as an expert.

Comments from the student evaluations supported the notion that this activity modelled the teacher as learner for the participants on the course. In general students noted that emotion and feeling were legitimised as an important part of the reflective process. One student expressed her gratitude for that. One student noted “Heart and Head, emotions and theory need to work in harmony”. Another student noted that “reflection means deliberately colouring information within our own value based paradigms while checking and rechecking what those values are”.

Critical Dialogue Role Modelled
This session went well beyond our expected outcomes. The dialogue between the two tutors became a trigger for the group to explore issues of ethics and boundaries as adult educators. A whole new topic emerged as a focus for the group. Later we noted the richness and spontaneity of the debate as it moved from our chosen topic for dialogue onto the student generated themes. We are left wondering to what extent the themes matter? Was the success of the session based on the applicability of the theme to the group or as a result of the tutors willingly modelling critical dialogue?

In following sessions students spontaneously used the format of critical dialogue to extend discussion on other issues. As the workshops developed the group chose to extend the debate by inviting knowledgeable others into the group who would convincingly represent different and challenging perspectives. The group valued being exposed to these different assumptions and world views and actively sought differing perspectives and openly engaged in constructive debate with their guests.
Looking back there were two different and distinct outcomes:

• The issues of boundaries in adult education emerged as a key theme for the group
• The importance of critical dialogue in critical thinking was accepted and taken up as part of the group’s process.

Comments from the student evaluations showed an appreciation of the tutors actively teaching and learning. One student noted that “It’s ok to challenge and it’s ok to appear ‘dumb’!” Through this activity one student reframed earlier experiences, “I have had this experience at work, I felt challenged and threatened but I have learnt to welcome different points of view”.

The Pondering Round
This session was not easy to either structure or deliver. At the end of the session the intended outcomes appeared to be met but how much it helped with the students’ own skill base and the way they would approach their assignment was unknown immediately after the session.

Looking back the tutors felt that the session helped course outcomes to be reached as it:
• Promoted confidence
• Helped students generate questions
• Enriched their own critical friend groups.

Students reported that it was useful for the final assessment activity and it provided ideas and a focus for some students reading for this assignment.

Comments from student evaluations included:
• Intellectually challenging — great stuff
• The session left me with lots of thoughts to self argue or explore further
• Really dusted off my grey cells
• Sent me off generating my own questions, caveats, scenarios.

The next time this session is run it will be modified to allow the group more time and opportunity to generate questions of their own around a theme, with less response required.

Overall Outcomes and Options for the Future.
This experience has reinforced for us the concept that teaching and learning in an adult environment is by nature and of necessity entwined. It allowed us to claim and recognise that as adult educators we are always simultaneously in both roles. This process did provide our learners with some of the concrete skills for critical thinking but more importantly it validated the teacher/learner role and made it explicit. The concept was brought clearly into the open and modelled actively.

Role modelling as a teaching tool, team planning and teaching and a strengthening of collegial trust were all additional gains. Exposing oneself as a learner to our peers, sharing our experience with them advanced our practice and collegial relationship.

We plan to repeat these teaching strategies next year and to explore the reality in practice of the teacher/learner concept. Investigating other ways that it can be demonstrated in practice and use to the advantage of all “us learners” in our classrooms.

References

Evaluating On and Off-Job Approaches to Learning and Assessment in Apprenticeships and Traineeships

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This paper reports on an ANTA-NREC funded study that focuses on the learning and assessment experiences of apprentices and trainees. Using focus groups, case studies and a national survey in two occupations, the study concludes that the quality of learning and assessment systems for apprentices and trainees appears to revolve around two foci. Firstly, monitoring the balance between the needs of the enterprises and the needs of the apprentices and trainees. Secondly, the development of effective partnerships between the apprentice/trainee, the employer and the training provider.

Apprenticeships and traineeships are a key component of government policies aimed at increasing the quality and quantity of entry-level training and these have been the focus of considerable change and debate over the last. The advent of the New Apprenticeships reforms has resulted in the merging of apprenticeships and traineeships under a unified framework. Other recent policy initiatives have resulted in an increased range of occupations embraced by this system of training and a diversification of the ways in which qualifications linked can be completed.

Issues relating to participation rates, wages policies and institutional apparatus around apprenticeships or arguments about how access to them can be improved have been extensively discussed in the literature. However, little attention has been given to what actually happens to apprentices and how they learn their skills. The classic study in this area is Venables (1967); more recent Australian studies include Wilson & Engelhard (1994), Smith (1998), Harris, Willis, Simons & Underwood (1998). Similarly, traineeships have, until recently, received little attention. A number of state based studies have explored the issue of the quality of learning and assessment within the context of the New Apprenticeships policy framework and these provide a valuable backdrop to the current study (WADT, 1998; Schofield, 1999; Smith, 1999; Schofield, 1999a; Schofield, 2000).

Closely aligned with the question of quality of learning experiences is the issue of assessment. Traditionally, only the off-the-job component of apprenticeships and traineeships has been formally assessed, with the on-the-job component being completed on a time-served basis. Sometimes there has been a requirement for on-the-job assessment as well, but it is unclear how much this is enforced (Griffin, Gillis, Catts & Falk, 1998). A range of factors impact on the quality of assessment including the relationship between on and off-the-job assessment (Hager, 1998), mechanisms used in assessment (Gillis,
Griffin, Trembath & Ling, 1998; Hayton & Wagner, 1998; Bloch, 1998) and the connection between assessment and learning (McDonald, Boud, Francis & Gonczi, 1997). These are all issues that need to be examined systematically.

The Purpose of the Study

This paper reports on an ANTA-NREC funded project that was administered by the NCVER. The study sought to evaluate the learning and assessment experiences of apprentices and trainees in order to identify areas that pose particular challenges and to make recommendations about approaches to best practice. The specific objectives for the study were to:

- Identify what different stakeholders in apprenticeships and traineeships expect apprentices and trainees to learn as part of their contracts of training.
- Identify and analyse the different approaches to learning and assessment that can be undertaken by apprentices and trainees as part of their contracts of training.
- Evaluate the extent to which these different approaches to learning and assessment contribute to the learning goals and needs of apprentices and trainees.
- Evaluate areas where improvements might be made to learning and assessment practices and the strategies and interventions that are required to bring about change.

The data collection methods used in this study were focus groups, case studies and a survey. Focus groups which were conducted with key stakeholders (State Training Board Representatives, ITAB/industry representatives, VET curriculum staff, teachers and trainers) in every State and Territory and involved 66 participants.

Case studies were conducted at 20 selected sites. Data were collected from a range of personnel (as applicable to each site) including apprentices/trainees, teachers and trainers, training co-coordinators, human resource managers/supervisors, group training scheme personnel and host employers. A range of factors including the site, breadth and mode of learning, the mode of assessment, the industry and the location were considered in case study site selection.

A national survey of apprentices and trainees in two occupations was also conducted (motor mechanics, \( n = 3522 \); hospitality, \( n = 2056 \)). This survey was conducted with the support of each State and Territory Training Authority who undertook to mail out questionnaires to a stratified sample of one quarter of apprentices and trainees in these two occupations. A response rate of 10.6\% was achieved. The low response rate can be explained by a number of factors. Firstly, the accuracy of existing databases of apprentice and trainee details, secondly the highly mobile nature of the target group and finally, the inability of the project team to follow up surveys from non-respondents as the survey was required to be sent to possible respondents by State Training Authorities.

Stakeholders Expectations of Apprenticeships and Traineeships

Respondents viewed both apprenticeships and traineeships as serving objectives relating to entry level into the labour market and the provision of training pathways leading to nationally recognised qualifications. These twin agendas give rise to a range of expectations, all respondents expected that the essential learning would include work-based skills and knowledge; along with a range of 'people skills'; the development of a work ethic and a range of attributes such as flexibility and the ability to learn.

The expectations require that learning and assessment processes deliver a range of outcomes. Learning processes need to promote opportunities for the development of work-related and generic skills that ensure relevance to both employers and apprentices/trainees. The use of processes such as recognition of prior learning; tailoring learning through the use of individualised training plans and negotiating of learning outcomes with apprentices/trainees were seen
as critical to the learning process. Assessment as a means of providing a 'guarantee' that the specified competencies have been achieved was highly valued by apprentices and trainees who expressed a strong desire for a qualification that would have credibility within the wider community. Employers viewed assessment as a critical source of information upon which they could base future decisions relating to promotion and on-going training.

There were some notable differences between some stakeholders on the extent to which learning should focus on the development of generic skills and the degree to which multiskilling and the development of industry wide knowledge should be an outcome of apprenticeships and traineeships. These differences of opinion reflect the tensions inherent in a national training system where the national imperatives of transferability and national recognition sometimes compete with industry and enterprise needs and expectations. Similarly, there was also some disagreement about the degree to which learning in apprenticeships and traineeships should be future orientated in order to meet career and promotional aspirations of employees. In many respects these tensions are not new. However, ensuring the balance does not tip too far in one direction is essential if apprenticeships and traineeships are to be valued as learning pathways by both young people / workers and employers as a valuable contributor to increasing the skill base within enterprises.

Different Approaches to Learning and Assessment

The data collected for this study indicates that a range of different approaches to learning and assessment are currently in use. These approaches varied in relation to the mix of learning and assessment undertaken either during the course of normal work or undertaken away from work, the degree of formality in the learning and assessment processes, and the extent to which learning and assessment was undertaken by qualified trainers, especially designated workers or was left to those workers who happened to be working with the apprentices and trainees.

Approaches fell into two categories. Firstly, those that combined learning and assessment on-the-job and in off-site environments geographically removed from the workplace (for example TAFE College, or another training provider). This 'integrated' approach is very prevalent in apprenticeships, especially those associated with traditional trade areas. In this model, formal assessment is often confined to the off-site environment. Secondly, on-the-job training with the withdrawal of apprentices/trainees from normal work duties to attend training provided in another location within the enterprise. Assessment could be undertaken either within or away from the work site. It is accurate to describe these sites as "on-job (including withdrawal from routine work)."

One of the key factors identified in this study was the pervasiveness and value of informal training in the workplace. Informal training made a significant contribution to the development of apprentices’ skills and knowledge, it provided opportunities for apprentices and trainees to apply their learning in authentic situations and to develop their own ways of working. The willing work colleague or “buddy”, on hand to answer questions, to guide and show the apprentice/trainee how to perform tasks was highlighted as critical to the success of learning. Similarly, opportunities to receive 'informal' feedback and to have mistakes corrected were highly valued.

Formal learning in the form of classes or workshops provides apprentices and trainees with valuable opportunities to extend their learning and to focus on the more 'theoretical' aspects of their occupation. The slower pace of off-site environments provided extra time to refine and master skills already learnt or to develop those skills that could not be learned in the workplace. Opportunities to network and learn from peers, particularly for those apprentices and trainees employed in small enterprises or in occupations where they worked largely on their own, were highly
valued for their potential to add breadth and depth to the learning process.

Within both on and off-job learning environments a variety of learning strategies are apparent. Respondents noted that strategies that support the 'adult' character of learners, that use discussion and interaction between learners and teachers/trainers and are responsive to different learning needs and styles, are most beneficial. Self-paced modules that could be completed either in the learner's own time or during specified times during working hours are also widely used.

Approaches to assessment included those that rely solely on summative assessment tasks and those that combine opportunities for formative and summative assessment. The off-site environment appears to be the most common site for formal assessment, although several respondents were able to provide instances where real and simulated environments were used in integrated assessment approaches. Demonstration of competence via performance and the results of pen and paper tests were common assessment strategies.

Assessment in the workplace often adopted a more holistic perspective, with work functions (rather than specific tasks) being used as the focus for assessment. Formal assessment in the workplace was often, but not always, a cooperative endeavour between the apprentice/trainee and their trainers/employers. In some instances, apprentices and trainees did not appear to have input into the timing of their assessments and on other occasions there could be considerable gaps between the learning and assessment processes. Whilst some enterprises and registered training organisations worked hard to develop assessment practices that were customised to the needs of the enterprise and holistic in their orientation, other assessment practices amounted to little more than the direct translation of assessment practices used in off-site environments to the workplace. As noted above, informal assessment, often incorporated into the normal routine, was noted as a critical component in developing the competence of apprentices and trainees.

Evaluating Approaches to Learning and Assessment for Apprentices and Trainees

Apprentices and trainees reported an overall high level of satisfaction with their learning and assessment processes. There are a number of examples from the case studies of 'good practice' where enterprises either in their own right or in partnership with a registered training organisation have established a successful working arrangement that benefits both the enterprise and the learners. Trainers, teachers and employers demonstrate a high level of commitment to their respective roles and assessment and learning is being undertaken to the required standards.

At the same time, the case studies and survey highlight some significant gaps and challenges which could potentially undermine the quality of apprenticeships and traineeships. Whilst it was not a significant feature of the case studies, there were a number of instances where the quality of services provided by registered training organisations were questioned. There is one documented case where a registered training organisation failed to provide learning and assessment plans and services to the trainees. In several traineeships employers and trainees expressed concern about the quality and timeliness of services from registered training organisations.

The Workplace as a Learning Environment

Apprentices and trainees value the workplace for the opportunities it provided to learn skills and knowledge that was directly relevant to their daily work. The aspects of the workplace that most assist apprentices in their learning and assessment include:

• Effective workplace instructors.
• Clearly articulated processes for assessment.
• Quality relationships between apprentices and their work colleagues.
• Opportunities to undertake work which increases in complexity over time and supports apprentices to work autonomously.
Data from the survey of apprentices and trainees supported the findings of the case studies. Apprentices pointed to a number of conditions that they rate as important to supporting their learning that are currently not as prevalent in their workplaces as they might be, trainees reported similar workplace conditions. The following conditions were absent from between on third to one half of all workplaces:

- Opportunities to work on their own.
- Being given feedback and encouragement about their work performance.
- Being able to be formally assessed when they are ready.
- Opportunities to practise their skills.
- Being able to attend classes and workshops that count towards their qualification.
- Time to talk to employers about their job.
- Employer's interest in their future in the workforce.

In cases where trainees and apprentices were employed in contracts of training that involved no training outside of the enterprise (i.e., totally on-the-job contracts of training) greater emphasis was placed on the capacity of workplace trainers and employers to provide learning experiences which promote meaningful learning and the development of high quality relationships with their employers/trainers. In many respects the situation of trainees as compared with apprentices employed in totally on-the-job contracts of training is of greater concern. Not only are there greater numbers represented in the survey, the gap they report between the aspects of the workplace that are important to their learning and the reality of their workplaces is greater. Between one third and one half of trainees responding to the survey reported that the following aspects are currently not happening in their workplaces:

- Trainers/employers taking time to talk to the trainee about their job.
- Employers/trainers organizing work so that the trainee is able to work at their own pace.
- Employers/trainers planning work that the trainee is able to work at a level that best fits with their level of experience.
- Being challenged to come up with new of different ways of doing things in the workplace.
- People being selected especially to help the trainee learn at work.
- Being able to be formally assessed when trainees feel they are ready.
- Trainers/employers showing an interest in the trainees’ future in the workforce.
- Being provided with opportunities to talk with trainers/employers about what trainees’ would like to learn.
- Being able to have competence formally assessed at work.
- Being provided with time to practice the skills they are learning.

The Off-Site Learning Environment

As with the on-site environment both the case studies and the survey results point to high levels of satisfaction with many aspects of this learning environment for both apprentices and trainees. The case studies and the survey suggest that a large amount of assessment activity still takes place in off-site environments. Respondents noted the value of assessors that were independent from the workplace in providing what was perceived to be as more 'objective' views of their competence.

Results of the survey point to the high ratings of importance given to a range of aspects within the off-site learning environment by both apprentices and trainees. The data reinforces the important contribution that off-site environments can potentially make to apprentices’ and trainees’ learning particularly in relation to aspects such as:

- Time to learn and practice skills that are not being learnt in the workplace.
- Time to talk about their job with others (teachers, peers).
- Opportunities to have greater input into what they might learn.
However, apprentices and trainees were also to point to areas that they believed were open for some improvement. Apprentices and trainees considered that their off-site teachers/trainers were not as up-to-date with current work practices as they would like them to be. Input into what they would like to learn and the timing of their assessments is also not happening as often as they would like.

Conclusion
One of the striking features of the data collected during this study is the diversity of approaches that exist in approaches to assessment and learning for apprentices and trainees. This has been one of the key catchwords throughout much of the recent reform activity within the vocational education and training sector.

Achieving a quality learning and assessment system for apprentices and trainees appears to revolve around two foci. Firstly, the constant task of monitoring the balance between the competing tensions that are inherent in employment-based structured training arrangements — that between the needs of the enterprise and the learning needs of the apprentices and trainees. Secondly, the development and effectiveness of partnerships between the apprentice/trainee, the employer (who could potentially be a group training scheme), and the registered training organisation. Such learning environments are characterised by apprentices and trainees participating in learning processes that may span different environments, but which work in concert to ensure the development of vocational knowledge and skills that are relevant to the immediate work context. In addition these learning experiences equip apprentices and trainees with skills and competencies to participate in on-going learning and development.

Whilst many apprentices and trainees are well satisfied with the learning and assessment experiences afforded to them, significant numbers of apprentices and particularly trainees noted the absence of a range of aspects from their workplaces that they believed to be important for learning. Many of these related to particular features, which apprentices and trainees in off-site environments believe to be important to their learning. This represents a significant gap that needs to be addressed.

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Quasi-Markets in Vocational Education and Training in Australia

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During the late 1980s and early 1990s, the provision and financing of public services such as health, housing and education were radically reformed in many industrialised countries. Although state financing of public service provision was preserved, decision making was decentralized and service delivery was organised along competitive lines. Methods of financing were also changed with the introduction of the purchaser/provider split and the utilisation of market-like mechanisms, such as ear-marked budgets and vouchers, to promote increased purchaser power and/or user choice. These unprecedented changes have been characterised as the introduction of 'quasi-markets':

(Quasi-markets) are 'markets' because they replace monopolistic state providers with competitive independent ones. They are 'quasi' because they differ from conventional markets in a number of key ways (such as) non-profit organisations competing for public contracts, sometimes in competition with for-profit organisations; consumer purchasing power either centralised in a single purchasing agency or allocated to users in the form of vouchers rather than cash; and, in some cases, the consumers represented in the market by agents instead of operating by themselves. (Le Grand & Bartlett, 1993, p. 10)

Quasi-markets governed by their own internal rules and procedures were seen as a means by which government could gain the benefits of markets while avoiding their failures. According to Le Grand and Bartlett (1993, p. 19), quasi-markets were created to achieve 'increased efficiency, responsiveness and choice, without adverse consequences in terms of increased inequity'.

The preconditions for successful quasi-markets are similar to those that apply to conventional product markets:

- a competitive market structure comprising many purchasers and providers;
- access to accurate, independent information about costs for providers, and about quality for purchasers;
- transaction costs, particularly those associated with uncertainty, kept to a minimum;
- providers motivated at least in part by financial considerations, and purchasers by user interests; and
- an absence of incentives for 'cream-skimming' by providers and purchasers, so as to ensure that less expensive users are not favoured. (Le Grand & Bartlett, 1993)

A subsequent case study evaluation of quasi-market reforms across a range of welfare sectors in the UK drew attention to the problem of market failure arising from information asymmetry, barriers to entry, poor information on outcomes, and monopolistic relationships. Concerns were also expressed about the inability of contracts to overcome market failure, the potential for cream-skimming or cost reduction rather than service improvement, a lack of skills among users' agents, and split accountabilities (Bartlett et al., 1995).
This paper examines the creation of quasi-markets in the context of vocational education and training in Australia, and briefly reviews recent research evidence about their effects.

Early Market Reforms
Although private markets for adult and vocational education and training have existed in Australia since the late nineteenth century (Anderson, 1994, 1996), the development of a market for publicly financed and recognised training is a relatively recent phenomenon. Its origins can be traced to the 1986 balance of payments crisis and the rise of 'economic rationalism' in government during the mid-1980s. The conjunction of these forces led to a process of micro-economic reform to reduce the size of government, constrain public expenditure, enhance public sector efficiency, and increase industrial productivity and economic growth (Pusey, 1987; Marginson, 1993).

A central role was assigned to 'skill formation' in the process of structural economic adjustment, and high priority was placed on reforming the public TAFE sector so as to promote greater responsiveness to the human capital requirements of industry (Dawkins & Holding, 1987). Work commenced on the development of an 'industry-driven' training system, based on a new approach to skills recognition and the adoption of competency-based training. The pursuit of efficiency, in a context of government budgetary restraint, led to a search for new modes of resource allocation and income generation in TAFE. The user-pays principle was promoted with a view to increasing investment in training by individuals and industry (Dawkins, 1988; 1989; DEET 1988).

As a consequence of such factors, a disparate array of market-oriented policies and financial mechanisms was introduced during the latter half of the 1980s. Export education was deregulated in 1986 and competitive tendering was employed in the context of the Australian Traineeship System (ATS) and federal government labour market programs. Program budgeting and performance agreements were introduced in the TAFE sector, and fee-charging was permitted for adult, community and further education and post-initial trade courses in TAFE. The Training Guarantee Levy was implemented between 1989 and 1994 to increase industry investment in workforce training, and incentives were provided for TAFE-industry partnerships. States and Territories also began to establish their own systems to register private and industry providers to award publicly recognised VET qualifications (Anderson, 1996).

Introduced in an incremental and uncoordinated manner, these initiatives did not amount to a coherent strategy of market reform. Overall their impact was limited and the TAFE monopoly of public funding and qualifications remained largely intact. However they represented unprecedented experiments in market-oriented resource allocation and foreshadowed the future direction of VET policy (Anderson, 1996).

Open Training Market
The concept of an 'open training market' comprising a diverse array of public and private providers was first promoted in Australia by the Deveson Report (1990). Drawing on economic theory, Deveson argued that traditional public sector planning models of resource allocation were inefficient and wasteful due to the absence of any price mechanism for registering the true value of goods and services. A market-based approach was proposed on the grounds that increased client choice and provider competition would increase efficiency, quality, responsiveness to client needs, and private investment in training. To these ends, the Deveson Report proposed the deregulation of fee-charging in TAFE, increased commercialisation of TAFE provision, and diversification of training supply through the creation of a national recognition system for private and industry providers and their courses.

The in-principle adoption of the Deveson proposals in 1990 by Commonwealth and
State/Territory VET Ministers signalled the emergence of a more concerted approach to training market development. In 1992, the creation of 'an efficient, effective, responsive and integrated training market' was endorsed by the Ministers of Vocational Education, Employment and Training as part of a national plan for the coordinated reform of the training system (MOVEET, 1992).

Established out of an agreement by Heads of Government in 1992 and operational from 1994, the Australian National Training Authority (ANTA, 1993, p. 8) gave priority to the development of 'a more client-responsive National Vocational Education and Training System by establishing a competitive training market'. ANTA growth funds were used to encourage State and Territory governments to allocate an increasing proportion of VET funds on a competitive basis to TAFE and registered private providers. The policy objectives driving the development of a training market have been somewhat unclear (Anderson, 1997a,b). According to ANTA (1996, p. 3), 'the training market is intended to bring about responsiveness, diversity, quality and efficiency in training.'

The emphasis on competition as an instrument of market reform in the VET sector reflected the pervasive influence of the Hilmer Report (1993). The report advocated the development of an open and integrated national market through: removal of regulations which restrict competition; restructuring of public monopolies; facilitation of 'third party' access to public facilities; and 'competitive neutrality' between government and private businesses. In 1995, the Council of Australian Governments agreed in 1995 to implement a National Competition Policy based on the Hilmer principles.

**Market Mechanisms**

Most of the early market reforms involved supply-side changes to increase efficiency by generating direct competition among providers. Over time, the focus of reform shifted to the demand side of the market, with the aim of strengthening the direct influence of individual and enterprise clients over providers (Anderson 1997a,b).

In recognition of the imperfect nature of quasi-markets, the concept of 'contestable funding markets' is now increasingly used to refer to the opening up of government VET resource allocation to actual or potential competition. 'In a contestable market, the threat of new entrants causes incumbent firms to operate at levels approaching that expected in a competitive market' (Industry Commission, 1995, p. ix). The two main contestable funding mechanisms in the VET sector are competitive tendering and user choice. In 1999, 1,566 Registered Training Organisations (RTOs) accessed public funds, with 937 RTOs chosen under contestable funding arrangements (ANTA, 1999).

**Competitive Tendering**

Competitive tendering involves public and/or registered private providers competing for funding contracts from State/Territory Training Authorities to deliver specified training services. Competitive tendering strengthens the purchaser/provider split and creates a quasi-market relationship in which suppliers are required to compete for resources by responding directly to purchaser demands. Although the main emphasis of competitive tendering is on making supply-side resource allocation contestable, the training put to tender by government is usually also influenced by planning inputs from industry.

Although competitive tendering had been used to allocate ATS and other non-core training funds from the mid-1980s, it was first employed to allocate core VET funds from 1995. In that year, $21 million of Commonwealth ANTA growth funds were opened up to competitive tendering by public and private providers. By 1998, an estimated $198 million of government funding were allocated through competitive tenders, up almost 30 percent from 1997. The proportion of public funds allocated through tenders ranged from 1.7 percent in Tasmania to 6.7 percent in Queensland in 1998 (SCRCSSP, 2000).
User Choice
User choice is a quasi-voucher scheme which operates in the context of the New Apprenticeship scheme, and which aims to improve efficiency, responsiveness and quality by empowering clients to make training decisions. Employers and their employees (apprentices and trainees), or their brokers, select a preferred provider with whom they negotiate a customised training plan that meets their needs with respect to content, timing, sequencing, location, mode of delivery, assessment and choice of trainer within the limits set by the National Training Framework. Government funds are then directed to the chosen training provider (ANTA, 1996).

User choice was implemented in all States and Territories, except NSW, from January 1998. The proportion of public VET funds allocated via user choice arrangements in 1998 ranged from 2.2 percent in Western Australia to 16.2 percent in Tasmania (SCRSSP 2000). In 1999, States and Territories indicated that $396.3 million would be allocated for off-the-job training for New Apprenticeships, including under user choice. This represented a 16.8 percent increase over the 1998 total of $339.3 million (ANTA, 1999b).

Impact and Outcomes
Market mechanisms in VET are relatively new, and research on their operation and effects remains patchy and inconclusive. In many cases, the full implications of quasi-market arrangements may only become evident over the longer term. Factors that complicate the task of analysing the impact of market reforms include the: significant variations in market arrangements in different States and Territories; co-existence and interaction of diverse market, and non-market, mechanisms; delays in data collection and analysis; dearth of longitudinal data on participation and finance; inconsistent data due to changes in scope and definitions used for major statistical collections; and difficulties in defining and quantifying key performance indicators (Anderson, 1998).

Until recently, research was concerned mainly with examining the conditions under which the market reform objectives could be met, and assessing the early effects of market mechanisms. Despite increased competition, few of its imputed benefits had been demonstrated and many negative outcomes had been predicted (Anderson, 1997b). The lacklustre performance of early market reforms was attributed variously to an imperfect understanding of the preconditions for effective markets, a partial application of competition principles, and undue emphasis on supply-side reform (ACG 1994a,b; Selby Smith, 1995).

Sub-optimal outcomes have also been also variously attributed to: insufficient information for enterprise and individual clients (Anderson, 1997b; Wiltshire, 1997); inadequate product definition and customisation (ACG 1994a,b; Robinson, 1997); a lack of transparency in costing/pricing structures (Selby Smith et al., 1996); high barriers to market entry for small enterprises (ACG 1994a,b); and thin markets in sparsely populated regional and rural areas and small industry sectors (Noble et al., 1999; WADOT 1996). Wiltshire (1997, p. 3) concluded that 'the so-called training market ... is not, at present, a pure market. In particular, it is not demand driven, it is provider and funding driven.'

Despite the relative immaturity of training market development and analytical complexities, recent research sheds greater light on some emerging trends and issues.

Competitive Tendering
Research findings on competitive tendering are mixed, though on balance they suggest that costs probably outweigh benefits. Early research suggested that competitive tendering had increased provider competition and efficiency, at least in terms of reducing costs to government. However, overemphasis on price competition was seen to have potentially
compromised quality (ACG, 1994a,b; Anderson, 1997b).

The Employment and Skills Formation Council (ESFC, 1994, p. 67) found that the tendering process for federal government labour market programs had 'a number of unintended and unwanted consequences'. The pursuit of government contracts had assumed greater importance for providers than meeting client needs. Other problems included 'unproductive rivalry and waste through duplication of services and facilities within regions and even towns', high tender administration costs, a perceived lack of transparency in funding decisions, and insecurity arising from short-term contracts.

A national study in the VET sector suggested that 'competitive tendering ... along with other elements of training reform, are helping to stimulate a more diverse, responsive, customer focused, outcomes-oriented and cost-conscious VET System' (WADOT, 1996, p. 6). It found 'little evidence' of negative effects, but highlighted several issues, including: under-provision in rural and regional areas due to diseconomies of scale and thin markets; information deficiencies; access and equity concerns; high administrative costs and complexity; and cost-shifting or substitution of public for private training resources. The full implications and the relative costs and benefits of competitive tendering were 'far from being fully documented'.

The Bannikoff Review (1998) in Queensland identified inefficiencies arising from competitive tendering, including duplication of effort, and under-utilisation and inadequate maintenance of TAFE capital infrastructure due to a loss of government contracts. Resources had been diverted from TAFE to the private training sector, and within TAFE from training delivery to market administration. As a result the financial viability of TAFE institutes had been undermined with adverse consequences for: the public interest component of TAFE activity; the quality of product development and delivery; human resource development; access and equity policy and obligations; government policy objectives and priorities; and employment policy outcomes for students.

Bannikoff (1998, p. 23) concluded that: 'The use of competitive tendering needs to be reconsidered because it is not contributing to a reduction in the cost of training, higher quality training, an increase in the amount of training or more relevant training.' It recommended restricting competitive tenders to areas of new and untested demand and high volume/high contestability areas of training; and setting annual budgets for competitive tendering to ensure continuity of supply in thin markets.

User Choice
Overall, research suggests that user choice may be a more effective mechanism for increasing choice and responsiveness, although efficiency gains and quality improvements are less evident. In an early evaluation of user choice, Smith (1998) identified three positive outcomes as follows: a wider range of training options for employers; increased interaction between employers and providers, particularly TAFE providers; and a more business-like approach by government bureaucracy. Conversely 'both the training and the outcomes of training under the User Choice system in Queensland are of highly variable and dubious quality, particularly where full on-the-job arrangements are in place' (Smith, 1998, p. vi).

Many of the problems related not to user choice itself but rather to deficiencies in policy implementation, resourcing levels, and market management, specifically contract monitoring and enforcement, and the regulation of quality assurance. Problems arising from market failure included: a lack of impartial and comprehensive information for clients; high administrative costs; declining quality due to an over-emphasis on marketing and selling; inflexibility and unresponsiveness to employers' needs and circumstances; and systemic fragmentation due to inter-TAFE rivalry.

In a subsequent review of traineeship training in Queensland, Schofield (1999, p. 55) argued that 'if managed wisely, ... contestability ... can help agencies to become more efficient without impairing their effectiveness.'
She argued that the user choice market in Queensland suffered from two 'fundamental flaws'. 'Proxy purchasing' had reduced effective client choice, created conflicts of interest and increased administrative complexity. 'Market viability' had been undermined by imperfect information and insufficient providers in some areas. Such flaws reflected a failure by government to organise and manage its market effectively. She identified a range of specific problems including:

- a failure to manage thin markets, particularly in geographically remote areas and specialised industry sectors;
- pricing policies and practices that promote quantity and efficiency at the expense of quality and effectiveness;
- overly complex and resource-intensive administrative systems, resulting in the diversion of funds from training delivery;
- a lack of rigour in quality control, particularly during contract allocation; and
- under-investment by providers in human resource and capital infrastructure development, due to inadequate funding and short-term, uncertain contracts.

Schofield proposed an 'alternative competitive model' guided by three objectives: increasing the responsiveness of the VET system to the needs of clients (both employers and trainees) through direct market relationships; achieving viable training markets for traineeship delivery; and promoting quality and innovation in delivery.

A national evaluation of user choice (KPMG, 1999) suggested that the benefits outweigh the costs, at least from an employer perspective. Employers indicated high levels of satisfaction with the scope for exercising choice, the degree of provider responsiveness to their needs, and the information received about training products. Increases in employer satisfaction with training delivery and quality were lower. Relatively few employers had altered their market behaviour. Only 7% had changed their provider since user choice began. Apprentices and trainees had exercised limited choice of provider, but more choice in relation to the content of training, and the mode and timing of delivery.

From a provider perspective, user choice had enhanced responsiveness to employer needs, but potentially reduced efficiency due to increased administrative, marketing and advertising costs, and it had possibly compromised quality. Administrative complexity had also increased. Only 38% of RTOs said user choice had been a success. KPMG (1999, p. 22) concluded that: 'Positive progress is being made in achieving the objectives of the User Choice policy.' However it identified 'overbureaucratisation of choice' as a 'hot spot' and emphasised the need for a 'balance between internal and external labour market aspirations of the two User Choice clients' (KPMG, 1999, p. 26).

In a review of Victoria’s apprenticeship and traineeship system, Schofield (2000) found that the share of government-funded apprenticeship and traineeship training held by private and ACE providers had increased from just under 20 percent in 1998 to around 40 percent in 1999. Government funding for apprenticeship and traineeship training in Victoria amounted to $151.1 million in 1999.

Schofield (2000) concluded that there was 'considerable evidence' that user choice had produced: more innovative and flexible approaches to training; a stronger focus on client service; better management and training practices; greater responsiveness to industry and employer needs; stronger capacity to balance supply and demand for training; more effective use of resources to develop niche expertise; and more collaborative industry partnerships and alliances. However, major deficiencies in the design and administration of the regulatory framework for quality assurance were highlighted for corrective action. Schofield stressed that these problems were not a direct result of the introduction of user choice, but that they could erode training quality if left unaddressed.

Conclusion

Although the empirical database on the nature and effects of quasi-markets in VET in
Australia is expanding, it is still premature to pass any final judgment on their efficacy. On balance, available evidence casts doubt on the extent to which efficiency gains have been realised, primarily due to increased transaction costs. The expansion in the number of RTOs has contributed to greater choice and diversity of provision, although the extent to which the range of products and services has broadened is unclear. Responsiveness appears to have improved, but primarily to the needs of employers rather than learners. Overall the research suggests that the quality of training provision and outcomes has suffered most in the deregulated market environment.

However significant gaps remain in our knowledge of the effects of market reforms in VET, particularly their impact on social equity and regional and rural communities (Anderson, 1997b; Butler & Ferrier, 2000; Noble et al., 1999). Until such major deficiencies are redressed, the development of quasi-markets in VET remains a risky policy experiment with potentially serious long-term consequences.

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Early School Leavers in the Community

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Vocational Education and Training (VET) should provide a vital community link between school and work but for many early school leavers this is not the case. When young people do not experience such links, any disadvantage from leaving school early can be all too easily exacerbated. In research focused on early school leavers in a NSW Central Coast community our approach was to generate a multi-perspective understanding of the school-to-work transitions of these young people. Vignettes were developed of the experiences of the early school leavers as they made their individual ways into the community in the year after leaving school. Using the work of Dwyer and associates on 'types of leavers' and 'patterns of transition' a typology was developed to gain a clearer perspective on these experiences. Perspectives were also sought through interviews with community service providers, educational agencies, refuge workers and other professionals, as well as from local businesses and employers. The resulting profile of early school leavers in a community is the complex context in which VET provision operates: The study concludes with a set of recommendations that spell out what might be done to bring together the options for young people in a coherent way.

Early school leaving is currently portrayed as a negative outcome of schooling by contemporary educational policy that has attempted, generally unsuccessfully (Curtain & Sweet, 1998), to maximise the proportion of youth staying to complete Year 12. Early school leaving is a problem of policy directed at channelling young people into appropriate life positions, with those who leave at year 10 positioned as the new educational deviants.

We argue that it is youth policy that is 'at risk' of misunderstanding young people and their participation in schooling and VET, by failing to grasp the diversity of circumstances and reasons for early school leaving. The current emphasis on Year 12 school retention draws attention away from larger questions around what is needed to support transition to adult life. There is a need to focus on the community context of youth policy, particularly on ways to overcome the fragmentation of services for young people who are 'at risk'. The research findings reinforce the most enlightened of recent policy thinking that asserts that the key is the planning and integration of services among agencies at the local level (Dusseldorp Skills Forum, 2000).

Nationally-funded research (see McIntyre, Melville, Schwenke & Freeland, 1999 for further information) on early school leavers showed that the main problem is the 'cracked mosaic' of services that fails young people. However, not all early leavers need such support, since early leaving can be a positive experience and an expression of 'transition'. Therefore we focus on the circumstances under which early leaving becomes problematic for young people. Drawing on the analysis of 40 interviews conducted with early leavers on the NSW Central Coast, this paper summarises the way their diverse circumstances led to a new model, based on the work of Dwyer, for the classification of early leavers. The key assumption of the paper is that early leaving takes place in a local context in which both schooling and socio-economic circumstances are key factors. Reasons for early leaving are as diverse as the post-school experiences of young people concerned. This diversity reflects the social and economic character of the commu-
nity, the youth labour market, transport, housing and further education opportunities and the young adult's own temperament, abilities, motivations and goals. There is a need for policy which identifies and targets those who leave early for negative reasons and those who lack the options and/or where-withal to define and exercise their life choices. Appropriate community-based planning that integrates social security and education and training is crucial to meeting the needs of this 'at risk' group.

The Literature on Early Leavers

Contemporary social policy tends to locate young people in a world that presents as many threats as it offers opportunities, particularly in relation to employment. Any review of the literature on young people 'at risk' reflects the attempts of social policy to grapple with the 'problem' of youth transition. The literature has many themes encompassing a broad range of theoretical, historical and social issues. These include the concept of early school leavers 'at risk'; who leaves school early and why; characteristics of early school leavers; services provided at the point of leaving school; models of intervention; experiences and outcomes of early school leavers; the labour market and young people; employment entry; employer perspectives; training and apprenticeships; employment patterns of early school leavers and the relationship between early school leaving and social disadvantage.

While it is not possible in this paper to cover all these issues the most pertinent will be discussed (see McIntyre, Melville, Schwenke & Freeland, 1999 for further information). First, there is the concept of early school leavers 'at risk'. The term 'at risk' has taken on something of a 'buzz word' quality with a multiplicity of uses tending to blur the concept. For our study we use the work of Batten and Russell (1995), and Dwyer, Wilson, Wyn and Stewart (1990) to develop a working definition of 'at risk' as being that of 'young people not making a successful transition from school into adult life through work and study'.

Second, there is the question of who leaves school early and why they do so. The diversity of circumstances of early leaving has led researchers (Dwyer et al., 1990 and Dwyer & the YRC, 1996) to develop typologies of early school leavers. The groups classified include those who 'make a positive choice' to take up an alternative career path and who may need some placement assistance. These are less likely to be 'at risk' than 'opportune' leavers who take the opportunity to leave school when an alternative arises. In the short term those in the opportune group tend not to need assistance but in the medium and longer term may need referral assistance on a second-chance basis. Other groups are 'would be leavers' who continue at school but who would prefer to leave, and 'circumstantial leavers' who are forced out of school for reasons other than educational such as through family circumstances. This group may benefit from flexible attendance patterns that make way for the student to take a part-time job. The remaining groups are 'discouraged leavers' who are discouraged by their educational experience and may need a supportive second-chance opportunity, and 'alienated leavers' for whom positive post-school experiences are crucial.

Third, researchers have tried to describe the characteristics of early school leavers. Lower achievers in relation to numeracy and literacy skills have a higher risk of leaving school early — less than 50% of boys with poor literacy skills complete secondary school. While girls generally are more likely to complete school, those with weak numeracy skills are more 'at risk' of early leaving than those with weak literacy skills. Although the likelihood of completing year 12 can be affected by parents' socio-economic status, higher numbers of students (more females than males) with fathers of lower socio-economic backgrounds were reported as completing school by Lamb (1997) and Lamb, Polesel and Teese (1995). Walker (in White 1993) discusses the effect of youth...
culture pressure in relation to academic performance. Hammer (1997) argues that although data on Norwegian youth show that, as in other countries, low levels of education give rise to the risk of unemployment, that it may be labour market structures rather than low educational levels that lead to a higher risk of recurrent unemployment. However he suggests that adjustment to school may be an even better measure of avoiding unemployment. Not dropping out of school in spite of difficulties may be related to personality factors required for enduring in and adjusting to steady employment.

The pattern of moving in and out of jobs and study is characteristic of, but not unique to, early school leavers. While the pattern of school retention rates has changed in the last decade, the labour market for young people has also changed sharply (Sweet, 1995). Full-time work with one employer now seems to be the exception rather than the rule and as a result young people are finding themselves marginalised from mainstream employment, education and training.

Types of Early Leavers

If the problem for research and policy is to acknowledge the diversity of the circumstances of 'early leaving', then a key to the problem is how the diversity can be classified. The analysis presented here reflects the empirical study of forty 1996 NSW Central Coast Year 10 school leavers from government schools. The study builds on the innovative work of Dwyer and others who identified that the realities of work and study for many young people are more complex than the 'linear models' of youth transition assumed by policy makers (Dwyer et al., 1996, 1997b). The early leavers were interviewed and ‘life themes’ identified from the narratives (see Table1). The themes were used to classify the leavers using the following typologies. Whether a leaver is ‘at risk’ of failing to make a transition to adult roles was assessed taking into account both the type of leaver (by circumstances) and the pattern of transition that seemed to be indicated. Our analysis joins the two typologies:

- six types of leavers: positive, opportune, would-be, circumstantial, discouraged and alienated. (Dwyer et al., 1996, p. 12)
- five patterns of transition: VOCAM — Vocational, Occupational, Context, Altered and Mixed (Dwyer et al., 1997a, 5).

By using both classifications it is possible to capture 'the diversity of experience associated with early leaving'. The leaver typology draws attention to the circumstances of leaving, while the VOCAM typology describes the patterns of youth in transition to adulthood (Dwyer et al., 1997a, p. 5). Dwyer's 'would-be leavers' were excluded since these are 'reluctant stayers' rather than leavers.

The leaver stories (McIntryre et al., 1999) divide into two broad groups of leavers. There are those who leave because they are highly focused either on pursuing a vocational interest or in getting work and who are mostly clear about the transition they want to make and set about making it. However, there are other leavers who are not 'positive and focused' and who generally have found school a negative experience and wish to 'escape' to a different life. For these it is hard to find a motive and meaning other than this desire to be free of compulsory schooling. They are most likely to be 'at risk' because they are least likely to find employment or further education or training to allow them to make a successful transition to adult life. The typologies help to bring the variations in these groups into sharper focus.

In applying these typologies, we treated any leaver who is pursuing a definite vocational goal or interest as having a 'vocational' focus whether they are currently studying for appropriate qualifications or not. While some are very focused on their career path and left to take up options other than further schooling, others left school in negative circumstances. The 'focused leavers' often prepared themselves well ahead of the actual point of departure from school. For others, leaving is more a reaction to negative school experiences, triggered by treatment meted out by the school or an event such as a job offer. Among the latter are those who
leave without goals for post-school life and who are 'at risk' of failing to make a successful transition to active adult roles.

Early School Leaving as a Positive Outcome

In the main the positive leavers left school to follow a career choice or take up a job offer. The dominant pattern among these leavers is a 'vocational' focus. 'Vocational positives' are determined about pursuing their chosen careers and career goals. It was striking how some of these young people have organised their lives around achieving their vocational goals. Part-time work and relevant work experience are crucial in their career moves. Some worked voluntarily in order to gain an apprenticeship. A combination of work and study is important to most of these leavers. Some have made up their minds about a vocation long before school begins to offer career advice or suggest vocational options. Their goals crystallise, they start organising in earnest well before the time of leaving, and they leave to implement a career decision. While some fall on their feet, finding full-time work in a regular part-time job or going straight into the family business, others have to overcome obstacles which often includes initial failure to find work in a chosen field.

A second group also leaves as a positive step towards adult life but these leavers have a focus on winning jobs rather than on entering a particular career. However, experience in the job market may spark a vocational interest. While these 'occupational positives' show...
similar qualities of enterprise, motivation and
persistence, they differ by putting more of
their energy into job-seeking, and more of
them are employed full-time. They are highly
focused on winning work. They realise the
competitiveness of the youth labour market
and already know and have qualities that will
give them an edge with employers. Part-time
and casual work has been an important part
of their lives for a year or more by the time
they leave school, and this experience often
leads to a job offer. They tend to use short
courses to enhance their employability but
discount the value of longer courses, so that
apprenticeship and traineeship are seen as
somewhat remote options. It is striking that
their workplace experience seems to have
occurred quite independently of their lives at
school and any career advice that they
received there.

Leaving Because of Particular
Circumstances
There is an element of opportunity in a
decision to leave early and for one group,
particular events or circumstances influence
that decision. As school does not really hold
them, ‘opportunity’ leavers leave in response to
a definite event. Their patterns of transition
are more varied with more uncertainty about
work and study options as schooling may
have been a negative and contributing factor.
In contrast, ‘circumstantial’ leavers are forced
out of school for largely non-educational
reasons. The triggers for the leavers in the
sample were early pregnancy and parenthood,
eating disorder followed by rejection by
friends, bullying and rejection by peers,
homelessness and abusive relationships at
home. There is a thin but clear line between
these leavers and the ‘discouraged’ and ‘alien­
ated’ leavers. By and large ‘circumstantial’
leavers do not leave because they are discour­
gaged learners, but because normal schooling is
made difficult or impossible. They may be
failing educationally, but what forces them to
leave is lack of support from the school,
friends or family. The patterns of transition
are varied—some have clear vocational goals,
others wish to work, others are experiencing a
mixed transition. Peer rejection or disruption
of their social networks is a clear motivation
to leave for most young people, reflecting the
importance of friendships and peer support in
their schooling. The circumstantial leavers
have trouble establishing or maintaining their
identities as students because they lack this
necessary social support. After leaving they
may find support, particularly through TAFE
alternatives to the School Certificate or HSC.

The ‘discouraged’ and ‘alienated’ leavers
are discouraged learners who ‘have not had
success in their schooling and whose level of
performance and interest in education is low’
(Dwyer, 1997a, p. 12). They are likely to fail
in subjects, to find school a negative experi­
ce, and be singled out by the school for
anti-social behaviour and thus regarded as
‘problems’. They may feel that particular
teachers have victimised them. Whereas the
discouraged leavers are more passive in accept­
ing the negative aspects of school, the alien­
ated leavers resist or rebel. Mostly male, they
leave to escape school, sometimes after truancy
and behaviour problems. Their experience of
transition is more problematic often
compounded by their leaving. They are likely
to be more ‘at risk’ than other types with work
and study options more limited — both in
terms of their own expectations and experience
in the labour market. While most have a
vocational or occupational orientation, others
are stuck with few options encountering more
barriers to achieving sometimes unrealistic or
remote vocational goals. While they hope the
world of work will be more positive than
school, their unsatisfactory schooling has given
them few skills and robbed them of the self­
confidence needed to negotiate a transition to
adult roles. The earliest ‘drop-outs’ most in
need of career advice or preparation from
school receive little or none.

For working class boys especially, appren­
ticeship is seen as their best hope, but experi­
ce soon provides evidence of a scarcity even
in traditional avenues of recruitment. Some of
the leavers who identified a vocational interest
are pursuing this through a course and are
taking on a vocational identity. The TAFE general education option is crucial. For this group of leavers, the alternative schooling offered in TAFE is an important ‘second chance’ and a means to making a transition. Not surprisingly, other discouraged leavers do not believe that qualifications are necessary to get work, and reject doing courses. Yet their experience of the labour force often proves discouraging. After a year, some of the early leavers are discouraged by the experience of the labour market and say they are thinking of going back to school to do their School Certificate particularly if it will improve their chances of getting an apprenticeship. This wish to ‘start again’ at school underlines the need for schools to have strategies to support early leavers returning to pursue vocational goals through study.

Early Leaving and Being ‘At Risk’
Nearly a year after leaving, most of the young people interviewed retain a sense of optimism about their future. Their circumstances differ greatly and optimism is all that some leavers have. Others have jobs or courses. The contrast between the different types of leavers as described earlier allows us to identify those school leavers who are ‘at risk’. Assessing whether a school leaver is ‘at risk’ can be done on the basis of both the ‘type of leaver’ and the kind of ‘transition pattern’ evident in their leaving stories. This is consistent with an assumption of the negotiated quality of young people’s transition. A school leaver is ‘at risk’ if they lack a definite set of options that can be pursued through work, study or both. A young person leaving school is not ‘at risk’ simply because they leave at Year 10 with a School Certificate. Most positive leavers are not ‘at risk’ because they have a strong vocational motivation and strategies for achieving their work and study goals. However, those who leave school in negative circumstances are more likely to be ‘at risk’ especially when they leave before year 10 or without their School Certificate, without prior experience of part-time jobs and an understanding of what employers want in young people, without clear goals for life after school, strategies to achieve or motivation to persist in achieving these goals and without a strong vocational interest or career goal.

Whether a person is ‘at risk’ is to some extent an arbitrary judgement based on their circumstances and experiences at the time of interview. It is also a judgement about how the young person understands and acts upon their transition difficulties. A young person who is going from casual job to casual job, or is unemployed, or lacks skills and is not taking steps to build their employability (or their lives in other ways) can be regarded as ‘at risk’. While short-term unemployment does not of itself signify risk, long-term unemployment does. Living in poor circumstances with housing, income, health or relationship problems in addition to being unemployed also indicates that a young person is ‘at risk’.

Early Leavers and the Community Context
What early leavers experience on leaving school is very much a function of their community — its socio-economic character, its employment opportunities and its youth support services. The consensus of much contemporary commentary on the need for the rethinking of youth policy by Dwyer, Curtain, Sweet and others is that solutions for the ‘problem’ of early leaving must entail effective responses at the community level. Better integration of schooling, further education and training and employment options is needed. The concept of the full service school has been recommended (ACEE, 1996).

What then can be done to improve the ‘services deal’ for young people who are the ‘negative leavers’ most ‘at risk’ of a difficult transition to adult roles? Major findings of the Central Coast study showed that few schools seem to have a system for providing information to early leavers about their options. Few early leavers received an exit interview. The exceptions are those who make trouble by leaving in which case they might be referred to the principal, or given a folder
or leaver's kit with relevant information about local jobs and courses. Few schools provided a reference to leavers. The responsibility of schools to early leavers seems to be minimal and does not currently embrace the idea that early leavers should be followed up via some well-established community based arrangements. This is a far cry from some European models where schools have a statutory responsibility to track their early leavers and monitor their experiences. Although there is a prevailing idea that leavers can 'prepared for employment' before leaving school, early leavers, most in need of this advice, ironically leave before it happens. Most career advice and work experience comes too late for them. Early leaver departure is often too sudden for the school to intervene while the discouraged and alienated leavers who depart under a cloud are least likely to receive a sympathetic farewell and relevant information although they certainly have the greatest need.

However, the question of better support for 'at risk' students is not only one of career advice and job preparation during the middle years of school. Nor is it only a more flexible approach to curriculum as Dwyer (1997a) suggests, it is also the linkages that might be set up at the local level between schools, employers and community agencies. A major conclusion of the Central Coast study was that young people experience youth support services as a 'cracked mosaic' lacking in integration. The kinds of employment opportunities available to young people are clearly important in their experience of early leaving. What the varied success of early leavers in entering the youth labour market demonstrates, is the way that informal networks can work for them. The 'positive leavers' obtained jobs either through family contacts or through part-time work or preparatory activities while at school, moving into full-time work and/or study from part-time jobs, usually in a highly motivated way. These leavers were already part of family or social networks that enabled them to make a transition to more secure employment. The success of the positive leavers in organising for themselves entry to better jobs underlines the linkages that might be established between schools, employers and community agencies to support the more 'at risk' leavers who do not have such resources. In contrast, the casually working or unemployed leavers have a marginal position in the labour market. They hope for an apprenticeship but without much idea about how they can improve their prospects. The formal training system is remote from most of the leavers, who rely on short courses and on-the-job learning to improve their employability.

The point emerging from the study is that the 'positive leavers' call on the advice of family and friends 'in the business'. Even the 'discouraged leavers' value the help of the employment and social security services (such as the former CES) and case managers in preparing resumes, organising courses and work experience. In recommending such 'community-based linkages' to support transition to the labour force there is a need to recognise the movement in and out of jobs which is due partly to the casual and low paid nature of work and partly to young people's changing priorities. This is consistent with Dwyer's views of the negotiated nature of transition — it seems to be that young people learn about work through trying out what is available. What then is the role of vocational education and training (VET) in assisting the transition of early school leavers?

Most (over 70%) of the leavers in the Central Coast study in 1996 had done one or more courses since leaving school. These included, very notably, TAFE general education courses which provide an alternative to schooling (Certificate in Adult Foundation Education — Year 9 equivalent, the Certificate in General Education — Year 10 equivalent, and the HSC). There were strong messages about how valuable this alternative schooling was. Second, short courses provided by the CES, Skillshare, the community college (ACE) and TAFE are valued by leavers whose employment prospects are bleak. Longer accredited vocational courses combined with part-time voluntary or paid
work are done by some — yet it was striking how the apprenticeship/traineeship system is beyond the reach of these leavers.

Conclusion
It might be argued that early school leavers are such a problem for policy because Australia's VET system remains based on the historical dominance of the apprenticeship system. Linear models of youth transition exist especially for those not entering higher education. Those arrangements have been called 'tightly-connected' and they once helped to facilitate the transition of young people via the TAFE system (Curtain & Sweet 1998). They are now tenuous with the breakdown of the 'Federation settlement and the classical wage earner model' that underpinned it (Buchanan & Watson, 2000).

Curtain & Sweet in summarising the current state of policy on training for young people, asked — Can VET help young people to make a successful transition to work? The answer is certainly not VET as we have known it. The challenges for VET are those identified by the Finn and Carmichael reports on how best to prepare young people for worthwhile and satisfying employment. These are: the need to embed vocational education more solidly into senior secondary school curriculum, adopt more flexible forms of curriculum among all VET providers, establish closer and more comprehensive links to workplaces and develop qualifications with wide acceptance in the marketplace.

The way forward, from this standpoint, is in education and training arrangements that are more integrated into the local community and its employer networks and support services.

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The application of new learning technologies to vocational education and training is a policy priority throughout the VET sector in Australia and more and more VET funds are being invested in the development of content, technological infrastructure and professional development. While many VET practitioners remain sceptical or reluctant to be involved in online learning, others have embraced it so with considerable enthusiasm. This paper examines online learning from the perspective of those VET practitioners who are early adopters. It reports on the findings of a collaborative research project between Adelaide Institute of TAFE, TAFE SA and the Research Centre for VET at the University of Technology Sydney which was undertaken during 2000. The key questions to be addressed by the paper are:

- What factors influence the adoption of information and communications technologies by VET practitioners?
- How do VET practitioners engaged in the design, development and facilitation of online learning experiences understand their professional practice?
- To what extent and in what ways do VET practitioners engaged in the design, development and facilitation of online learning experiences share their practice?
- What are the assumptions about learning and learners underpinning their professional practice?
- What are the assumptions about teaching and training underpinning their professional practice?

The Research Project

The primary research questions were structured to explore VET practitioner knowledge about and experiences of online learning and teaching. A subsidiary set of research questions explored the extent to which the conduct of research and professional development could be enhanced by use of the Internet. Data was gathered using a survey, structured interviews, online research events and two face-to-face workshops. The working paper arising from this research describes the preliminary findings with relation to all these questions. However, this paper will concentrate on selected areas of interest only.

The project was a collaborative one, designed from the point of view that the relevance and quality of research in this embryonic field is enhanced when VET practitioners engage in research in partnership with research institutions. It also hypothesised that enabling VET practitioners to be part of a research community and to develop an orientation towards research and inquiry is itself a new form of professional development relevant to the emerging field of online education. The final research report will
LEARNING TOGETHER, WORKING TOGETHER

18 VET practitioners considered to be at the leading edge of online education in TAFE South Australia volunteered to join the research project. The self-nominated group comprised 13 women and 5 men aged between 30 and 58. The average age was 44.8 years. 4 participants were full-time continuing employees while 14 were full-time contract employees, mostly on long-term contracts. One was an hourly-paid/sessional teacher.

The group came from a relatively narrow range of vocational and general education areas. Ten had a teaching background in Office Administration, Business or Information Technology studies. Four had an ESL/Adult Literacy background and two came from Community Services. Library Services and Women’s Education were the other backgrounds represented.

Members of the group held varying understandings of what “online learning” was beyond the concept that it is learning, which is facilitated by the use of the Web-based technologies and resources. While all members of the group reported that they used online instructional strategies, half also reported the use of offline strategies. Most were using a combination of instructional strategies.

The nature of the group’s involvement in online learning was diverse, encompassing professional development or mentoring of other staff, developing and/or delivering online modules/ training packages and involvement in LearnScope projects. Other online involvement included marketing online education services nationally and internationally; developing the functional specifications for an online virtual learning environment; helpdesk and technology support and management of online enrolments.

Because of its self-nominating nature, small size and particular context, care is needed in generalising from the experiences of this group to the wider community of VET practitioners. Nevertheless, the findings do yield some propositions worthy of testing in other contexts and with other groups.

Theme 1: Constructing Knowledge About Online Learning

In a VET policy environment keen to accelerate the take-up of online learning, the findings from this research serve as a timely reminder that online teaching and learning is still a very new area of human endeavour and a new area for VET policy and practice. It is an area in which there are no necessary or deductive truths and where bold hypotheses have not yet been put forward and subjected to rigorous testing and criticism. There is no single body of theory which is widely accepted as informing online practice in VET, although distance education theories are widely regarded as helpful and relevant. There is a good deal of uncertainty about whether institutionalised educational knowledge about the application of educational technologies or teaching and learning is applicable to teaching and learning in a Web-based environment and therefore there is uncertainty about the extent to which this idealised knowledge could form a foundation for knowing about online teaching and learning.

The research shows one group of VET practitioners actively if not always consciously engaged in the process of constructing and discarding knowledge about online teaching and learning emerging from their own, often eclectic, experiences. To do this, they are telling the stories of their contributions, helping themselves and others to see the problems from many different points of view. They are continuously making choices based on certain presumptions, although these presumptions are not always conscious or articulated. They are creating a language with which to describe more clearly what they do, believe and value. They are sharing what they know in verbal and electronic conversations in their workplace, between workplaces and around the globe, thus helping to build common ground for action. From these practices they are establishing practical
systems for the design, production and distribution of online products and services.

What they are not yet doing in any systematic or conscious way is standing back and reflecting on what inferences (if any) may be drawn from their individual and collective experiences. However this finding must be modified to take account of the production and circulation of practitioner knowledge within statements in online learning manuals and formalised professional development activities. Nor are they yet systematically testing their interpretations of online teaching and learning (as distinct from techniques) against the interpretations of others within their own organisations or beyond.

Furthermore, the research suggests that organisational and systemic interest in or capacity to capture and manage practitioner-constructed knowledge for wider application and testing is highly variable and generally at a low level.

From the interviews it would seem that value clashes are emerging in both the implementation of online learning itself and at the intersection between educational philosophies and management philosophies about online learning. Practitioners' sense of education as a human service rather than a "productivity" centre was causing a good deal of anxiety for some. Overall, there seems to be a growing tension between the organisational emphasis on administration, finance and class hours and the practitioners' own sense of professionalism which is being progressively enhanced by involvement in online activities.

Theme 2: Changing Professional Roles and Practice

The impact of online activities on the professional role and practice of this group of TAFE staff is not easy to distinguish sharply from the wider changes which have been wrought to the role of the TAFE teacher/lecturer. Nevertheless, the dichotomies experienced by practitioners are clear. On the one hand they are excited and challenged by their online activities while at the same time they are feeling frustrated and pressured by lack of time, infrastructure and resources. On the one hand they have a heightened sense of professionalism deriving from their involvement in online VET while organisational pressures seem to challenge their sense of professionalism and their professional identity.

Participants reported a general shift in their professional practice over the past five years from an instructor role to a facilitator role, a shift not confined to or necessarily caused by teaching online. They were also experiencing a general organisational and systemic shift towards self-paced learning, and expressed reservations that this is not desirable for all learners in all instances. They felt considerable pressure to be more flexible and multi-skilled and some reported feeling greater stress as a consequence.

Other contextual factors impacting significantly on the roles of practitioners include a stronger emphasis on budgetary restraint and income generation at lecturer level; a strong emphasis on accountability and auditing; pressure to meet deadlines and student hours targets and the devolution of additional administrative responsibilities (formerly done at middle management level) to lecturer level. Cumulatively, this is having a negative impact on lecturers' perceptions of their professional role.

It seems that more tenuous employment conditions have impacted on their role and work in a number of significant ways. Especially troubling is the suggestion that the shift to individual contracts has caused some TAFE staff to be increasingly reluctant to speak out.

Importantly, the group also suggested that being on a contract had been a factor leading them to engage with online VET. They suggested that, as contractors, they felt a need to develop and maintain a profile and to keep a range of employment options open. This question of the non-standard nature of the group's work and the associated conditions will be further considered in the final research report.
However, for virtually all members of this group, their involvement in online activities has caused major and very positive changes in their professional role and practice, changed their perceptions of teaching and increased their sense of professional satisfaction and challenge. Satisfaction with their current jobs was high, with 10 survey respondents indicating they were very satisfied and 6 indicating they were satisfied. Most importantly, involvement in online delivery has been a very positive experience for the majority of respondents, increasing professional satisfaction for 15 of the 18 respondents.

When asked whether their first experience of online had shaped their subsequent involvement, most indicated that it had prompted a fundamental shift in their professional lives. It has provided more (and welcome) work challenges, more involvement in planning the content and sequencing of teaching, more focus on the teaching process rather than the content to be ‘conveyed’ and more opportunities for team-based work which they clearly valued highly.

As a result of their involvement in online learning, most participants had a positive feeling of being part of a big story beyond the confines of their own day-to-day work, of feeling that their professionalism has been extended by the challenges of online and, in most cases, acknowledged. However, a couple within the group expressed some dissatisfaction, noting that despite having acquired new skills and being recognised internationally, their Institute did not recognise or utilise their skills in online learning.

When asked whether these changes have made them feel different about themselves, the overwhelming majority indicated a positive difference, signalling confidence, skills, interest and enthusiasm as positive outcomes.

Some expressed a degree of ambivalence about the way online teaching changes professional practice. They were troubled or frustrated by the way online causes the teacher to become a learner, by the shift from being a ‘knowledge-giver’ to a learning facilitator and by having to live with the feeling of not being in control. Others were concerned that they are under pressure from their managers to do everything online rather than finding an appropriate mix of face-to-face and online. In this they felt caught between competing pressure from their organisation on the one hand and from their professional need to respond to the needs of their learners on the other.

Theme 3: Workplace Learning

In the process of exploring the group’s ideas about and experiences of professional development it became clear that the traditional concept of ‘professional development’, with its historical overtones of formal training and instruction, of behaviour modification, change management techniques and de-contextualised learning is not helpful in explaining the complexity of why and how this group of practitioners came to know and love online VET. Despite their own participation in formal training or professional development programs and despite the fact that many had a formal professional development function, formal training was the least valued form of learning and the least useful source of learning for this group.

The single most important factor triggering the decision of the participants to become involved in online learning was personal and professional interest. The other two factors which seem to have been significant in triggering their involvement were the availability of resources and anticipated demand from students. The least likely drivers were pressure from the Institute and demand from industry.

Other factors triggering the decision to become involved in online learning activities included the support of a mentor or encouragement by a colleague; anticipation of the benefit of technology in improving delivery to students; the opportunity to improve student access; the prospect of streamlining the administration of learning; wanting to learn something new; and seeing online innovations as providing a personal career opportu-
nity. Equally important seems to have been the chance opportunity, being ready for a change and in the right place when an opportunity arose.

These findings are significant in the context of the national VET system which has tended to use international competitiveness and the national interest as rallying cries to encourage organisational and individual take-up of online strategies.

Most who were initially hesitant to become involved in online learning commented in terms of their initial lack of confidence in their own competence and a fear of the unknown — all commented on the importance of a “significant other”, working formally or informally as a mentor.

The design of individual jobs and the organisation of work play a critical part in opening or closing learning possibilities. Many jobs, even professional jobs, are not big enough for the people who hold them and these are unlikely to be a source of learning. Work can be organised in ways to encourage or discourage staff creativity and learning. In this area of knowledge-in-the-making, where staff have to construct and disseminate most of the knowledge themselves, the design of their jobs and their work processes become central to the online endeavour.

The most striking thing about this group of practitioners was that their jobs were broad in scope and offered much variety and discretion. Multiple roles were the norm, with only 3 of the 18 participants describing a single role. Nearly half of the respondents had 3 or more roles. These roles spanned technical, instructional, content development, marketing and management roles. 11 respondents had some form of co-ordination role such as program or project coordination, or staff management. 7 had some involvement in professional development for other staff, or a mentor role. Many had been involved in various pilot projects and 12 of the group indicated they had a major role in online education.

In terms of job design, the roles of program design, materials development and teaching may have been separated in the past but this was generally considered undesirable. Three quarters of the participants disagreed or disagreed strongly with the statement “In the area of online learning, design, development and teaching are really separate and distinct activities, best done by people with different skills”. This and other findings point to the need for jobs in the area of online teaching and learning to be strongly integrated and multi-functional.

Another recurring theme in participant responses was that job discretion and work freedom was important to learning how to facilitate online learning. Freedom to create, freedom of choice to participate and freedom to make mistakes were ideas consistently evoked as important factors facilitating staff learning.

Interviews sought comment on the extent to which work colleagues were involved with online learning. What emerged was a picture of a group of leading edge, enthusiastic and motivated practitioners working with each other and sharing their experiences, but struggling (at least in this early stage) to integrate online work more fully within their work environments and engage immediate work colleagues in the process. It also showed a group of practitioners still operating outside the “mainstream” of VET practice.

Where there were a number of people involved in online activities at an Institute or a particular workplace, staff felt supported and the exchange of ideas and information was a highly creative process. However, where there was only one or two practitioners active in online VET, there was a strong sense of workplace isolation. Nevertheless, there were indications of a growing receptivity amongst currently non-involved colleagues. Convincing work colleagues to become involved was seen as very hard work, requiring patience rather than a hard sell, requiring the development and application of multiple techniques to support and encourage colleagues rather than compel them.

When asked what professional development programs related to online learning they...
had participated in, almost all the group
ominated both formal and informal training
grams and the majority had participated in
development projects and action learning
projects. Other professional development for
line learning included Web-based commu-
nity building activities; volunteer teaching;
online and physical conferences; facilitating
and mentoring other staff in LearnScope
projects and being an online student.
Participants cited four main sources of
their own professional learning.

**Learning by Doing.** Participants reported that
in the beginning they had little choice but to
learn by doing. Because they were leaders in
the field, there was no one else to learn from -
they were pioneers "making it up as they went
along". They were also individuals with an
inclination to learning through problem
solving. Assigned real-life problems such as
product-development projects, they simply
rolled up their sleeves and did it. But this was
not, of itself, sufficient to ensure appropriate
learning.

**Learning though work colleagues and
teamwork.** Supportive work colleagues and
membership of a team is a key factor in learn-
ing about online VET by this group. When
asked how they first learned to use informa-
tion and communications technology for
line learning, the source most frequently
cited was work colleagues in the same disci-
pline area. Colleagues with online learning or
discipline expertise
were and remain the most
used source of information and advice about
line learning.

Within the group, and reflecting TAFE
SA priorities and strategies, mentoring is
widely used to develop staff capability to
work online. Different meanings are attached
to the word 'mentor' by group members, with
some referring to informal collegial support
while others used it in a more formal sense of
structured and planned personal coaching and
development. Mentoring will be considered
further in the research report but clearly it is
widely accepted, practised and valued by the

group as a method of developing online
teaching capability.

**Learning through communities of practice.**
The research highlighted a community of
practice as a very important source of learn-
ing. Communities of practice, while intersect-
ing with the concept of work teams and
supportive work colleagues, offered wider
learning possibilities unconstrained by place
and time. Despite feeling locally isolated at
times, when participants were asked directly
whether they felt part of a community of
online practitioners, the overwhelming
answer was yes, although it was also clear that
each participant felt they belonged to very
different communities of practice.

**Learning through formal off-the-job profes-

dional development.** Most members of the
group seemed to have little confidence in
formal off-the-job professional development
activities, expressing scepticism about the
quality of the formal activities they had been
involved in. This was not however a univer-
sally held view and, for some, conferences,
overseas study tours and workshops and
fellowships had provided good learning
opportunities.

The research suggests that the point in
time that participants first became involved in
online activities may influence views about
formal professional development. Those who
became involved more recently would have
been entering the field at a time when more
sophisticated and structured professional
development had become available, when the
experience of the first wave of innovators had
been captured in the first manuals and
programs. Thus the experiences of more
recent online practitioners would in all proba-

bility be more positive than those who partic-
ipated in first-wave professional development.

Despite reservations about the direct
value of structured off-the-job development,
many participants identified less tangible but
nevertheless useful outcomes from formal
professional development programs.

What seems to be emerging amongst
individuals in the group is a view about how
different formal and informal opportunities can work together to enhance practitioner learning, exemplified by the following interview comment.

As a way of gaining further insight into the way practitioners believe practitioners learn, participants were asked what advice they would offer to colleagues wishing to prepare themselves for participating in online delivery. Some commented that advice was context-dependent while others believed that the learning styles of their colleagues would need to be considered, drawing a distinction between “problem-solvers” and “step-by-step learners”.

Most comments reflected simple pragmatism, based on their own personal experiences and the view that multiple (if not random) strategies are needed.

However, at least four themes were discernible in participant responses.

**It’s attitude, not skills.** Participants believe that, in the first instance, adoption of online practices is dependent on practitioner attitudes rather than technical skills. They stressed the importance of having a “flexible attitude”, being “open minded” and being “willing to explore possibilities”. One suggested the need to “buy a bullet-proof vest!” This affirms the view of the group (indicated earlier in this paper) that personality traits of individual teachers are highly relevant to the take-up of online VET.

**Learn basic computing skills.** Participants stressed the need for a basic familiarity with computers and the Internet and good mouse skills. All participants believed these skills were only required at a low level in the first instance. Most believed that formal professional development was now the best way to acquire this basic technical competence, although this was not a view shared by all, with some believing that “playing around” remains the best starting point for acquiring computing skills.

**Think about the learning experience, not the technology.** Respondents consistently stressed the need for new starters to reflect carefully upon the educational dimensions of online learning and to be educationally sound in their decision-making. They pointed to the need for a clear view of the educational and methodological issues involved, to ask questions about why go online and where might be a good starting point and to think how to move through the process. They also emphasised the need to focus on the teaching and learning processes, not the technology.

**Have a go but not by yourself.** Most participants, perhaps because of their own experiences as early adopters, believed that getting in and having a go is the best way to get started, although they consistently stressed the importance of learning from respected colleagues. Interestingly, the idea of ‘time to play’ was frequently raised.

**Conclusion**

This paper has touched on three themes only and not provided the details of the findings with respect to those themes. However, it does serve to show that those we consider leading edge online practitioners are exploring and experimenting rather than systematically constructing their experiences and knowledge. Similarly, their employing organisations are not systemically encouraging or harvesting value from these innovators. The final paper from this research will amongst other things, explore the implications of these findings for professional development across Australia.
Key Competencies in Training Packages

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RMIT University

This paper reports on the recent research project, funded by the Australian National Training Authority, to determine how effectively, or otherwise, the Key Competencies are being integrated within Training Package specifications. The research used interviews, focus groups and questionnaires to obtain the views of Training Package developers, providers and end-users. It canvassed considerable debate on how best the Key Competencies should be identified and integrated within Training Package qualifications.

The project was undertaken in two stages. The first stage consisted of a data collection process using individual and group interviews to discuss issues concerned with the specification of the Key Competencies within Training Packages and their development within Training Package programs. This data was then analysed and an interim report was prepared.

The interim report was then distributed to all participants in the stage 1 interview as well as providers and Training Package developers from a wider selection of Training Packages. Recipients were invited to either attend a focus group to discuss the findings of the interim report or to fill in a questionnaire response. This process enabled a validation of the data collected in Stage 1 of the project.

Overall, the Training Packages which were specifically considered were:

- those involved in developing Training Packages
- teachers from Registered Training Organisations (both TAFE and private providers)
- representatives from industry enterprises currently implementing or preparing to implement Training Packages.

The participants also had different levels of understanding of and exposure to Training Packages. Consequently, their responses varied and represent a wide range of understandings and familiarity with both Training Packages.

What the Data Tells Us

Participants in this project came from a diversity roles and functions with respect to development and implementation of Training Packages. They included:

- the Executive Officers (or their delegates) of National Industry Training Advisory Bodies (ITABs)
- those involved in developing Training Packages
- teachers from Registered Training Organisations (both TAFE and private providers)
- representatives from industry enterprises currently implementing or preparing to implement Training Packages.

Table 1

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<th>Key Reports on Key Competencies</th>
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<td>STAGE 1 &amp; 2</td>
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<tr>
<td>FDF98 Food Printing and Graphic Arts</td>
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<tr>
<td>ICP99 Printing and Graphic Arts</td>
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<td>TDT97 Transport and Distribution Administration (R&amp;R)</td>
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<td>BSA97 Administration (R&amp;R)</td>
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<td>CHC99 Community Services</td>
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and the Key Competencies. However, there were some distinct trends which emerged and these are summarised below.

The Key Competencies are Valued and Implicit in Endorsed Competency Standards

There was general agreement as to the value of the Key Competencies, their acceptance and value in the workplace, and the need for them to be part of vocational education and training. There was no general agreement as to how this might be achieved.

It was also generally agreed that the Key Competencies were implicit in the endorsed competency standards and that the achievement of units of competencies implied that the Key Competencies would also have been achieved to the level specified.

However, many participants expressed their concern about the lack of explicit information about the integration of the Key Competencies within Training Package specifications. It was thought that this led to an unrealistic reliance on the ability of those delivering programs under Training Packages to recognise and address the integral and strategic role played by the Key Competencies within specific units of competency.

Knowledge and Understanding of the Key Competencies Were Extremely Variable Especially among Providers of Training

Whilst there was general support for the Key Competencies, some participants were unsure as to what they were and had only limited understanding of their function both in formal training situations and in the workplace.

Participants expressed some confusion as to which key competencies are being referred to as there are a variety of meanings which can be conveyed by the term “key competencies”. For example:

- the set of Key Competencies defined by the Mayer Committee in their 1992 report *Putting Education to Work*
- another set of generic competencies which is especially valued with an industry/enterprise context. This set may overlap with the set of Key Competencies defined by the Mayer Committee but the language in which they are expressed and their nature are specific to and characteristic of the industry or enterprise context in which they are used.

- some enterprises and industries have specific technical and generic competencies which they consider to be “key” to their productivity and efficiency. These competencies might include OH & S, waste minimisation, customer/client relations, housekeeping, quality and workplace communication

There is Widespread Confusion about the Levels Used in Conjunction with the Key Competencies Especially among the End-Users of Training Packages

The confusion about the levels associated with the Key Competencies seem to be based in a number of misconceptions and adverse practices.

- many of those interviewed in the research project believed that the levels assigned to individual key competencies were the AQF levels
- other interviewees associated the levels with the relative importance of the Key Competencies. Thus, level 3 indicated relative unimportance whilst level 1 was clearly significant or vice versa
- very few of those interviewed as end-users of the Training Packages had read the information provided for them within the Training Package materials on the subject of the Key Competencies
- some interviewees hadn’t noticed that there were levels assigned to the Key Competencies.

This confusion appeared to be greatest where the Key Competencies were considered in relation to a qualification rather than with individual units of competence. The cause for much of this confusion lies with the way Training Packages are being published and in some undesirable past practices with respect to curriculum documentation which are
persisting through the transition to Training Packages. These include:

- the publication of the explanation about how the Key Competencies have been included within the units of competency in a separate volume from the actual units of competency. This has wider implications on the possible misuse of Training Packages by those who only have access to part of the package

- the use of a table showing the Key Competencies and the level at which they are included within a unit of competency with no reference to a key as to what is meant by the table or how it is to be interpreted and used

- the common practice within RTOs to give teachers and assessors copies of those units of competence for which they have responsibility only. In the case of NSW providers, the use of centrally developed curriculum for delivering the Training Packages means that teachers may not have ever had access to the Training Package. Both these situations mean that teachers often don’t develop an enlarged perspective or “big picture” of the students’ learning experience and the organisational framework in which they are working. It is, therefore, probable that they may not understand the context for which the Training Package has been developed and the interrelationships and packaging rules which a Training Package defines. The development and application of the Key Competencies is closely associated with the integration of different competencies and their transfer across differing contexts and work situations. Such integration and transfer is unlikely to occur if those facilitating learning or assessing competencies are themselves unaware of the “bigger picture”.

Training Packages Specify Applications of the Key Competencies Not Their Development

This opinion was stressed by several Training Package developers and is fundamental to understanding the complexity of ensuring that vocational education, training and assessment which occurs within the context of Training Packages is underpinned and enhanced by the Key Competencies. Training Packages are designed to specify the required outcomes of training and/or workplace learning. It is the RTO who must use the professional expertise of its staff to determine how best these outcomes might be achieved and assessed (within the framework of the assessment guidelines).

It is, therefore, the provider who must facilitate the appropriate development of the Key Competencies to ensure that the required competencies can be achieved. The challenge is to ensure that the relationship between units of competency and the Key Competencies is sufficiently explicit to ensure its recognition by teachers, workplace mentors and assessors.

The Integration of the Key Competencies Within Training Packages Require Substantial Change in Vocational Education, Training and Assessment Practices

Many, though not all, of the participants recognised that Training Packages effectively shift much of the responsibility for the provision of detailed curriculum and support materials from the state to the individual training provider. Whilst the state (through ANTA) retains the responsibility for establishing the outcomes of training and the quality and recognition framework in which vocational education, training and assessment occur, the responsibility for designing, developing, implementing and supporting effective training paths to meet student needs becomes the responsibility of the registered training providers (RTOs).

Such a shift represents both an opportunity and a threat to teachers and trainers. Whilst it recognises the professional expertise of teachers and trainers to identify the best way to achieve educational objectives, its introduction comes after a period of reliance on pre-packaged learning support materials and curriculum guidelines and at a time when
fewer VET teachers and trainers have had access to formal educational training other than workplace training and assessment programs.

The introduction of Training Packages also represents a substantial change in vocational education, training and assessment practices at a time when most RTOs are working under lean budgets and staffing ratios. The relative high proportions of casual staff and/or those with only minimal or no formal educational training in course design and development and support material development thus becomes problematic. The short lead-in times between the release of the Training Packages and their implementation exacerbates this problem.

Such a change process must be managed over a considerable timeframe if the potential of Training Packages as a framework for flexible, responsive and effective training is to be realised. Substantial support for professional development of teachers, trainers and mentors within the system is essential.

Substantial professional development will be needed to ensure that VET teachers and trainers have the requisite skills in:

- planning educational programs to minimise unnecessary repetition and to maximise connections between different units of competency
- designing and developing support materials to enhance learning
- facilitating workplace learning and working collaboratively with workplace mentors
- active learning techniques which support holistic and contextually based learning

It is not surprising that in an environment of substantial change, issues such as the Key Competencies and basic educational skills are being lost or ignored while teachers grapple with having to make substantial changes in their everyday practice and to become more workplace and student centred. However, it is a shift worth fostering and requires effective support over a sustained period.

**Employers Value the Key Competencies and They Are Often Reflected in Their Employment Selection Criteria**

Many participants noted that employers, within their respective industry areas, used generic skills as the basis of their selection processes for employment. Whilst base qualifications and technical skills are seen as important, employers were reported as saying that whereas technical competencies could be enhanced within the workplace, the remediation of generic skills, such as the Key Competencies, was a much more difficult proposition. This view was based on a belief by employers that they, or their staff, did not have the necessary educative competence for this task.

As a consequence of this, many of the research participants identified the failure to explicitly develop the Key Competencies as an equity issue.

**The Contextual Nature of the Key Competencies Makes Their Development within a Training Package Framework Simultaneously Simple and Complex and Difficult**

Down (1998) noted that, within workplaces, reference to the capabilities based on the Key Competencies were often referred to as “experience, nous and commonsense” (p. 102). This view is also reflected in other research reports concerning the function of the Key Competencies within workplaces where the concept of the Key competencies embraces “both actual skills and underlying, integrative processes” (Marett & Hoggard, 1996, p. 66).

Most participants in this study recognised that it is the covert, implicit nature of the Key Competencies within Training Packages which makes them simultaneously integral to workplace competence and difficult to identify and integrate within training practice.

Participants felt that the issue was one of ensuring that the integrated presence of the Key Competencies within units of competence was recognised by those implementing Training Packages rather than complicating
Training Package documentation. It was generally agreed that this was a RTO responsibility and most developers expressed the view that central advice on this issue belonged in the Training Package support materials rather than in the endorsed components.

Participants involved in implementing Training Packages expressed a preference for a more explicit statement of the connection between the Key Competencies and the units of competence. It was felt that unless this link was clear and strong, the Key Competencies could be ignored in assessment and this would weaken the effectiveness of vocational education and training delivered under the framework of a particular Training Package.

A number of participants expressed concern that many training providers might view the Key Competencies as "nice to know" rather than fundamental components of the units of competency. It was believed that this view is reinforced both by the lack of explicit reference to the Key Competencies within the specification of the units of competency and the separation of information on the development of the Key Competencies and the specification of competency outcomes. This added to a belief that many providers saw the Key Competencies as an optional add-on.

Conclusions and Recommendations

The first recommendation is that clear advice is provided to developers and revisers of Training Packages (and Industry Competency Standards) on the explicit integration of the Key Competencies within Units of Competency.

A suggested strategy for achieving this is that when competency standards are developed or revised, then the performance criteria are framed around the technical skills required, the Key Competencies involved and the basic education skills needed.

The second recommendation is for the funding of professional development for teachers and trainers on the implementation of Training Packages which focuses on the development of learning paths which meet the needs of specific target groups and which enable the achievement of Training Package qualifications; strategies to ensure that the Key Competencies are a fundamental part of vocational education and training delivered under Training Packages and the development of learning strategies and resources to support the development of the Key Competencies.

This is most urgently needed. The successful implementation of Training Packages relies on the pivotal role of teachers and trainers to plan and construct suitable learning pathways, create learner-centred learning environments and facilitate effective, quality and consistent teaching, learning and assessment. It is, therefore, essential that there is greater expenditure on meaningful professional development which enables VET practitioners to develop and enhance their professional expertise to meet this challenge.

The third recommendation was that any professional development with respect to the Key Competencies be integrated within professional development relating to the implementation of Training Packages and not separate from it.

This was seen to be very important in order to avoid a perception that the Key Competencies are a "nice-to-know" or an optional add-on. The Key Competencies both underpin units of competency and also play an important role in transforming what has been learnt in workplace practice. It is, therefore, important that they are seen as integral to the development of competence under Training Packages.

Other recommendations were concerned with the co-ordination of professional development mechanisms and the production of learning resources. It was suggested that a network approach to Professional development be used with each group producing resources which can be shared across all VET providers and which help to overcome some of the current barriers to the effective implementation of Training Packages and the explicit specification of the Key Competencies within them.
The project has produced useful insights into the understanding and ability of teachers to recognise the integration of the Key Competencies within Units of Competence and the need for them to integrate the Key Competencies into their teaching practice. The introduction of Training Packages puts an end to the provision by the State of centralised curriculum and detailed resource materials which have effectively deskilled VET teachers and trainers. Training Packages require teachers and trainers to construct their own curriculum in order to rapidly respond to training needs. This is critical in the delivery of workplace training as no two workplaces are alike and training needs to be tailored to the needs and nature of each workplace.

It also demands an approach to skill development which is holistic and contextual and which relies on practical application and structured reflection to enhance the learner’s skill to learn from experience. The Key Competencies are a fundamental tool in this development and their integration within Training Package provision is, therefore, essential.

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Learning Together, Working Together: The Story of a University and a Nursing Home

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In contemporary popular culture, with its focus on youth and immediate gratification, aged persons are typically overlooked, neglected and ignored, yet they have much to offer in terms of the richness of their lives and wisdom and insight acquired over many decades. It was this belief that prompted members of the School of Professional Studies in the Faculty of Education at Queensland University of Technology (QUT) to develop a close link with a nursing home, located within one kilometre of the Kelvin Grove Campus of QUT. Since 1995, the School of Professional Studies has worked with staff from the home to provide a range of social activities and learning experiences for the elderly residents. This paper recounts the story of a specific project in which a small group of staff from the School of Professional Studies conducted oral histories of fourteen of the residents. This paper identifies the major objectives of the project, the oral history methodology that steered the research, and the significant learnings we gained as we explored the events and critical incidents that shaped the residents' worldviews.

Hilltop Gardens is an aged care facility with a 30 bed nursing home, an 88 bed hostel complex and 12 independent living units. It is located within close proximity to Kelvin Grove Campus of QUT. Since 1995, the School of Professional Studies within the Faculty of Education at Queensland University of Technology has developed close links with the home and has organised both social and educational activities for the residents. For example, social activities have included morning teas, luncheons, musical concerts, Christmas concerts (since 1997) and learning experiences have included visits to the One Teacher School Museum (Located at QUT) and small group discussions. Our connection with the home was one of the ways we attempted to integrate the university more fully into the local community.

Applying for a QUT Community Service grant to work on an oral history project with residents from Hilltop Gardens was a natural consequence of the relationship we had fostered since 1995. In 1998, the School's Community Service Committee was successful in securing two small grants and one of these was to fund the oral history project while the other was to organise a series of musical concerts for residents. The latter is ongoing with funding continuing until the end of 2000. The focus of this paper, then, is the story of the oral history project.

The culmination of the project was the production of a book entitled, Tales of Yesteryear: An Oral History Project that was disseminated to the elderly residents in December 1999. While this paper draws upon the book, its main concern lies in the process we followed which enabled us to arrive at that point. In this paper I begin by discussing the nature of oral history methodology, move on to explore the story of the methodological journey we followed, and then provide a reflection on some of the important learnings of the project. This paper reflects my own views and recollections of the journey we travelled and not necessarily those of the oral history project team.
Oral History as a Method

'Oral history gives history back to people in their own words' (Thompson, 1988, p. 265).

Oral history is a method of gathering and preserving data through interviews with participants. Participants are asked to recollect, reflect and interpret past events. Oral history projects can take place in many different contexts involving all kinds of people, such as the unemployed, the retired, the elderly, schoolchildren and university students (Thompson 1988, p. 167). Oral history is conducted for many purposes such as community projects, creating archival records and as an adjunct to more traditional sources of data, as in the case of preserving war history (Everett, 1992, <http://www.army.mil/emhp/books/oral.html>). A great advantage of any oral history project is that it provides personal insights of past events that are often lacking in documentation and other records.

Oral history is sometimes seen as having an 'egalitarian bent' (Davis, Back & MacLean, 1977) since it creates a picture of the past by documenting the lives of ordinary, everyday people whose voices would not have been heard otherwise. Our oral history project was based on the premise that the elderly in our community have much to offer in terms of the richness of their lives and the wisdom and insight they have acquired over many decades.

Getting Started

The oral history methodology that steered the project came from the Paddington History Group in Paddington, Queensland. This group grew out of a desire by some of the members of the Paddington Community Centre to learn more about the history of the district. In 1997, the group was successful in obtaining a Brisbane City Council grant to begin investigations. Many meetings later and after some oral history training by the John Oxley library, members of the project were equipped with the skills to interview long-term residents in the Paddington area to gain a picture of life during 1900 to 1970.

The QUT oral history team ensured that the guidelines of ethical practice were followed closely. In addition, consent forms, biographical questionnaires and other procedure lists were adapted from the Paddington History Group information booklet to meet our needs in the study. Ethical clearance was sought and granted from QUT.

As a team of six researchers involved in the oral history project, we met prior to carrying out our first interview to ensure that we were clear about the process, the guidelines for ethical practice, and the paperwork which we needed to complete. Unlike the Paddington history group, we did not undertake any oral history training. All of the academic staff involved in the team had considerable experience in conducting interviews. This preliminary meeting was important in helping us to decide the content and format of the interviews and how we would work as a team. It was determined that we would work in pairs not only to interview participants but also to
make sense of the data and write the stories. As it turned out, each research pair (consisting of an academic and administrative staff member) was responsible for interviewing four to five residents.

Liaison with Hilltop Gardens
The Manager of Hilltop Gardens worked very closely with us over the course of the project. We had worked with her since 1995 in a number of different capacities and her supportiveness of this project was very strong. She furnished us with a list of names of residents who expressed interest in being interviewed. She had individually spoken to many of the residents about the project and encouraged them to be involved. She approached residents whom she believed would be willing to share the story of their lives with us.

The initial list consisted of twenty names but only fourteen stories were actually compiled. Two of the residents died before they told their story, one moved to another nursing home and the remaining three decided to withdraw for various reasons (two of these before we commenced interviews with them). A meeting with the Manager not long after receiving the list of participants was very useful in determining arrangements such as memory jogging materials, access to residents' photographs, the logistics of when, where and how long to interview and the best way to go about getting consent.

The Interviews
Within oral history methodology, the interview is the primary source of data collection since it enables participants to tell their stories. The biographical questionnaire which had been derived from the Paddington History Group became our interview schedule since it comprised a detailed set of questions with probes (Maykut & Morehouse, 1994, p. 83). We elected to use a schedule since there was a team of us working and we wanted to ensure that we focused attention on three key aspects of their lives. These were family life, work life and school life. In this study we were particularly interested to learn from the residents about their lives, especially the significant learning experiences which shaped their worldviews and fashioned the selves they had become. We decided not to focus on formal learning experiences because of our strong belief that learning is lifelong and extends from the cradle to the grave. Furthermore, we realised that formal schooling would have constituted only a small part of the overall picture of their lives. While the questionnaire ensured that we focused attention on particular issues we wished to investigate, we also had the space to go beyond that and follow the particular interests raised by participants.

In order to make the residents feel at ease, we were sensitive to when and where we conducted the interviews. We conducted interviews around mid morning since the Manager informed us this would be the time when residents would be most alert. We ensured that the time of the interview didn't interfere with their morning tea since we realised that it was best not to disrupt their routines. All of the participants elected to be interviewed in the privacy of their rooms.

In the first interview, we spent some time outlining the project, our aims and intentions and how valuable we believed the research to be. We were guided by the Procedures List that came from the Paddington History Group. We sought the participants' permission to be involved in the study and to tape record the interviews. The tape recorder became 'part of the indispensible equipment' (Patton, 1990, p. 348) used in the project. All of the participants agreed to having the interviews taped.

At this initial meeting with residents, also, we explained that they could withdraw from the project at any time. Each resident was given a piece of paper with the names of all researchers involved in the project and relevant telephone numbers. All of the participants signed the consent forms at the first meeting.

On average we conducted two interviews of approximately one hour with each resident. An exception to this rule was one resident who seemed to enjoy our company so much
that he enticed us to return two more times to
tell us more stories. So keen was he that he
wrote a couple of pages on important details
of his life to get us started! Another resident
wrote his complete story and because of its
comprehensiveness we didn’t interview him.
His eloquently written story was included
verbatim in the book.

Data Collection and Analysis
After the first interview was conducted, we
endeavoured to return to Hilltop Gardens
within a one to two week timeframe to
conduct the second and sometimes final
interview. Each of the research pairs met after
the interview to debrief and to plan the next
interview. In some cases, transcripts were
typed up so that we could seek clarification
next time around. In most cases, the inter­
views were transcribed by an administrative
assistant and on a small number of occasions
by a member of the research team. We made
a deliberate decision against handing back the
transcripts to residents mainly because of the
sheer volume of work produced and due to
the fact that many of the residents had
problems with their eyesight. As a team we
agreed that once the stories were written we
would take them back to residents and seek
changes, deletions, etc at that time. This
decision seemed to work well.

As participants told us stories, we became
interested in how they spoke about their lives,
how they ordered them, what they emphasised
and were silent about and the words they
chose (Thompson, 1988, p. 199). Their own
words became the essential text that guided us
when we
wrote·

their “stories. Each research
pair wrote the stories of those people whom
they interviewed.

Data analysis of qualitative research, such
as oral history research, varies according to the
level of interpretation applied to the data
(Maykut & Morehouse, 1994, p. 121). Our
main interest in this study was to allow the
participants to tell their story as much as
possible in their own words. We wanted to
accurately describe and reconstruct the data so
that it became a ‘recognisable reality’ for the
participants. As Strauss and Corbin (1990)
state, we attempted to ‘weav[e] descriptions,
speaker’s words, fieldnote quotations and their
own interpretations into a rich and believable
descriptive narrative’ (p. 22).

To help us in the process of writing, we
read and re-read the transcripts and
proceeded to write a narrative which captured
the essence of each person’s life. The writing
and rewriting of the stories was done collabora­tively and two members of the team became
the ‘editors’ responsible for the overall
production of the stories.

Returning with the Stories
At this stage in the project, two members of
the team left (one to retire and the other to a
new job) so that those of us who remained
returned to Hilltop Gardens with the stories.
We read the stories to the residents and made
the necessary alterations guided by them. We
encountered two delicate situations and both
related to the deteriorating health of the
residents.

In the first situation, my research partner
and I called in on one of the participants we
had interviewed only a couple of months
before. We were both happy with the story we
wrote and were keen to seek her feedback.
The resident seemed distressed, disoriented
and off-hand and we soon realised that she
was upset and frustrated about something. We
found it difficult to understand what she was
saying so we decided to terminate our meeting
and seek help from the Manager. As we
suspected, her health had deteriorated which
meant that she was having difficulties commu­
icating with us. On the recommendation of
the Manager, we posted the resident’s story to
her daughter for checking and to seek her
permission to publish the work. Her daughter
wrote back promptly, identified three small
errors in the story, and gave her permission.

The other delicate situation concerned a
resident who had been moved from the hostel
to the nursing home during the time of the
project due to failing health. I spent about an
hour with him reading and re-reading
paragraphs of his story. He asked me to delete
paragraph after paragraph so that about one­
third of the original story was left. He then
wept and explained he didn’t want to be in the book. He felt ‘too exposed’. I assured him that his story would not be included. I found that being involved in both of these situations, particularly the latter, was quite upsetting and I was ill-prepared for either of these receptions.

Reflections on the Project and Lessons Learned

I feel confident that all of the team members would agree that the project was valuable not only for the residents but also for ourselves. From my own perspective, the project was a valuable learning experience for three main reasons and these are discussed below.

Firstly, the project provided an excellent opportunity for academic and administrative staff to work closely and collaboratively. This project was a partnership in the true sense of the word; administrative staff were active participants who co-conducted the interviews, assisted in analysing the stories and, in some cases, wrote segments of the stories. Unlike other projects in the university where administrative staff support academic staff by performing purely administrative tasks (i.e. transcribing tapes, formatting final reports and so on), this project differed considerably as administrative staff were integral members of the team. The project reinforced my existing ideas about the rich contribution administrative staff members can make to the university through project work. The idea of harnessing the talents and abilities of administrative staff is not new; in fact it is promoted in much of the university policy discourse. Coaldrake and Stedman (1999) make the point that administrative staff members have much to offer in terms of their expertise in a range of areas such as flexible delivery and research. They argue, therefore, that collaboration between the two groups should occur more frequently. In this project, collaboration was the key.

Secondly, an important and valuable outcome of being involved in this project was the opportunity it afforded me to broaden my research skills and understandings. Before conducting the research, I had very little knowledge of nursing homes and I had no experience of interviewing elderly people (the other members of the team were in the same situation here). As well as learning more about working with elderly people, I developed skills in oral history methodology. This was rewarding in itself and I hope to use this method in the future as it has so much potential for capturing the lived experiences of people.

Thirdly and most importantly, was the outcome that we were ‘giving voice’ to those who rarely have a chance to speak in our community and that we were doing something that was ‘other centred’. With this said, however, there were times when I questioned the notion of voice that heavily underpinned this project. I wondered whether this project would have been more effective if the idea had come from the residents themselves? The project was our idea and our way of giving back a little to the community in which we live. Although I believe the project was a success and we achieved our goals, perhaps we could have reached new heights of understanding and achieved greater voice if those for whom we gave voice articulated the desire initially.

My main reservation about voice emerged as a result of the resident who requested that his story be withdrawn from the collection because he felt it was too exposing. I asked myself, ‘voice for whom?’ and ‘whose voice is it anyway?’ This respondent’s anxiety and distress at the thought of his story appearing in a published book was not an anticipated reaction by me or by the other team members. As far as I was concerned his story (which I didn’t write) did not appear to be particularly controversial. The other editor did not sense any difficulty either. A discussion with the Manager regarding this encounter was very useful and she soon allayed my doubts about this matter. Indeed, after some more thinking about it, I realised that I shouldn’t have taken it personally. More importantly, I realised I had a lot to learn in regard to working with elderly people.

Publication and Dissemination of the Book

Several copies of the book, Tales of Yesteryear: an Oral History project, were given to Hilltop
Gardens staff and two copies were given to each of the fourteen residents whose lives were its feature. The book arrived just in time for Christmas 1999.

Apart from the residents, we also ensured that copies of the book were distributed to members of our University community and the outside community. We ensured that the Faculty of Education’s Community Service Committee received a copy of the book, as well as our colleagues in the School of Professional Studies who have had involvement with the residents of the home through various social activities over past years. We distributed copies of the book to a small sample of schools in the Kelvin Grove area for their libraries. We felt the book would be interesting for children to learn about the lives of elderly people living in a nursing home not far from where they are doing their schooling. A copy of the book was given to the Redhill Paddington Community Centre. All members of the QUT team appreciated their help and guidance in getting started on the research. I have sent copies of the book to overseas colleagues who have expressed an interest in oral history methodology.

Some Final Thoughts

In conclusion, it was a privilege to be part of this project. Not only did we achieve our goal of ‘giving voice’ to a small group of elderly people in our community, but we learned many valuable lessons along the way. I found the experience to be both professionally and personally rewarding. The major personal reward for me was the privilege of being told another person’s life story. In many cases, this included sharing the joys and the high points of their life, as well as feeling their sorrow when they told of loved ones lost during the war and to sickness in more recent times. Of all the individual stories in the collection, I found the following words of Harold’s most poignant:

‘...here I am in the hostel of Hilltop Gardens, in very pleasant surroundings, awaiting my turn to die’

I feel honoured for having caught a glimpse of Harold’s story and those of the other thirteen elderly residents who are living out the rest of their days in pleasant surroundings only a couple of streets away from Queensland University of Technology.

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Working Together to Improve Vocational and Career Opportunities for Students: How do schools create meaning for VET?

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This paper explores the institutionalization of career and vocational education programs in secondary schools. In particular, the research represents the major findings of a doctoral study and investigates the institutionalization of vocational education programs in six Western Australian government secondary schools. Five specific objectives formed the basis of the research. First, the study aimed to determine the meanings teachers construct for career and vocational education. Secondly, the direct effects of this personal construction of meaning on the organizational assimilation and institutionalization of vocational education was examined. Thirdly, the study determined the relationships between these variables and fourthly, investigated the effectiveness of a causal model of variables using the method of path analysis. The fifth objective was to develop an instrument to measure the institutionalization of these programs in secondary schools.

Teachers' construction of meaning for vocational programs involved their perceptions of the curriculum as being divided between those areas which offered an 'academic' experience as opposed to those which were more closely linked to 'creativity'. This appeared to be the way in which teachers created meaning for a wide range of subject areas. While trends in school reform are conducive to new forms of vocational education, the two 'worlds' of academic and vocational education tend to remain quite distinct. This research indicates that locating the key to decreasing the bias some teachers have towards vocational courses could be compounded by the fact that the very notion of 'vocational education' does not even enter the psychological continuum for creating meaning in the first place.

According to Blakers (1978) vocational and career education programs have been in existence in Australia since the 1930s and have been initiated, adopted and implemented by schools, yet they failed to become embedded in the organization. The 1970s and 1980s witnessed the introduction and subsequent disappearance of a number of vocational courses in Australian schools. Although vocational education appeared regularly on national and state agendas, it failed to take root at the school level. While there appeared to be measured support for career and vocational education from sources such as government policy, national conferences and international reports, schools across the country struggled to come to terms with the approach to vocational programs throughout the 1970s and 1980s. Other Australian research in the late 1980s and early 1990s revealed that vocational education programs suffered structural problems and as a result were limited in their ability to become institutionalized. A research review by Byrne and Beavers (1993) indicated that career and vocational programs suffered from a total lack of rationale and a lack of any coherent, planned approach. These findings were echoed by McMahon and Carroll (1999), in their work on the implementation of career and vocational programs in schools. They argued that despite support for K-12 developmental career education at a national level, career education practices fell well short of the
rhetoric. McCowan and Hyndman (1998) have suggested that in general, Australian education and training systems have taken an ad hoc approach to career activity. According to Fullan (1982) institutionalization is a subprocess of change, which also includes initiation and implementation. Institutionalisation involves the system stabilizing a change in its internal structure and so it endures after the improvement effort is over. Career and vocational programs experience problems in becoming institutionalized within the framework of schools and there appear to be only a small number of studies which have addressed the problem. This study proposed a causal model for factors which impact on the assimilation of vocational programs by teachers and schools and therefore institutionalization of these courses. The model suggests that the personal construction of meaning (PCM) accounts for the greatest variance in the institutionalization of career and vocational education.

Method
The purpose of the investigation was to identify and measure the variables which influenced the institutionalization of career and vocational programs in six secondary schools in Western Australia. The sample included career and vocational education teachers, teachers of other subjects and administrative staff. The study used a three-stage data collection process and a total sample of 336 staff were involved on three separate occasions from 1994 to 1998.

The model for the institutionalization of vocational education programs includes an investigation of the factors which influence the Personal Construction of Meaning (derived from stage one of the data collection process), Individual Assimilation (Commitment, Attitudes, Significant Others) and Organisational Assimilation (Governments Policy, Environmental Turbulence, Administrative Commitment, Mandating, Adoption and Implementation).

Repertory grid technique (Kelly, 1955) was used in stage one to investigate the construct dimensions the sample used to organize their feelings about various components of curriculum common to all six schools. The technique was used to determine the meanings or personal factors teachers construct for vocational education in particular. For ease of questionnaire item design, and the purpose of clarity, the personal factors were reduced to three main categories: Real Life Relevance; Curriculum Structure; and Philosophical Orientation. The Institutionalization Model in Figure 1 includes the variables which were determined via the repertory grid technique.

Stage two of the data collection process involved the use of semi-structured interviews. The interview items were based on the variables identified by Huberman and Miles (1982), Timmermans (1987), Ekholm and Trier (1987) and Dixon (1991), as being influential components of the institutionalization process. These variables are included in the Institutionalization Model in Figure 1 as individual assimilation components (IA) or organizational assimilation components (OA).

The third and final stage of the data collection process involved the administration of a questionnaire. The questionnaire was first trialled in November 1996 in a metropolitan Western Australian secondary school which was not included in the original sample of six career and vocational education schools. A random sample of teaching staff comprising thirty teachers was selected to complete the questionnaire which included sixty six items. Following the re-wording of a number of items in order to increase reliability, the questionnaire was administered in each of the six vocational education schools in the sample in 1997 and obtained a 60% response rate.

The data obtained from the questionnaire were analysed quantitatively using descriptive (mean scores, standard deviations) and inferential statistics. The descriptive analysis of the data included the computation of the mean scores and standard deviations for all individual items in each of the three independent variables, individual assimilation (IA), organizational assimilation (OA) and institutional-
Multiple forward regression analysis procedures were used to determine the influence that each of the independent variables (PCM, IA, OA) had on the variance in the dependent variable (I). Structural equation modeling using Lisrel VIII was conducted to determine the relationships between the independent and dependent variables in the Institutionalisation Model. The analysis also indicated the direct and indirect effects of the independent variables, individual assimilation (IA), organizational assimilation (OA) and institutionalization (I), on the dependent variable personal construction of meaning (PCM).

Results
The Repertory Grids
The results of the repertory grid analysis indicated that teachers in the sample constructed meaning for career and vocational education programs in terms of their relevance to real life, the structure of the curriculum and the individual's own philosophical orientation to teaching. Staff clearly created meaning for these programs through aligning them with life beyond school. In other words career and vocational courses of study were not seen to belong to the 'world' of school. Teachers also created meaning for vocational programs through an awareness of curriculum structure and in some cases experienced confusion when they recognized that these programs were not likely to resemble other subjects in their school. Philosophical orientations to teaching revealed an 'academic' and 'creative' continuum and exactly where vocational courses were placed psychologically was not clear, if indeed at all.

Semi-Structured Interviews
The interview responses were analysed qualitatively and indicated that while staff were committed to the goals and ethos of career
and vocational programs, they needed restructuring at school level. Staff viewed career and vocational education as an addition to their own specialist teaching area and as a result, such courses lacked status. While administrative staff in schools were generally supportive of career and vocational courses and external forces such as the Western Australian Department of Education encouraged their inclusion, teachers believed that curriculum materials were too general. Comments indicated that career and vocational programs were not seen to enjoy the same status as other curriculum areas due to a perceived lack of content and objectives. The sample also suggested that the survival of the program was reliant upon the personalities of the coordinator and those teachers involved and was not independent of their influence.

Questionnaire
A descriptive analysis of the questionnaire was conducted using mean scores and standard deviations. The mean scores for each of the four major variables were positive. All variables recorded higher than four on a seven-point scale. A correlational analysis of all four variables indicated that organizational assimilation (OA) had a low correlation to personal construction of meaning (PCM), individual assimilation (IA) and institutionalization (I). These results suggested that a weaker relationship may have existed between organizational assimilation of career and vocational education and the three remaining variables. Table 1 presents the correlation matrix for the four variables in the Institutionalization Model.

Causal Model of the Institutionalization of Career and Vocational Programs in Western Australian Secondary Schools
The initial model of institutionalization is presented in Figure 2. The model contains one observed independent variable and three observed dependent variables. The observed independent variable is personal construction of meaning (PCM). The dependent variables are individual assimilation (IA), organizational assimilation (OA) and institutionalization (I). The Lisrel VIII computer program was selected as the most appropriate method for analyzing the magnitude of the path coefficients between the independent and the dependent variables.

An examination of the magnitude of the path coefficients, as depicted in Figure 2, revealed the presence of three significant paths from the independent variable to the dependent variables. The results showed that the personal construction of meaning (PCM) for career and vocational education programs had the strongest direct influence on the institutionalization (I) of these programs in secondary schools ($P_{I,PCM} = 0.48$), followed by individual assimilation (IA), ($P_{I,IA} = 0.24$), and organizational assimilation (OA), ($P_{I,OA} = 0.16$).

![Figure 2](image-url)

Path Diagram for the Institutionalization Model.
Kerlinger and Pedhazur (1973) suggested that a path coefficient of less than 0.05 is not meaningful. However, according to Lin (1976), where any path coefficient is less than 0.10 the path should be eliminated and the estimated values should be recalculated.

Using the 0.10 criterion, the results showed that the path coefficients between the independent variable and the dependent variables were meaningful. Figure 3 reveals that the effect of personal construction of meaning on organizational assimilation was very weak ($P_{OA,PCM} = -0.13$). The direct effect of organizational assimilation on institutionalization was also low ($P_{IA,OA} = 0.16$). It appeared that organizational assimilation had less effect on institutionalization than personal construction of meaning and individual assimilation. Personal construction of meaning had a significant effect on individual assimilation ($P_{JA,PCM} = 0.74$) and institutionalization ($P_{IA,PCM} = 0.48$). Therefore, procedures aimed at enhancing the way in which teachers create meaning for career and vocational programs should increase the chances of successfully institutionalizing them in secondary schools. The results show that the institutionalization of programs is more contingent upon individuals and how they create meaning than on the internal structures and procedures which an organization may have in place to encourage institutionalization.

### Discussion

The causal model of institutionalization which was developed as a result of the study is unique to Western Australian educational research. The model could be used as a framework from which to develop further research into the institutionalization of educational initiatives in general and career and vocational training programs in particular. The most important component of the meaning teachers created appeared to be the perception of vocationally orientated courses to be relevant to a world quite distinct from life at school. These courses must represent processes that occur outside the structure and community of the school. However, teachers in the sample perceived curricula as being divided between 'academic' and 'creative' experiences. The research indicated that the key to locating the bias which some teachers may have away from vocational courses could be compounded by the fact that the notion of 'vocational education' does not enter the continuum for creating meaning in the first place. Exactly where, if at all, career and vocational courses are located on this continuum would form the basis of further research.

It may be that Fullan (1999) is correct in assuming that it is pointless to simply mandate for educational change and assume that policy will force teachers to assimilate initiatives. Perhaps the answer lies not in policy, but teacher education. Current practice in tertiary teacher education in Western Australia encourages the traditional cellular, single subject approach to secondary education. Perhaps it is at this level that the poles of the academic and vocational continuum need to start to merge so that new teachers begin their professional lives with an understanding of the essential nature of both and an acceptance of shared goals.

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Ordering or Adaptive Technology?
Tales From the Practice of the Frontline Management Initiative

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There has been considerable debate about the implications for vocational education and training practice from the introduction of open market training packages. The Frontline Management Initiative (FMI) marks the change from the more regulatory first generation approach to competency-based training, towards these second generation adaptive enterprise based learning technologies. It was David Karpin’s (1995) vision that pictured increasing numbers of reflective, soft skilled frontline managers, acting as a catalyst for the development of organisations with more adaptive cultures. However, such technologies are operationalised within diverse organisational cultures and by diverse configurations of managers, trainers and participant learners. What is the picture five years on? What architecture has been constructed, a house for training or a home for learning? This paper provides a view of the landscape that is emerging from the initial data gathered by the national Frontline Management Initiative evaluation project.

For many, it has been a re-occurring pleasure to watch Daniel Kerrigan tell his tale about his family’s “Castle”. For some, the film is an excuse to generate comedy at the expense of Australian working class values, but for the majority, it is a story about individual rights counting for something in a corporatised world. It is about seeing a house as a home. In the finale, the high court is asked to rule on the constitutional issue, of how individual rights should be weighed against the greater common good. The story presents us with an allegory of our managerialised world, and the right to make choices about what should be valued, material or community constructions. In the film the corporation believes it has the right and power to make their decisions about houses that stand in their way. However in the end the Kerrigans’ individual perspective about their home triumphs. The right to define what is valued, and thereby legitimate action, does not in the end reside with controlling organisations, and concepts of community and family are viewed as synonymous with, and integral to, the greater common good.

The story in fact presents the same basic and critical question that underlies the development of the Frontline Management Initiative (FMI), that of the balance between the drive and direction of a national framework, and the contrasting necessity of creating diverse enterprise and individual learning contexts. The need to provide an overarching framework, a construction, a house, that is also an enabling structure for each workplace to create a learning community, a home for knowledge generation. In short the dilemma is, to what extent can such a learning process as the FMI be constructed as a national text and yet subsequently accommodate diverse individual needs and contexts, which make the house into a home?

The dilemma is essentially a question of ownership. The more rights and direction are exercised over learning technology frame-
works, the less the opportunity exists for community ownership, and the construction of unique learning practices, with outcomes of different knowledges. Both national texts and management discourses may stifle local ownership. It requires a particular form of "strategic impression" (Stacy, 1995) to enable such diverse processes to develop as communities of practice, but there unfortunately appears to be an irony involved in taking such a path. Without a controlling central discourse defining, promoting and monitoring such practices, many locations may build the house, but not create the home. Freedom to learn inevitably also provides the freedom not to learn. It provides the opportunity to maintain constructing processes of learning, where learning is defined as the transmission and implantation of assumptions about how the world works, thereby maintaining knowledges, not creating knowledges. This was not what Karpin (1995) intended.

This current evaluation of the FMI presents the opportunity to investigate to what extent such a balance has been achieved in the practices that have developed. The FMI represents a significant shift in training technology for management and a significant development in competence based methodologies as the first of the "training packages". The FMI landscape is therefore particularly important as it emerges as the first example of a second generation approach to competence based training and development. To what extent has the balance between diverse learning community needs, organisational control and national direction been achieved?

The Broad Context
The history of competence based-approaches to management development is relatively short. It is framed by similar moves made both within Australia and the UK to restructure vocational training and education around national competency-based systems. The UK Management Charter Initiative (MCI, 1996; Winterton, 1999), was developed in the late 80’s, following a number of critical reports about the paucity and misdirection of management development within the UK (Handy, 1988; Silver, 1990). It was logically built on the competency-based approach that had been constructed during the previous decade (Boyatzis, 1982). Following a similar number of critical reports on Australian managers and management development, the MCI was reviewed by the Karpin study tour members in 1993 and provided the basic framework for the FMI model (Blakeley, Benjamin & Quirk, 1993). The FMI was constructed to provide a generic set of frontline management competencies at levels 3, 4 and 5 with national acceptance across all industry groups. It provided an assessment framework with performance criteria and an evidence guide. It was designed for delivery within enterprises with facilitation from registered training organisations. However their was no accredited curriculum, which was replaced by detailed specification of the use of multiple learning routes involving coaches, mentors and projects.

An interrogation of the network surrounding the FMI development indicates three key developmental issues. First, that there was a strong intention to breakaway from the over bureaucratic technologies of the first generation competency-based approach. Second, that the constructors intended that the organisational development intentions of the Karpin group would be embodied within the FMI framework. Third that the final competency framework was a political construction as many organisations indicated unique not generic management contexts, proffered existing competencies, or proposed a legitimate right to define management competencies. The resulting standards were piloted in 1997 and marketed through a unique and innovative arrangement with a commercial publisher in 1998/9 (Prentice Hall, 1998), that established a trust fund for the future development of the initiative.

Detailed national evaluations of competency-based approaches to management development are restricted to the UK model (Leman, 1994; Winterton, 1997). While in Australia there have been some local evalua-
tions of specific component of the FMI framework. This national evaluation represents the first comprehensive mapping of the FMI landscape, a process which is ironically inhibited by the very lack of centralised control that gives the FMI its adaptability.

**Conceptual Issues**

The FMI represents a shift in both management development and vocational education and training thought from learning compliance and ordering learning within defined boundaries of time and space (Legge, 1995), to the integration of learning within organisational processes and the abandonment of the curriculum rooted first generation competency-based approaches. _Ordering learning_ is unlikely to meet success with such a diverse group as frontline managers. Once valued for technical skills, they may now be included in management for their softer skills. The delayering of management and emphasis on customer service has placed them at the focal point of organisational change. They will remain a critical role, interpreting and negotiating management meaning, acting a conduit for feedback, and as new learners, establishing new learning patterns and shaping culture change.

The framework of the Frontline Management Initiative reflects the movement within both the conceptualisation of management and learning towards a socio-cultural perspective. Such an approach appears to support the concept of scaffolding proposed by Vygotsky (1978). More recently the work of Vygotsky has been revitalised by reframing the process of teacher and peer mediation or scaffolding, as activity systems or mediating networks. From this perspective learning is seen primarily as a product of socio-economic influences rather than just cognitive processing, where from a sociological perspective, actor networks engage in practice (Engeström, 1999; Law & Hassard, 1999). Such an approach emphasises the situated nature of learning. Lave (Lave & Wenger, 1991) emphasises the importance of "legitimate peripheral participation", where learning is not just a function of novice-apprentice interaction in the workplace, but is governed or mediated by wider cultural access and assimilation within "communities of practice". The recognition of learning and knowledge creation as part of the wider socio-cultural framework of the learner underpins organisational learning, and is reflected in the changes from first generation competency-based training to second generation competency-based learning reflected in the FMI framework. However, few approaches to learning are without critics and Cornford (1997) sees such theory as only re-presenting the much earlier work of Bandura and social learning theory. Billett (1999) investigating the question of learning transfer seeks to distinguish between the embedded learning gained from communities of practice and the dis-embedded learning at the socio-cultural level. Perhaps the more critical issue raised by the move of learning towards the workplace is associated with the _control of the learning agenda_ and process.

Stevenson (1997) suggests that in terms of what is to be learned "legitimacy is defined by the social context, and this is diverse, in contrast to traditional pedagogical academic models". Bagnall (1998) highlights the sheer diversity of context and needs that workplace learning struggles to match. McIntyre (1997) suggests that the workplace must be analysed in terms of organisational learning and the social culture as well as learning policy, cognition and issues of access. Learning is no more individual and isolated in the workplace than it was within educational institutions, the same wider concerns need to be addressed. Workplace learning requires the tripartite legitimisation of knowledge, where the roles of manager, tutor and mentor become confused. Who _legitimises_ learning, and to what extent will "the workplace become the curriculum?" ask Garrick and Kirkpatrick (1998). Garrick (1998) indicates "that what counts as valid informal learning has been shown to be tied to discursive communication patterns, power relations and particular types of workplace imperatives". Garrick follows a Foucaultian proposition in asserting "that
when market forces determine valid knowledge... the capacity for change is lost.” The implication is that informal learning processes within the organisation may be no more self directed than more formal educational processes outside the organisation. The change in the locus of learning may make informal workplace learning as much within the power of managerial imperatives, as formal educational learning was within the power of academic imperatives. The suggestion is that the locus of learning may be changing, but the only real change is in the masters of the discourse, that virtually control that learning process. From a socio-cultural approach to learning and organisation the FMI represents more than a training practice. It is based on a framework that values organisational learning and may be used as a strategic development tool, where individual learning is as such only the initial impact in a wider change process and where management perceives learning as legitimate workplace activity. The work of Senge (1990), Marsick and Neaman (1996), Watkins (1996) and Argyris (1999) has outlined how learning within organisations should not be an individual experience, but with strategic management support they should, and can be, a collaborative experience. When such collaborative learning experiences are art of the organisational culture they enable the development of that culture.

**Project Methodology**

A detailed account of the conceptual framework and developing methodology of this project to evaluate the FMI has been previously explored in detail (Barratt-Pugh, 2000), and is regularly updated on the project website. The team to evaluate the FMI was constructed to offer a multi-disciplinary group with national geographical coverage. The contract with the NCVER indicated that a broad random stratified national postal survey of 3000 organisations would be used to map the penetration of the FMI; indicate current perceptions of training, management style and organisational culture; and provide a broad sample frame for subsequent research phases. This has been extended to include a subsequent survey directed specifically at 700 potential FMI users to gain a greater database for comparative purposes. Focus groups were held in five states for practitioner input to make an early impact on the project methodology. Telephone interviews were carried out with 125 human resource or training managers. The focus was on FMI users, but the sample included 38% of non users, which included 16% who were unaware of the FMI. The final phase currently in operation is a purposive sample of 16 case studies, with clusters of interviewees, to obtain structural representation (Stake 1994), where case study selection has been a recursive process. The project method was in fact developed so that case selection would be “a dynamic, phasic and sequential process” (Le Compte, 1993). Each phase of the research has been designed not just to collect data but to refine, through increasing knowledge of FMI practice, the criteria for case selection. What follows is an preliminary analysis of the data collected so far which represents the practice of FMI nationwide through the voices of, and from the perspective of, training and human resource managers.

**Emerging Landscape**

This preliminary analysis is the result of quantitative broad surveys, qualitative interviews and focus groups but does not include the validity of the triangulation that will be constructed by the subsequent research phases. However during the project, parallel research, which has involved considerable fieldwork and interaction with FMI participants, supports the broad thrust of the emerging evidence.

**The General Terrain**

The broad survey maps a landscape of Australian organisations where only a third are aware of the FMI. However nearly half of those organisations who are aware of the FMI have already implemented the initiative and most of the remaining group express either a
commitment to a subsequent pilot, or a desire to raise the level of organisational interest.

(We are) starting to implement management training based on (these) competencies.
Trying to build a case.
Planning to move this way in 2001.

There is greater awareness of the FMI within larger and medium sized companies through their specialist networks and similarly there is less awareness among smaller organisations who are over represented within those organisations who are unaware of the FMI. The invisibility of the FMI has inhibited the research process, as there is no national register of users or participants. The inherent design capability to be flexible, transparent and adaptable, is of course a disadvantage for the process of monitoring and evaluation. There is significant evidence that the landscape of the FMI is in fact much broader than portrayed and that there is no hard edge between users and non users. Many organisations and providers have customised and adapted the competencies and use an in house model which market confidentiality prevents them from declaring.

We don't use FMI directly but have incorporated some concepts into our own systems.
We use the competencies as a general framework for our team leader development.

The broad survey and telephone interviews have provided a sufficiently random sample of business usage, and detailed figures of participant numbers within user organisations, to make a statistical prediction that over 18 thousand participants have or are currently following the FMI learning processes. However, when the significant group who have been influenced by the FMI competencies, and incorporated those competencies within their own development systems, are included within the calculations, it can be confidently estimated that well over 20 thousand participants have, or are, being guided in their managerial learning by the FMI competencies. In terms of organisational involvement, the figures indicate that more than 700 organisations have developed FMI programmes.

The broad thrust of the interview responses from the FMI user group indicates positive results from the initiative within their organisations with only 6% indicating dissatisfaction. In each of those cases the negative experience was linked by the interviewee to inadequate, or inappropriate, training and learning processes within the organisation.

Promised a lot but hasn't delivered. (The person in charge)... issued a booklet and put it in peoples pigeon holes...(this)person thought that it would show the management skills of the trainees.

These isolated comments are in sharp contrast to the almost evangelical responses from enthusiastic training managers coordinating FMI.

Great value to the individual.
Very effective.
Big Value... terribly relevant.

Until, the enterprise case studies have been completed, with their multi-layered interviews, it is difficult to determine the motivation for such enthusiasm and the extent of training managers spin. Is it related to using a framework which is supporting real workplace learning practices, or is the motivation based on the perception of a growing FMI programme as an effective deterrent to HR/training out-sourcing or as a mechanism to construct an HRD power base within the organisation? In many cases the respondents would not be drawn on organisational and business outcomes, indicating that it was “too soon to tell”, “program operation less than a couple of months...too soon to evaluate”, with pilot groups only in the first months of their FMI programme. It is likely that 2001 will be the year with substantial FMI activity and outcomes.

Enterprise FMI Processes

“It's been the lubricant...like for the changes we have had to make”, is a comment that echoes a number of positive responses from FMI users. It gives an indication that practice has been constructed which both opera-
tionalises the objectives of the initiative and provides positive feedback on the adaptability of the FMI as a learning technology. However what is most evident from the FMI user responses is the diversity of practice that has been formed. That is diversity both in terms of enterprise relationships and learning processes, patterns of practice and social relationships (Mulcahy, 2000). These patterns of FMI practice appear to be defined by management actions in negotiating relationships and processes both within the organisation and with partners external to the organisation.

Responses from FMI users indicate a relationship between effectiveness and diverse multiple practices. Conversely, singular linear FMI practices were more associated with ineffectiveness. In particular the development of mentoring and coaching was associated with more effective FMI programmes, where managers made comments such as “no mentors...your sunk”, “its critical ...you need coaches”. In some cases informal relationships had been facilitated by the introduction of parallel coaching and mentoring training and support networks. There were significant reports of poor reactions to courses, and directed class-based sessions where learners often responded negatively as they, “already know and do all this...”. In contrast facilitated or learner led workplace groups with an FMI focus were a universally positive experience.

Learning groups a real focus...not classes just us...so we're not on our own.

There was a strong relationship between effective FMI practices and the use of projects linked to business activity, with such project usage more evident in medium sized enterprises. Projects were valued both for providing real workplace dilemmas as a context for learning, and as a contribution to organisational development.

FMI projects ...were aligned to department and company goals...made direct input. (you)....need a focus on real problems. (with projects) ...alignment to dept goals is good.

FMI Outcomes

While many organisations had only a limited experience of FMI and were not prepared to comment on outcomes, nearly all the remaining enterprises indicated that their FMI programme had delivered positive outcomes. The first stage of FMI benefit was perceived as individual development where the FMI processes had “identified potential” and “uncovered shining lights”. The process by which participants analysed and understood their own role was of particular benefit. As participants “see how they should be working” and become “more aware of their role”, they “see jobs differently”, and are “shown aspects of themselves”, and “new perceptions of mangers and managing”, as they “find out what others do”. Training managers commented that “accountability and responsibility”, “maturity...confidence building” gave “more autonomy”, “leadership skills”, and in one case a ”whole new set of skills”.

From this preliminary analysis the primary FMI outcomes can be categorised as a development in communication effectiveness.

(managers are).....radically different working together.
..better reporting and more collaboration.
Understanding management direction more.

In several enterprises the benefits of self analysis and increased organisational understanding was translated into a stronger inclusion within the management culture.

better standard of management...flattened the curve.
Developmental ...(we are) tied together more.

Frontline manager behaviours in several organisations indicated an increase in innovative behaviour or a greater responsiveness to change where they would, “jump to try new things” be prepared to “think outside the box” and “take new ideas”. There was “more motivation to change”, implement new processes” and make “...the most out of others”.

The majority of respondents who had been running FMI for some time indicated that it had supported their strategic objectives
and indicated that there was evidence of a culture shift.

there was behaviour...and attitude changes.
significant management culture shift.
culture change" (seven responses)
big value" just perfect.

This was particularly evident in changes of attitudes to learning where participants “see learning differently”, take “ownership of training learning processes” and “Compete to get on the programme and take up roles”, “staff relish the opportunity”. While this phase of the project has not been designed to gather evidence of effectiveness, some organisations were determined to volunteer such outcomes.

$25K off the bottom line.
We opened new stores.
Sales went up.
(Before there) would have been five or six tribunals ...probably saved $50K... the changes got explained better than they would have done ...the people were with us...

It is important to place this in the context of negative feedback, often from the same sources that had provided the previous positive experiences. Managers were concerned in most cases about the investment in time and poor assessment monitoring, seeing FMI as “time intensive” and “time consuming with concerns that “staff hear of easier ways” and fears that such practices “could sink FMI...with the) poor auditing”. The most significant findings from organisations not using the FMI, were the lack of systematic approaches to management development within this group, and the desire to “try to build a case for FMI” in many of those who were aware of the FMI.

Modelling Diversity and Practice
As one respondent indicated, “it’s early days”, not just for her own FMI pilot, but for many FMI practices, and also for this national evaluation. However, the task at this stage is to map the evidence available from the emerging landscape. Mulcahy and James (2000, p. 4) develop Marceau’s (1997) conceptualisation of Australian training practices, indicating that differing competency-based approaches have been taken by enterprises, high roads and low roads, developmental models and training models.”

The “high road” for training and human resource development. Broadly this road gives priority to developing knowledgeability in work, at all levels of the work process. It also tries to balance economic and social goals and achieve policy coherence across a wide range of fronts ...

Perhaps the evidence from the FMI charts more as a continuum of practices, scattered from minimal resourced training operations to organisational development platforms. Some of the known practice diversity of the FMI was modelled at the start of this evaluation process to act as a framework for enterprise sampling. The tales from training managers and more detailed observation of practice has enriched that model. The diagram that follows (See Figure 1) provides a model that is based upon 17 criteria that can be used to map each enterprise practice of the FMI. Each criteria is in fact a continua, and each enterprise may exhibit very little of that characteristic (centre point) or a great deal of that characteristic (outside circle) in their pattern of FMI adoption. It could be suggested that while each enterprise pattern is unique there appear to be four broad adoption patterns. At the centre, there are low road externalised training approaches to FMI who exhibit little of the adaptive qualities of the FMI framework and HRD systems. These adaptive qualities are more in evidence in organisations who have developed more inclusive FMI practices and who’s FMI practices may be located in the next circle. However those patterns of adoption may still be differentiated from the organisations who have strategic intentions to develop their culture and where there is an integration of learning and work. Their FMI practices are more likely to be located in the outer circle. Finally there are those organisations who use the FMI standards, but do so within their own enter-
prise based training systems, and do not use FMI accreditation processes.

However it is evident that where more effective practices exist that attempt to bring work and learning together, it is not just the provision of learning scaffolding which underpins such developments, but the inclusion of learning within a wider HRD/HR and business strategy. FMI may be initiated to provide a tool for organisational strategy, but it appears that it may only be able to fulfil this expectation if the HRD mechanisms that drive effective learning practice and the integration of work and learning are themselves included within management strategy. On the evidence available, there is no intention to portray the majority of FMI practice as framed with such strategic support. However the evidence does indicate relationshipships and components of a model of more effective FMI learning practices.

The model (see Figure 2), built from the tales of FMI practice, indicates how the core learning-working relationship may be scaffolded by learning systems that in turn need support from strategic HRD practices. Effective enterprise learning process are not an add-on option. In the model, the central fusion of learning and work as a community (inner ring), requires the immediate support of specific learning practices (middle ring), which in turn need the legitimation of learning as an inherent platform of organisational culture and strategy (outer ring). The relationship between the learning processes in the inner ring and the strategic support necessary in the outer ring will need to be the subject of considerably more detailed analysis, and indeed, subsequent research.

Figure 1
Mapping the diversity of FMI practice.
Conclusion

The tales of FMI practice are as diverse as the organisations themselves. It is a positive picture not just because training managers are satisfied with current outcomes but because such a response indicates that as a learning technology, the FMI is proving to be an adaptable technology. Perhaps more importantly there is evidence that the FMI is triggering some HRD practices, which may have influence beyond the FMI in promoting knowledge-ability, generative learning, and the integration of learning and working.

To what extent are learning working communities being formed? The evidence so far is largely from one perspective, training managers. At the end of each phase of this research account I cannot help but hear the echo, “but they would say that, wouldn’t they”. Only the evidence of the final case studies can explore how much this perception is seen as a legitimate representation of practice within the organisation. Are organisations constructing a house for low road training or a home for high road learning? The critical outcomes of the FMI are not about individual manager skilling, although in its own right this is a valid process, but about gaining commitment to, and developing workplace learning processes, an integrated approach to HRD that legitimises learning in the broader sense, as a work production or outcome. In Bourdieu’s (1990) terms, little changes until the new knowledge from learning that is added to the FMI participants’ “habitus” is valued by management.
FMI provides a framework that can be used to move forward from HRD practices that seek to control the time and place of learning and dislocate knowledge production from material production, creating systems that support the dynamic tension between the life-worlds of working and learning. Without such systems, production processes just continue, and do not adapt and change. The FMI is as such not a tool for learning, but a technology to develop management practices. It is the HRD processes, reflecting new management attitudes towards learning, not the practices of learning, that are in the end important. It is these changed assumptions that legitimise workplace learning communities. Such changes in the management of learning, see the production of knowledge as a legitimate process, and empower such a process, rather than controlling it. Without such changes FMI participants remain isolated and dislocated learners.

The irony is that more open learning frameworks such as the FMI are often not understood, open to misinterpretation, and may become whatever management decides they should become. As Boje (1994) suggests, with workplace learning the iron cage of the classroom, so hated by Dewy (1958), may simply have passed, almost invisibly, into the workplace. Organisations will be ill served by such a development if they fail to see that their future will be concerned with securing the production of new knowledges. The real message of the FMI, hidden within the “kit”, but more explicit with the “Enterprising Nation report” (Karpin, 1995) concerns the development of HRD practices and managerial assumptions about learning that cast off goals of compliance, for goals of new meaning.

There is evidence from this field research to suggest that attempts to prescribe learning outcomes that are anchored within restricted processes may increasingly be met with learner resistance, and in Darrell Kerrigan’s language from the Castle, such management may be told, “Yer dreaming”! However, it appears that the FMI has provided many organisations with a learning technology that they have been able to adapt to their own context, and use to develop and support diverse forms of workplace learning process. Some of those patterns have brought learning and working together and deserve to go “straight to the pool room”.

Acknowledgements
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This paper is dedicated to Warren Osmond who’s ideas and critical comment on the VET field made a substantial, and continuing contribution to debate, research focus and practitioner/research integration.

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When the Abstract Nature of Competency Standards and Their Framing is a Problem, is Moderation a Possible Solution?

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In this paper I argue that the present level three set of administrative standards and performance criteria is an inadequate framework for assessing trainees' competence in two separate clerical activities in local council offices, namely receipting rate payments and responding to requests for the dispatch of information about an available employment position. Using data derived from audio-recordings of the talk that is instrumental in effecting these activities, and in one case, the video-recordings of the details that ensue, I demonstrate that this inadequacy is manifested in the failure of the standards to capture the social interactive and technical competencies that are displayed by the trainees during these routine work activities. As with all standards, reviews of the administrative standards have been conducted on a regular basis for the purpose of improvement. However, the task in the latter case is ultimately futile because it would never be possible for a single set of standards to be appropriate for such a diverse occupational group. One option for improvement that is suggested in this paper is the establishment of a moderation system whereby stakeholders would work together to develop assessment processes that were fairer and more valid than are likely to exist currently.

In a recent review of competency based training (CBT), Josie Misko (1999) included a chapter which identified the deficiencies and concerns as well as the advantages and benefits of CBT. With respect to the deficiencies and concerns, researchers had claimed that a narrow perspective on competence had been adopted; the system was based on limited scientific research, there was an intention to use CBT as a control tool, a fragmented understanding of learning and training system was evident; and there was naïvité about workplace practices as well as problems in guaranteeing that valid and reliable assessment would result (Misko, 1999, pp. 15-21). It is this last item, and specifically, assessment validity that I wish to address in this paper.

Background
Endorsed administrative standards have been available for clerical workers since the early nineties (National clerical-administrative competency standards, 1993). Yet despite numerous reviews (e.g. National clerical-administrative competency standards, 1996; National clerical-administrative training package national clerical-administrative training package, 1998), the framework for the standards and their content have remained largely unchanged. This situation might be explained in one of two ways: either the standards were originally well-designed; or the goal of changing them to meet the diverse work practices of administrators more accurately has proved difficult. I believe that the second explanation is the more likely. In the next section of this paper I examine two regular work events engaged in by two level three administrative trainees employed in separate local council offices and show how the relevant competencies that they must meet fail to reflect the complexity and simultaneity of the work that is accomplished during these events.
Receipting Rate Payments
In the shire council office that was one setting for my study, a primary task of the third-level administrative trainee was to process payments, including rate payments. These were usually received as incoming mail but there was a percentage that was processed in a face-to-face mode. Canonically, this involved six broad stages: the exchange of greetings, the objectification of the nature of the transaction to be achieved, the matching of the payment with the computer file, the entry of the payment details, the issuing of a receipt and the exchange of farewells. Transcript 1 shows how this processing was accomplished in one instance (see Figure 1).

In this interaction the exchange of greeting phase is very short (lines 1–3). It comprises a greeting and an inquiry about the health of the customer by the trainee and a formulaic response (“very well thank you”) in return. The next phase is also time economic. Rather than verbally explaining the nature of her visit to the council office, the customer hands over her rate account and this is both physically and verbally accepted by the trainee. However, what is noticeable in this process is the overlap between the trainee’s expression of thanks and the beginning of a sequence of small talk by the customer (line 4).

Small talk is common in my corpus of rate payment events and appears to be a feature of service interactions generally (Cameron, 1995). Reflecting on a small talk initiative that she made to her dentist, Justine Coupland (2000) observed that her remark appeared to be “designed to fill silence at a

<table>
<thead>
<tr>
<th>Line</th>
<th>Transcript</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>T hi how are you (1.0)</td>
</tr>
<tr>
<td>2</td>
<td>C very well thank you (2.0) ((T takes rate account))</td>
</tr>
<tr>
<td>3</td>
<td>C [it's]=</td>
</tr>
<tr>
<td>4</td>
<td>T [thanks]</td>
</tr>
<tr>
<td>5</td>
<td>C = becoming a habit coming in every month hhh-hhh-hhh-hhh</td>
</tr>
<tr>
<td>6</td>
<td>T [thanks hhh-hhh] ((T takes C’s rate payment.)) (2.0)</td>
</tr>
<tr>
<td>7</td>
<td>T I s’pose the building looks a bit different [to last] month</td>
</tr>
</tbody>
</table>
| 8    | C [yes] that’s right hhh-hhh=
| 9    | T =yeh (2.0) T moves to computer and begins to key in C’s data.)) |
| 10   | T it’s just about finished (.) thank good\ness |
| 11   | (10.0) ((more keying in noise)) |
| 12   | C I’ve been running round paying bills |
| 13   | C [all day] next thing there won’t be any= |
| 14   | T [oh go: d]hhh-hhh-hhh |
| 15   | C =money left |
| 16   | T (4.0) ((sound of keyboarding)) |
| 17   | C and after all the bills get paid and you haven’t got any headaches that way |
| 18   | (4.0) |
| 19   | T you can put up with the rest= |
| 20   | T =yes (17.0) ((sound of printer generating receipt)) |
| 21   | C thank you (very much) |
| 22   | T see you later |
| 23   | C thank you |
| 24   | T bye now |

Figure 1
Transcript 1 — C is the customer and T is the trainee who is standing at the counter.
ABSTRACT NATURE OF COMPETENCY STANDARDS AND FRAMING

Within the context of small talk, incorporating a safe topic relevant to a shared local environment" (p. 12). In the transcript above, these features could be applied to the two stages of small talk (lines 5–17 and 19–26) which are enacted. McHouI & Rapley (2000) go further than Coupland in their claim that small talk can play a significant role in effecting the interaction itself. In examining the small talk that occurs in the interactions between computer service request technicians and callers, they suggest that such talk can play a ‘critical’ role in keeping the ‘serious stuff happening’ (p. 2). That is, it can be integral to the constitution of the work activity.

In my example, the trainee is checking the details on the rate invoice against her computer record, matching the amount paid against that required amount on her record, entering relevant data and producing a receipt while simultaneously engaging actively in verbal exchanges. Thus, while she is processing the payment with competence and economy, she is using both small and organisational talk for this purpose.

When we turn to the element of competency that relates to this event, we can see how the work that the trainee demonstrates is glossed by the abstraction: “Monitor cash control for accounting records” (National clerical-administrative training package, 1988). The performance criterion that aligns with this work is similarly brief: “Receive and document payments or takings”. It is reasonable to conclude, I believe, that the simultaneity and complexity of the social and technical work that is accomplished in an economical way in rate payment interactions are not captured within the current standards.

I now turn to an examination of another event that is performed regularly by another third level trainee in my study.

Managing the Provision, Receipt and Documenting of specific caller information

This trainee was employed in the human resources section of a city council and one of her main duties was to respond to telephone requests for the dispatch of information about vacant council positions which had been advertised in a metropolitan newspaper. Transcript 2 shows an example of how these requests were managed (see Figure 2). It should be noted that the initial phase of greeting and self-identification exchanges have not been recorded.

Again we see a canonical staging of the event. In all my transcripts of this type of interaction, there are six stages: the nomination of the specific vacant position, the request for and provision of the caller’s name, the request for and provision of the caller’s address, a commitment by the trainee to dispatch the required information and its receipt, a pre-closing and a closing. In some cases, additional sequences are evident when the caller’s name and/or address are spelt.

In contrast to the previous set of transcripts, there is very little small talk evident in these request interactions. One reason for this may be the limited opportunity available in the tight turn-taking process. As I have noted above (e.g. Coupland, 2000, Laver, 1975; Malinowski, 1972; Sacks, 1992) have shown how small talk is often used to serve a transitional space between topics.

A feature of both types of interaction that are focused in this paper, however, is their collaborative nature. In the first transcript there is shared laughter (lines 8 and 9) and shared topics of the small talk. In the second transcript, the collaborative work is observable but it takes a different form. Throughout the call, the trainee initiates a series of questions and statements. These receive an immediate response in each case. There is also collaboration in the spelling of the caller’s family name and the street where he resides. Finally, there is collaboration in making hearable the postcode of the suburb (line 21). One way of theorising this collaborative work is to claim that it is recipients designed. Sacks, Schegloff and Jefferson (1978) define recipient design in the following way.

With ‘recipient design’ we intend to collect a multitude of respects in which the talk by a party in a conversation is constructed.
| 1  | T    | and casual wasn’t it |
| 2  | C    | yep |
| 3  |      | (1.0) |
| 4  | T    | ok:ka:y T (.) and your name |
| 5  | C    | andre:w (.) previn pee=are=ee=vee= |
| 6  |      | aye=en |
| 7  | T    | leen=are=ee= |
| 8  | C    | =oh no (.) pee for picnic= |
| 9  | T    | ohT (.) ye:p (.) [vee=aye] |
| 10 | C    | [vee=aye=en] |
| 11 | T    | yepT and your address (.) |
| 12 | C    | ah thirty five (.) |
| 13 |      | (1.0) |
| 14 | T    | yep |
| 15 | C    | colonial street |
| 16 | T    | and how do you spell that (,) see= |
| 17 | C    | oh=mel |
| 18 | T    | yep |
| 19 | C    | (.) oh=en=eye=aye=el |
| 20 | T    | yep and your= |
| 21 | C    | =brighton |
| 22 | T    | oh () brighton four five nine three |
| 23 | C    | that’s it |
| 24 |      | (1.0) |
| 25 | T    | okay I’ll post that out today ↓ |
| 26 | C    | good (.) thank you very much |
| 27 | T    | thanks T [bye] |
| 28 | C    | [bye] |

**Confirmation of position**
- Request for and provision of caller’s name & the beginning of the spelling of his family name

Continuation of spelling of caller’s family name

Request for, provision and spelling of caller’s address

Commitment to dispatch informion and response

Pre-closing and closing

---

**Figure 2**

Transcript 2 — C is the customer and T is the trainee answering the telephone request.

or designed in ways which display an orientation and sensitivity to the particular other(s) who are the coparticipants. In our work, we have found recipient design to operate with regard to word selection, topic selection, the admissibility and ordering of sequences, the options and obligations for starting and terminating conversations, and so on (p. 43).

In examining the features that Sacks, Schegloff and Jefferson (1978) list as characterising recipient design, there is evidence in Transcript 2 that the caller (a) chooses words that are appropriate for the purpose of providing an address and other topics, (b) cooperates in attending to the topics that are selected by the trainee and in some cases, self-selects relevant sub-topics, (c) does not question the order of topical sequences that are initiated by the trainee, and (d) accepts that the trainee, in her institutional role, has the prerogative of deciding when separate phases of the interaction will occur. Further, it can be noted specifically that the caller appreciates that the trainee needs time to record the name of his drive and to accommodate her, he segments its spelling into two parts.

Again, it is unfortunate that the current level three administrative standards do not recognise the quite complex social and technical, but extremely economical work that is inherent in the managing of the provision, receipt and documenting of specific caller information with respect to the dispatch of information relating to vacant positions. The unit of competency, "Collect and provide information to facilitate communication flow" (National clerical-administrative training package, 1988) might be presumed to cover this activity. The performance criteria that have been endorsed to determine competency are as follows: (a) requests are received and recorded; (b) the request for information is understood; and (c) information is located from internal/external sources and records by
ABSTRACT

NATURE OF COMPETENCY STANDARDS AND FRAMING

Speaking to others, from written sources and by observation.

Three aspects of this list of criteria are worthy of comment. Firstly, the term 'requests' is treated unproblematically. Thus, a request is a social activity that does not need exemplification. Similarly, its receipting and recording are also transparent tasks that are assumed to be part of our everyday knowledge and thus do not need to be defined. Further, the second and third criteria, 'the request for information is understood' and 'information is located from internal/external sources and records' abstract the intricate work that may be necessary to ensure that the goal of each request interaction is achieved efficiently and effectively. Significantly, it is these opaque criteria that will be used to determine whether the trainee in my study is deemed competent at the end of her traineeship and is thus eligible to be awarded a level three certificate in clerical-administration. In the next section of this paper I turn to the issue of assessment and recommend that a system of moderation be established to ensure that the work that these trainees accomplish is recognised and compared across different local and wider settings.

Assessment and Moderation of Competencies

The problem that I have outlined above is likely to be replicated many times for administrative trainees. In the process of assessing their competence against the endorsed standards, one of two situations usually results. In the first case, their assessment is managed primarily by a supervisor who is on-site, with a recognised training provider (RTO) playing a secondary but important role. It follows then that the standards are likely to be interpreted to fit the situational work practices but may be variable across sites. Alternatively, if the RTO, who is likely to manage a range of sites, is the person with the major responsibility for interpreting the competencies, then parity might be high but there may be gaps between the assessment regimes and the trainees' work practices because of his/her limited personal experiences of these. One solution to this difficulty, however, may be to implement a moderation system that involves a number of stakeholders. Moderation models that have been developed within adult literacy, as well as in other fields of practice and environments, are available as a resource for exploring this option.

In the past decade, adult literacy teachers have been involved in a number of local and state initiatives to ensure that assessment tasks demonstrate construct validity and that student responses to those tasks demonstrate parity. For example, in 1995, a small study was undertaken in Brisbane to moderate the assessment processes and student results of the Certificate of Vocational Access (Kelly, 1996). However, a much more sophisticated moderation system was implemented in Victoria about this time for the Certificate of Adult and General Education². It is this latter model that I now wish to discuss in some detail.

Moderation was defined as:

the process whereby teachers/assessors discuss and reach agreement about assessments in a particular assessment system. In so doing, a shared understanding develops between teachers/assessors about what is being assessed and why, and how different assessment performances should be identified and described.

This approach reflects a “quality assurance” as opposed to a “quality control” one. In the latter case, the concern is with the adjustment of the outcome of the assessment to ensure parity (Harlen, 1994).

Two process of moderation were implemented. Practitioners were required firstly, to participate in discussions for the purposes of benchmarking, sampling and recording how standards were being interpreted; secondly to design assessment tasks; and thirdly, to ratify assessments. An on-line system of moderation was also developed.

In evaluating the CGEA system, Sanguinetti (1995) reached the following conclusions. Most participants believed that:

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"common understandings and a common language" (p. 36) about the assessment of CGEA and literacy, generally had resulted; involvement in the process had been a valuable professional development activity; and the sharing of professional judgement and expertise that ensued was useful.

However, in addition to the positive results that ensued, a number of problems were also identified. Participation involved time and monetary costs that were often borne by individuals. The negotiation of benchmarks and the selection of appropriate samples and methods of recording results were not always simple processes. Finally, there was the ever-present temptation for practitioners to choose student work that is of an excellent rather than a satisfactory quality (Sanguinetti, 1995, pp. 36-37). As with all models, the circumstances which characterised the CGEA assessment program are not likely to be the same as those which characterise those of administrative or other trainees in 2000. However, I believe models can be a useful starting point from which to move forward in any process.

Conclusion

In a number of articles (for example, Kelly, 1998, 1999) I have examined other transcripts of talk that enacted work practices engaged in by level three administrative trainees and consistently found that the match between the competencies that were displayed in these documents failed to be captured within the endorsed administrative standards. However, I recognise that because of the large number of employees who work in offices across every industry, it will never be possible to improve this situation in a significant way.

One possible solution to this problem, though, may be to establish a moderation system that operates at local, state and national levels. Support for such an initiative has recently been given by Billett et al. (1999). To begin conceptualising how this might be done, I believe the CGEA model would serve as a useful resource which could be supplemented by other models such as the New Zealand Qualifications Framework (undated) one.

Endnotes

1. A review is currently being implemented.
2. The web address of <http://wdb.vu.edu.au/cgeamod/html> has been used as a primary resource in discussing the GCEA moderation system.

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Student Level Factors That Influence the Employability of TAFE Graduates: A Path Analysis

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Australian Vocational Education and Training (VET) qualifications are designed to meet the skill needs of industry and increase the employability of students. In South Australia, TAFE institutes are the main public providers of VET. While many students are unemployed before commencing their study the nature of TAFE is such that most students are employed and/or seek employment during their period of often part-time study. Nevertheless, after graduation from TAFE some will be in jobs while others will not — and some will have moved to better jobs. In 1999, ACNielsen Research collected Student Outcomes Survey (SOS) data from 4673 South Australian 1998 TAFE graduates on behalf the National Centre for Vocational Education Research (NCVER) which manages a program of satisfaction and destination surveys for the Australian National Training Authority. Among these completing students some were employed (part-time or full time) whereas, others were unemployed at the reference date. Some of the students were employed before starting their course while others were unemployed. The main purpose of this study is to identify student level factors that influence the probability of employment of VET students after graduation. The data employed for the study is the 1999 South Australian Student Outcomes Survey (SOS) data mentioned above. In this paper partial least square path analysis methods are employed to examine student level factors that influence employability of students after graduation from TAFE using the PLSPATH 3.01 (Sellin, 1990) computer program. Conclusions are drawn about the student level factors that influence the employment outcomes of students.

Factors Influencing Employability of Students

The primary purpose of TAFE courses is to prepare people for employment. However, completing a course or graduating from TAFE does not guarantee employment by itself. Previous research findings have indicated that many different factors influence the employability of TAFE graduates. In this section some of the previous findings are discussed.

One of the factors that influences employment after graduating is the qualifications obtained. Wooden (1999) contends that multivariate studies of employment status reveals that on balance, "trades qualifications do not confer much in the way of an employment advantage. Furthermore, Harris (1996) reported that school leavers who completed Year 12 are much more likely to be employed than those who go on to obtain trades qualification. Teese and his colleagues (1998, p. 16) have reported that TAFE graduates who were employed before their training have a much greater likelihood of being employed after completion of their course than those who were unemployed before their training.

Kinnaird (1998, p. 8) has reported that employment outcomes for people who did information technology courses in 1996 in NSW TAFE and who were unemployed in the six months before starting the course were very unfavourably placed. He found that the proportion unemployed after completing the course was double the NSW TAFE average.
for people with this background, (that is 35% vs 18%).

Previous research findings have also shown that persons of Aboriginal descent were less likely to be employed when compared with those of non-Aboriginal descent (Cousins & Nieuwenhuysen, 1983; Castle & Hagan, 1984; Ross, 1987; and Miller, 1989). However, Harris (1996) after controlling for the effects of education, found that those of Aboriginal descent did not appear to be disadvantaged.

Harris (1996) has also reported that disabled persons were significantly and similarly disadvantaged in the workplace, when compared with non-disabled persons.

Furthermore, Tiggemann & Winefield (1989) have reported that ethnic origin was one of the predictors of unemployment in Australia. These authors found that high school leavers from English speaking background were more likely to be employed than those from non-English speaking backgrounds. In addition, Fan and Antoine (1999) have found a significant difference in employment destination between English-speaking and non-English speaking background graduates. This finding was consistent with those of McAllister (1986), Tiggemann & Winefield (1989), and Jones (1992).

Strategy of analysis
From the findings of previous research a model of student level factors influencing employability of South Australian TAFE graduates was developed and PLSPATH (Sellin, 1990) was chosen as an appropriate multivariate technique to examine the hypothesised model.

Data Collection
The data employed in this study were collected from 4673 students who attended a TAFE institute in South Australia and who completed a Certificate, Advanced Certificate, Associate Diploma, Diploma, Advanced Diploma or a Bachelors Degree of at least 200 hours or one semester in duration (NCVER, 1999, p. 1). The NCVER (1999, p. 1) report states that the data were collected by ACNielsen Research on behalf of the NCVER. The survey involved sending a questionnaire to all 1998 TAFE graduates. The survey was used to measure TAFE student’s employment, further study destinations, and opinions of the training undertaken (NCVER, 1999, p. 1).

The present study is a secondary analysis using part of these data to identify the student level factors that influence the employability of the TAFE graduates. This analysis goes beyond the initial objectives of those who collected the data.

Method
In this paper the partial least squares path (PLSPATH) analysis procedure is used to investigate the student level factors that influenced employability of TAFE graduates. PLSPATH analysis “is a general technique for estimating path models involving latent constructs indirectly observed by multiple indicators” (Sellin, 1992, p. 398). This method is useful in modelling educational and social systems. Thus, PLSPATH analysis can be employed as a method of analysing path models which involve latent (indirectly observed) and manifest (directly observed) variables. The PLSPATH model includes an inner model which specifies the hypothesised relationships among the latent variables (LVs) and an outer model that specifies the relationships between the LVs and the manifest variables (MVs) which are their indicators (Sellin, 1992).

It is beyond the purpose of this paper to detail the mathematical and technical aspects of PLSPATH. However, references such as Noonan & Wold (1988), Sellin (1989), Falk & Miller (1992) and Sellin & Keeves (1997) are suggested for further reading.

The starting point in employing PLSPATH is to draw a diagram of the model to be analysed (Falk, 1987). The diagram should include both the outer and the inner models and the hypothesised links between them. In this study a theoretical model of student factors that influenced the employa-
bility outcomes of the 1998 South Australian TAFE graduates was developed prior to analysis. The model specified the variables included in the analyses and their interrelationships were hypothesised. In the path diagram, the MVs or observed variables formed the outer model, while the LVs formed the inner model. The study 43 MVs and 16 LVs in the outer and inner models respectively. The acronyms chosen for the MVs and LVs were intended to reflect their item content (see Table 1). The reader must keep in mind these acronyms that are employed throughout this paper. A list of the MVs employed in this study together with answer categories and coding are given in Appendix 1.

Outer Model
PLSPATH employs a factor analytic procedure for estimating the outward latent constructs. The criterion for the minimum level of a factor loading for the inclusion of a MV in this study was chosen to be 0.30 (Campbell, 1996). MVs with loadings below the predetermined cutting point were dropped from further analysis. PLSPATH uses a regression procedure to calculate the weights for the MVs which form a LV in the inward model, and weights below 0.07 were removed from further analysis as they indicated that the observed variable did not contribute greatly to the related LVs (Sellin and Keeves, 1997; Sobolewski and Doran, 1996). In order to obtain a robust model, the original model was successively refined to include only significant paths as specified above.

Inner model
In the final structure of the inner model, it was decided that when the value of the direct path was less than twice its standard error the path should be removed (Falk and Miller, 1992). This involves the assumption that the path coefficient is actually zero when it is smaller than twice its standard error. In addition, it was recommended that a direct path with $\beta < 0.07$ should be removed, because such values would show an insignificant effect in the estimation of a relationship between two LVs. Hence, the larger the $\beta$ value the larger the effect in the path model. This estimation process was repeated successively until all nonsignificant paths had been removed.

The other criterion used to assess the strength of the final path model was the maximum variance explained ($R^2$) of the outcome variable, Employment after graduation (EMPL_A). The value of $R^2$ gives the maximum variance explained of a construct when the preceding predictor variables are included in the analysis. Thus, the larger $R^2$, the more of the variance is explained.

Result of the PLSPATH Analysis
The outer model and the inner model results for the PLSPATH analysis for the South Australian 1999 Student Outcomes Survey data set shows that 16 LVs and 43 MVs were included in the model. The Final result of the PLSPATH analyses for the outcome variable are discussed (for a detailed discussion contact the authors).

Outer Model Results
In summary, there are 43 hypothesised MVs that contribute to the 16 constructs. The average of the communalities of the MVs is 0.45, which indicates that the model is a sound model.

Inner Model Results
Table 2 shows the path coefficients, jackknife mean of path coefficients, jackknife standard error, direct, indirect, total effects, correlations, and $R^2$ values for the criterion variable, namely Employment after graduation (results and discussion for the other variables can be obtained from the authors).

EMPL_A (Employment status at 28 May 1999)
The employment status of VET graduates at 28 May 1999 was hypothesised to be influenced by 15 LVs. The result of the PLS analysis reveals that five of the 15 factors influence
Table 1
Latent and Manifest Variables Employed in the Path Models for the 1999 South Australian Student Outcomes Survey Data Set

<table>
<thead>
<tr>
<th>LATENT VARIABLES</th>
<th>• MANIFEST VARIABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENDER(^a)  (Sex of student)</td>
<td>Identifies whether the student is female or male</td>
</tr>
<tr>
<td></td>
<td>• Sex (Sex of student)</td>
</tr>
<tr>
<td>STUDAGE(^a)  (Age of student)</td>
<td>Identifies student's age</td>
</tr>
<tr>
<td></td>
<td>• Age (Age of student)</td>
</tr>
<tr>
<td>RACE(^a)            (Race of the student)</td>
<td>Identifies whether the student is of Aboriginal descent or not</td>
</tr>
<tr>
<td></td>
<td>• ATSI (Race of the student)</td>
</tr>
<tr>
<td>C_BIRTH(^a)         (Country of birth of student )</td>
<td>Identifies the country of origin of the student</td>
</tr>
<tr>
<td></td>
<td>• Country (Country of birth)</td>
</tr>
<tr>
<td>LANGHOME(^a)         (Language spoken in the home by the student)</td>
<td>Identifies the language spoken in the home by the student</td>
</tr>
<tr>
<td></td>
<td>• Language (Language spoken in the home)</td>
</tr>
<tr>
<td>DISABLE(^a)          (Student considered him/herself to have a permanent disability)</td>
<td>Identifies whether the student has permanent disabilities or not</td>
</tr>
<tr>
<td></td>
<td>• Disable (Disability)</td>
</tr>
<tr>
<td>LOCATION(^a)         (Whether the student comes from metropolitan or other area)</td>
<td>Identifies whether the student comes from metropolitan area or not</td>
</tr>
<tr>
<td></td>
<td>• Metcntry (Location of the student's home)</td>
</tr>
<tr>
<td>HSSQ_COM(^a)         (Highest level of secondary schooling completed)</td>
<td>Measures the highest level of secondary schooling completed by the student</td>
</tr>
<tr>
<td></td>
<td>• Year12 (completed Year 12)</td>
</tr>
<tr>
<td></td>
<td>• Year11 (completed Year 11)</td>
</tr>
<tr>
<td></td>
<td>• Year10 (completed Year 10)</td>
</tr>
<tr>
<td></td>
<td>• Other (completed other levels)</td>
</tr>
<tr>
<td>QUAL_B(^a)           (Educational/trade qualification completed before the course)</td>
<td>Identifies the educational/trade qualifications completed by the student before the course</td>
</tr>
<tr>
<td></td>
<td>• Bach_D_B (Bachelor degree or higher)</td>
</tr>
<tr>
<td></td>
<td>• Un_Dip_B (Undergraduate or Associate Diploma)</td>
</tr>
<tr>
<td></td>
<td>• Appen_B (Trade Certificate/Apprenticeship)</td>
</tr>
<tr>
<td></td>
<td>• Traine_B (Traineeship)</td>
</tr>
<tr>
<td></td>
<td>• Tech_C_B (Technician Certificate or Advanced Certificate)</td>
</tr>
<tr>
<td></td>
<td>• O_Cer_B (Other certificate)</td>
</tr>
<tr>
<td></td>
<td>• C_Comp_B (Certificate of competency or Statement of Attainment or Pre-vocational Course)</td>
</tr>
<tr>
<td></td>
<td>• Other_B (Other)</td>
</tr>
<tr>
<td></td>
<td>• N-Qual_B (No Qualification)</td>
</tr>
<tr>
<td>STATUS(^a)           (Best description by the student of status at start of the course)</td>
<td>Measures the best description of student's status when starting the course relative to secondary school</td>
</tr>
<tr>
<td></td>
<td>• Enrolled (enrolled at secondary school)</td>
</tr>
<tr>
<td></td>
<td>• Within12 (within 12 months of leaving secondary school)</td>
</tr>
<tr>
<td></td>
<td>• Morethan (more than 12 months after leaving secondary school)</td>
</tr>
<tr>
<td>STUDY_B(^a)          (Study by student during six months before the course)</td>
<td>Identifies whether the student was studying within six months before starting the course or not</td>
</tr>
<tr>
<td></td>
<td>• Yes_Stud (Studying within six months before starting)</td>
</tr>
</tbody>
</table>
Employment after graduation both directly and indirectly, while seven other factor influence EMPL_A, indirectly (see Table 2). Two factor namely, EMPL_ONC and QUAL_C show only a direct effect. Only one factor namely, STUDY_B does not show any effect on the outcome variable.

Direct Effects
The seven factors that have a direct influence on employment status after graduation are discussed in greater detail as follows.

C_BIRTH (Country of birth). This LV influences the employment status of TAFE graduates directly (−0.08) and also with a small indirect effect (−0.03). The total effect of this variable on EMPL_A is −0.11. This result indicates that Australian born TAFE graduates are more likely to be employed after graduation when compared with non-Australian born graduates. The finding is consistent with previous research findings (Tiggemann and Winefield, 1989; Fan and Antoine, 1999).

DISABLED (Disability). This is a LV that influences employment status of students directly (0.09) and indirectly (0.04). The total effect is 0.13. This variable indicates that non-disabled students are more likely to be employed after they graduate from TAFE than...
students with some kind of disability. This finding is also consistent with previous research findings. More recently Harris (1996) has reported that disabled persons are significantly and similarly disadvantaged in the workplace, when compared with non-disabled persons.

**STATUS** (Best description by student of status when starting the course). This is a LV that influences employment status of students directly (0.07) and indirectly (−0.05). The total effect (0.02) indicates that students who are still enrolled at secondary schools or who are within 12 months after leaving secondary school before starting the course are more likely to be employed after they graduate from TAFE than students who are more than 12 months after leaving secondary school.

**EMPL_B** (Employment before the training). This LV influences employment status after training directly (0.14) also with a sizeable indirect effect (0.21). It is the second strongest variable that has both direct and indirect effect on employment status after TAFE graduation (see Table 2). The evidence shows that students who are employed before they start their TAFE training are likely to be employed after graduation. This finding is consistent with previous research findings (Kinnaird, 1998, p. 8; Teese et al., 1998).

**REASON** (Reason for doing the course). This LV influences employment after graduation both directly (0.11) and indirectly (0.04). The total effect is 0.14, it is the third strongest variable that has both direct and indirect effects on employment status after graduation (see Table 2). The evidence shows that students who express more vocational reasons for studying the TAFE course are likely to be employed after graduation than students who express non-vocational reasons.

**EMPL_ONC** (Employment status during the final semester of the course). This LV influences the employment status of TAFE graduates only directly (0.42). It is the strongest variable that has only a direct effect on employment status after graduation. This result indicates that TAFE graduates who are employed during their training time are more likely to be employed after graduation than graduates who are unemployed during their course of study. The effect of **EMPL_ONC** and
**EMPL_B** on **EMPL_A** suggests, as might be expected, that students with some kind of work experience before the course and/or during their training period have better employment outcomes after training.

**QUAL_C (Level of qualification received by the students for the course).** This variable indicates that students who receive the highest qualification, such as a diploma or associate diploma from the course are more likely to be employed after they graduate from TAFE than students who receive the lowest qualifications such as Certificate I. However, it is important to observe that this is a weak effect with only a direct influence on employment status after graduation, and is only included in the analysis in order to test for and examine its direct effects. This implies that the variable is not helping students greatly to be employed after graduation. This finding is consistent with previous studies. Brooks and Volker (1985) show that trades-qualified males do not have employment probabilities that are larger than males who left school at the age of 16, 17 or 18 years. Furthermore, these authors have reported that trades qualified females actually do worse than their early school leaver colleagues. In addition, Inglis & Stromback (1986) have reported similar findings. Furthermore, Harris (1996) has studied the probability of employment within the youth labour market. His findings show that school leavers who completed Year 12 are much more likely to be employed than those who go on to obtain a trade qualification. Recently, Teese and his colleagues (1998, p. 16) have suggested that, “it is frequently ineffective attempting to correct unemployment or to enter employment from outside the labour force by training in the TAFE sector.” More recently, Wooden (1999, p. 10) has reported that people who received trade qualifications did not receive much in the way of an employment advantage.

Hence, this finding implies that TAFE qualifications without work experience are not likely to be a key to enter employment for the first time.

**Indirect Effects**

The seven factors that have indirect influences on employment status after graduation are discussed as follows.

**GENDER (Sex of the student).** GENDER shows an indirect (-0.06) effect on employment after graduation operating through **EMPL_B** and **QUAL_C**. This result shows that male students are more likely to be employed than female students (see Table 2).

**STUDAGE (Age of the student).** STUDAGE also indicates an indirect (0.08) effect on employment after graduation operating through **EMPL_B** and **QUAL_C**. This result shows that older students are more likely to be employed than younger students (see Table 2).

**ATSII (Aboriginality).** ATSII indicates only a small indirect (-0.006) effect on employment after graduation operating through **HSSQ_COM**. The results of the analysis reveal that persons of non-Aboriginal descent students are more likely to be employed after graduation than graduates of Aboriginal descent. This finding supports the assertion of Harris (1996). After controlling for the effects of education, the author found that those of Aboriginal descent did not appear to be disadvantaged.

**LANGHOME (Language spoken in the home).** Language spoken in the home influences employability of students after graduation. The indirect effect is 0.03. This effect indicates that graduates who speak English in their homes are more likely to be employed after graduation than those who speak a language other than English. This finding is consistent with the findings reported by Brooks and Volker (1983), Inglis & Stromback (1986), McAllister (1986), Tiggemann & Winefield (1989), Jones (1992), Fan & Antoine (1999). In the present study language does not show a direct effect, however, the indirect effect is stronger than the direct effect of qualification from the course.
LOCATION (Area of living). LOCATION also shows an indirect (-0.02) effect on employment after graduation operating through EMPL_B and QUAL_C. This result indicates that non-metropolitan area students were more likely to be employed than metropolitan students (see Table 2).

HSSQ_COM (Highest secondary school completed before the course). HSSQ_COM (0.05) influences the outcome variable only indirectly through QUAL_C. The result indicates that students who have completed Year 12 before the course are more likely to be employed than students who do not complete Year 12 (see Table 2).

QUAL_B (Level of educational qualification before the course). QUAL_B also shows an indirect (0.08) effect on employment after graduation, operating through EMPL_B and QUAL_C. The result indicates that students who have obtained previous educational qualifications before the course are more likely to be employed than students who have not received any educational qualifications before the course (see Table 2).

The only variable that does not show either direct or indirect effects is studying six months before the course (STUDY_B).

Conclusions and Recommendations
Forty three MVs and 15 LVs were originally hypothesised to influence the outcome variable employment status of the 1998 South Australian TAFE graduates. The results of the analysis reveal that among the 15 hypothesised LVs only STUDY_B does not show either direct or indirect effects on the outcome. The other 14 LVs are identified as student level factors that influence the employment status of the 1998 South Australian TAFE graduates. Among the 14 LVs, five namely, C_BIRTH (country of birth), DISABLED (disability), STATUS (best description by student of status when starting the course), EMPL_B (employment status before the course), and REASON (reasons for doing the course) show direct and indirect effects on the outcome variable. In addition EMPL_ONC (employment status during the course) shows the strongest direct influence. Moreover, QUAL_C (qualifications received from the course) shows only minor direct influence. Furthermore, seven LVs influence the outcome variable only indirectly. The R² value of the outcome variable is 0.31, which shows that 31 per cent of the variance of the criterion variable of Employability of TAFE graduates is explained by the model.

The strongest effect is employment during the training, the next strongest construct is employment before training. The weakest direct effect is qualification from the course. Hence, the student outcomes survey data suggests qualifications received from TAFE have the greater effect when supported by work experience during training and/ or work experience before the course. This is consistent with previous findings (Harris, 1996; Kinnaird, 1998; Teese, et al., 1998; Wooden, 1999).

Acknowledgements
The views expressed in this paper are the authors and do not necessarily reflect those of OVET.

References


In recent decades, mentoring has been identified, often uncritically, as an overwhelmingly positive workplace learning activity for men, women and minority groups in a variety of organisational settings such as schools, universities, hospitals, corporations, and government departments. This paper begins by exploring what is understood by mentoring, the functions it fulfils, and some of its benefits and hazards for the mentor, mentee (protégé) and organisation. We then report on the findings of two meta-analytic like studies of mentoring. The first study draws upon 159 pieces of empirical research taken from the education literature. The second study draws on 151 pieces of empirical research taken from the business literature. The review of these two bodies of research is an attempt to clarify some of the significant outcomes of mentoring and to determine the extent to which a 'dark side' of mentoring exists. The paper concludes with implications for practice.

Mentoring has received tremendous coverage in recent decades and this is evident by the great expanse of research and popular literature available. A cursory glance at this literature suggests there is much variation in the way mentoring is used and defined. To date there does not appear to be a widely agreed upon and operational definition, something that is problematic for researchers wishing to make valid inferences about the outcomes and effects of mentoring programs. In the traditional sense of the word, a mentor is a significant other who uses his or her knowledge to assist a protégé develop his or her knowledge, skills, abilities, and career. For the purpose of this paper, we consider mentoring to be a personal, helping relationship between a mentor and mentee/protégé that includes professional development and growth and varying degrees of support.

Functions and Benefits of Mentoring

Since the 1980s, a number of researchers (e.g., Noe, 1988; Kram, 1983, 1985a, 1985b) have grouped the roles or functions performed by a mentor into two main categories — career and psycho-social support. Included under the umbrella of career functions provided by mentors are sponsorship, coaching, protection, exposure and visibility, and challenging work assignments (Kram, 1983). Psycho-social functions, on the other hand, include encouragement, advice and feedback, as well as an enhanced sense of competence, effectiveness and clarity of identity (Kram, 1983).

As researchers in the field of mentoring, we are aware that many studies investigating the effects of mentoring have reported positive outcomes for mentors, mentees and organisations. For decades now, mentoring for mentors and mentees has been linked to a range of consequences such as career advancement, heightened self confidence, personal fulfilment, personal support such as friendship and belonging, financial rewards and learning of skills and knowledge (Douglas, 1997). Several benefits of formal programs for the organisation have included increased productivity, improved recruitment efforts, motivation of senior people and enhancement of services offered (Murray & Owen, 1991). While it appears that mentoring has considerable advantages, the literature in more recent times
has speculated about the 'dark side' of mentor­
ing (Ehrich & Hansford, 1999; Long, 1997).

Dark Side of Mentoring
As with any interpersonal relationship
between two parties, problems are inevitable.
Long (1997) describes several potential
concerns regarding mentoring. He notes that
mentoring is time consuming for all
concerned, is often poorly planned, poorly
understood and insufficiently funded, it is
inaccessible to many women and minority
groups, thwarted by work tensions, lack of
mentors, and poor relationships or differing
expectations between the mentor and the
mentee. For the organisation, drawbacks can
be costs associated with operating and admin­
istering programs, lack of organisational
support, and difficulties in coordinating
programs (Douglas, 1997).

Aims of the Study
This paper is part of a larger study that
resulted in the creation of two comprehensive
mentoring databases (i.e., an education and a
business database). Meta-analytic like
techniques, as suggested by researchers such as
Glass (1977), were used to assist us in
analysing 159 education and 151 business
published studies. This paper begins by
reporting on some of the significant
demographic findings that emerged from the
education and business literature. Following
this is a comparison of the positive and
negative outcomes of mentoring as they are
experienced by mentees in both contexts. In
this paper only brief consideration is given to
mentors and organisations.

Procedure
For inclusion in the current investigation,
studies had to meet two criteria. Firstly, they
had to report original research findings, i.e.,
findings specifically generated by the particu­
lar study. Secondly, they had to focus on
either the use of mentoring in an educational
(such as schools and universities) setting or
business context (such as a government or
non-government organisation). Databases
used for the literature searches included
ERIC, Austrom (AEI), PsycLIT, Soci­
ological Abstracts, ProQuest, EBSCO, Busi­
ness Periodicals Index, Business Australia on
Disc, Science Direct and Emerald.

Measure
The education search resulted in a database of
159 studies conducted between 1986 and
1999, while the business search resulted in a
database of 151 studies conducted between
1986 and 2000. Both searches met the two
criteria for inclusion. Each study was analysed
according to a series of codes developed
specifically for the analyses. The development
of the coding sheet stemmed from a prelimi­
nary reading of 14 articles in the area of
educational mentoring.

Two types of data were identified and
coded — factual and descriptive data. Factual
data comprised year of publication, source
(e.g., journal, research report), country of
study, type of mentoring studied (e.g., begin­
ing teaching, banking), sample size, and data
collection techniques employed. Descriptive
data comprised the reporting of positive and
negative outcomes associated with mentoring
programs.

Data Analysis
Once coded, data from the studies was
analysed using SPSS for Windows. Descriptive
data were used to identify
patterns or trends related to factual data. In
order to provide as valid a coding of descrip­
tive data as possible, consensus had to be
reached between two coders. This was
confirmed at a later stage by a third coder.

Results
Because of the sheer volume of findings
yielded in this meta-analytic like study, only
selected demographic findings are discussed
here and presented in Table 1.

Sample Demographics
As shown in Table 1, analysis revealed that
the majority of reviewed studies for both
business and educational mentoring had been
conducted in the United States of America (70.9% business, 61% education). Studies from the United Kingdom accounted for 13.9% and 18.9% respectively, while those conducted in Australia comprised only 2.6% of the business mentoring literature and 15.7% of the educational mentoring literature. Only 2.6% of business mentoring studies and 6% of educational mentoring studies came from Asia. Although these figures suggest that little research has been conducted in mentoring in countries outside of the United States and the United Kingdom, what is more likely to be the case is that the databases used in the literature search drew predominantly on specific countries. The findings also indicate that Australian research into mentoring has been published more widely in education contexts than business contexts.

Further differences between the business and educational studies were apparent for the types of methodology employed. Quantitative methodologies featured in 51% of the business mentoring studies but in only 9.4% of the educational mentoring studies. In contrast, qualitative methodologies were employed in 64.2% of the educational studies but only in 32.5% of the business studies.

Regarding data collection techniques, survey questionnaires were used as the single technique in almost two-thirds (64.2%) of the business studies. Only 22.6% of the educational studies relied exclusively on this method. Given that 56.9% of the business studies featured samples of 100 or more, the widespread use of survey questionnaires is not surprising. Less than one quarter (24.5%) of educational studies involved samples of this size. Educational studies tended to rely more on a combination of techniques (41.5%), to gather data. In contrast, only 8.6% of business studies used combined techniques. Similar numbers of studies employed only interviews to gather information (25.1% business, 22% education).

In terms of study respondents, more than half (53%) of the business studies focused on mentee impressions. A further 23.8% of studies elicited responses from both mentors and mentees; however, only 7.9% examined mentoring from only the mentor viewpoint. Again, educational studies differed with only 18.9% of studies focusing on mentees. Slightly more studies than this (19.5%) focused on mentors, while 35.8% sought information from both mentors and mentees. The remaining sources of data collection across both types of studies were usually mentees and others (such as human resources staff, administrative or other staff) and mentees, mentors and others.

Outcomes Associated with Mentoring

As noted, this paper focuses on the outcomes of mentoring as they related to mentees. Nevertheless, some insight into the nature and extent of positive and negative outcomes for mentors and organisations, as reported in the studies, is also given prior to the discussion of mentee outcomes.
Of all the business studies reviewed, 92% reported at least one positive outcome associated with mentoring. Similarly, 89.9% of educational studies reported one or more positive outcome stemming from mentoring. However, differences between the two groups were apparent when benefits for the mentor and organisation were examined. Substantially fewer business studies reported benefits for the mentor (26.5%) compared with education (47.8%), while substantially more business studies (30.5%) reported benefits for the organisation compared with education (16.4%). The most frequently cited benefit for mentors in both business and education was networking and collegiality. Concerning organisational benefits, businesses apparently benefited most often from increased productivity and faster contribution of employees, while in educational settings, improvements in the quality teaching and subsequent performance of children was noted most frequently.

Examination of the problems reported in the studies also revealed several differences across the two groups. While 60.4% of educational studies reported at least one type of mentoring related problem, only 32.4% of business studies reported this. Educational studies highlighted more problems for the mentor (48.4%) but fewer problems for the organisation (8.8%) compared with business studies. Of the business studies, 17.2% outlined problems for the mentor and 25.2% outlined problems for the organisation. Despite these differences, similarities were evident in the types of problems that were described. Lack of time, for instance, was reported most frequently as being problematic for mentors in both groups. The only organisational problems that were cited more than once in the business studies related to the effects of high staff turnover and gender biases on the development and continuation of mentoring relationships. In education, problems most frequently cited surrounded lack of partnership among stakeholders and costs.

Positive Outcomes for Mentees
Mentoring clearly appeared to be a valued activity for mentees in both groups of studies. At least one benefit resulting from mentoring was highlighted in 83.8% of the business and 82.4% of the education studies. Categorisation of responses revealed a total of 16 themes among the positive outcomes cited among the business studies and 15 themes among the education studies. The six most frequently cited positive outcomes for both groups are noted in Table 2.

As can be seen in the table, career advancement and satisfaction figured most prominently among the benefits reported by business mentees, while counseling and support was noted the most often by educational mentees. The category of career advancement/satisfaction encompassed all those responses that referred to various kinds of positive career affects such as promotion, affirmation, and motivation. Career advancement/satisfaction was noted in more than half (56.9%) of the business but in less than a fifth (19.5%) of the educational studies.

### Table 2
Categories and Frequencies for Positive Mentee Outcomes — Business and Education

<table>
<thead>
<tr>
<th>BUSINESS</th>
<th>EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career advancement/satisfaction</td>
<td>Counseling/support</td>
</tr>
<tr>
<td>Coaching/ideas/feedback</td>
<td>Teaching strategies</td>
</tr>
<tr>
<td>Challenging assignments</td>
<td>Sharing ideas</td>
</tr>
<tr>
<td>Counseling/support/listening/</td>
<td>Feedback</td>
</tr>
<tr>
<td>Access to resources/people</td>
<td>Self-confidence</td>
</tr>
<tr>
<td>Self-confidence</td>
<td>Career affirmation</td>
</tr>
</tbody>
</table>

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</tr>
<tr>
<td>Access to resources/people</td>
<td>Self-confidence</td>
</tr>
<tr>
<td>Self-confidence</td>
<td>Career affirmation</td>
</tr>
</tbody>
</table>
Although business respondents noted counseling and support less frequently, it nevertheless emerged as the fourth most frequently cited benefit of mentoring.

The second most frequently cited benefit reported in the business studies was coaching/ideas/feedback, while teaching strategies was the second most frequently noted benefit for mentees in education. Similarities between these activities are evident. Both would appear to provide on the spot career or job-related strategies for the mentee. Further similarities in responses across the groups can be seen. Increased self-confidence, for example, was noted frequently by both groups of mentees as being a beneficial outcome of mentoring. Two positive outcomes cited in the business studies that were not mentioned in the education studies included challenging work assignments and access to resources/people. Again, these were examples of career-oriented strategies more so than psycho-social functions of mentoring.

Problems for Mentees
Despite the variety and frequency of positive outcomes reported for both groups of studies, numerous problems were also reported by mentees. Interestingly though, substantially fewer problems were reported for mentees in business contexts compared with those in educational contexts. Slightly more than one quarter of the (25.2%) of the business studies reported problems for mentees, compared with 42.8% of the education studies. Categorisation of responses revealed 11 themes among the problems cited by business respondents and 15 themes among the problems cited by educational mentees.

Table 3 presents the six most frequently cited problems for both groups. As indicated in the table, mismatches were a frequent source of problems for mentees from both settings. Mismatch was the most frequently cited problem for mentees in business settings and the second most frequently cited problem for those in educational settings. However, the mismatches that occurred in business settings resulted more from gender or cultural differences than the expertise or personality differences described in the educational studies.

For the educational mentees, lack of mentor time was reported more frequently than any other problem. Although mentees in business noted this less often, it was still the sixth most frequently cited problem expressed by the group. Apart from difficulty meeting, and other’s negative attitudes, the remaining problems noted by both groups of mentees related to deficiencies or negative behaviours on the part of the mentor. For both business and educational mentees, mentors were frequently reported to be unsupportive, and lacking in the knowledge or skills necessary for them to be effective. Furthermore, 4% of business mentees claimed that their mentor had stood in the way of their career and 5.3% of business mentees noted that the mentor was competitive. These two negative outcomes were not identified by education mentees.

| Table 3 |
| Categories and Frequencies for Mentee Problems — Business And Education |

<table>
<thead>
<tr>
<th>BUSINESS</th>
<th>EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mismatch gender/race</td>
<td>Mentor lacks time</td>
</tr>
<tr>
<td>Limited autonomy</td>
<td>Mentor lacks time</td>
</tr>
<tr>
<td>Other’s negative attitudes</td>
<td>Mismatch professional/pers</td>
</tr>
<tr>
<td>Mentor ineffective</td>
<td>Mentor critical/defensive</td>
</tr>
<tr>
<td>Mentor competitive</td>
<td>Difficulty meeting</td>
</tr>
<tr>
<td>Mentor unsupportive</td>
<td>Mentor unsupportive</td>
</tr>
<tr>
<td>Mentor blocked career</td>
<td>Mentor untrained</td>
</tr>
<tr>
<td>Mentor lacks time</td>
<td>4.0%</td>
</tr>
<tr>
<td></td>
<td>4.0%</td>
</tr>
</tbody>
</table>
Discussion
From the review, differences in the demographic profile of the business and education studies were clear. While most research has been conducted in the United States, the nature of the business and educational research was very different. Studies conducted into business mentoring tended to be extremely structured and directed at large samples. Conversely, educational mentoring studies were more descriptive in nature and dealt with smaller samples.

Another distinguishing feature of the business studies was the reliance on the work of Kram (1985b). When articulating the type and nature of activities that contribute to the mentoring experience, numerous researchers referred to Kram's psycho-social and career mentoring functions and the activities that are said to underpin them. Encapsulated in psycho-social functions are role modeling, acceptance and confirmation, counseling and friendship sponsoring and coaching, while career functions are sponsorship, exposure and visibility, coaching, protection, and challenging assignments. So respected is Kram's (1983, 1985a, 1985b) work, that several studies used only the terms psycho-social or career to describe the outcomes associated with mentoring. This raised questions about whether one, all or several of the mentoring activities were examined.

In contrast to the business literature, no one theoretical perspective dominated the educational literature. Indeed, studies of mentoring in education were rarely linked to or substantiated by theory or conceptual frameworks. In defence of these studies, however, mentoring in formal education is a relatively recent phenomenon and therefore has a less established theoretical base to draw upon.

Notable also among the business studies was a strong focus on gender. Nearly one third (30.5%) of studies examined issues associated with mentoring for women, or sought to differentiate the effects of mentoring on women and men. Undoubtedly, an explanation for this stems from the considerable presence of women authors in the business mentoring literature. Another explanation is that because mentoring has a long history in the business world, studies have moved beyond the mere examination of advantages and disadvantages of mentoring, to attempts to identify and understand the variables that impact on the mentoring experience. A final explanation is that formal mentoring programs have been used by human resource managers in many organisations as an affirmative action strategy to assist women and members of minority groups to access important skills and knowledge necessary for career development and advancement. The presence of affirmative action mentoring programs for women and minority groups has yet to be experienced in educational settings.

Emphasis on career outcomes such as satisfaction, promotion and increased income emerged as the most salient benefit of mentoring to mentees in business settings. Mentees in educational contexts, on the other hand, were primarily concerned with support, empathy, counseling, and encouragement—clearly behaviours that are reflective of Kram's (1983, 1985a) notion of psycho-social mentoring. Psycho-social functions such as counseling were also reported by mentees in business environments, but these appeared to be overshadowed by career functions, in particular coaching and challenging assignments.

Kram's (1983, 1985a) career function of mentoring could also be seen to be relevant to educational mentoring. Although not noted as frequently as counseling, support and encouragement (psycho-social functions), career satisfaction, affirmation and advancement, were nevertheless cited in almost 20% of the educational studies that reported benefits for mentees. Curiously though, Kram's (1983, 1985a, 1985b) work was barely acknowledged in the educational studies reviewed.

Our review found that there was a 'dark side' to mentoring and several problems were noted in the education and business studies.
Although problems were cited more frequently throughout the educational literature, both groups of studies identified mismatch of mentor and mentee, lack of mentor time, and lack of mentor support as being problematic for mentees. Significant too, among both groups of mentees was the outcome that mentors were untrained or unable to mentor effectively.

A possible explanation for the greater number and variety of problems for mentees in the education studies can be attributed to the nature of the research methodologies that underpinned the studies. The majority of education studies utilised qualitative research methods whereas the majority of business studies used quantitative research methods, such as questionnaires. Generally speaking qualitative research methods provide more open ended discussion and lend themselves to greater identification of issues than do questionnaires that offer predetermined and closed responses.

Implications for practice
There is no doubt that mentoring is a complex and highly sensitive organisational process. The review reinforced the important role that mentoring can play in both business and educational settings. While mentoring can be an extremely positive experience for all involved, it is not without a dark or destructive side. Its success can be jeopardised by poor matching of mentors and mentees, unsupportive, critical and incompetent mentors, and a lack of time and effort invested by mentors and mentees. It seems that successful mentoring programs are those where mentors and mentees are matched in terms of professional expertise and personality; where mentors have sufficient training, time, energy and resources to carry out their role; and where programs are continually appraised and refined in order to maximise the potential benefits for all involved.

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Codification of Tacit Knowledge for the New Learning Economy

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This paper outlines the concern in the new learning economy for the codification of knowledge, arising from the recognition of the importance of knowledge in future competitive economic activity and the short-lived nature of the knowledge which is involved in innovation. It relates this concern to previous managerialist assumptions about the nature of education and the knowledge evident in such movements as competency-based training. The nature of the sought codification, the kinds of knowledge involved, the challenges of codification, and the feasibility of the new calls for the codification of tacit knowledge are examined. It is concluded that it is doubtful that tacit vocational knowledge can be codified, transmitted and grafted as intended for innovation in rapidly changing workplaces.

Learning economies are regarded as those which can marshall and share expertise as industries become more knowledge-intensive in pursuit of continuous innovation for profit maximisation. According to Lundvall and Borras (1997, p. 30) in their report for the European Union:

the notion “knowledge-based economy” draws attention to the fact that since the post-war period the production process has increasingly relied on knowledge-based activities. The proportion of labour that handles tangible goods has become smaller than the proportion engaged in the production, distribution and processing of knowledge. The expansion of the “knowledge-intensive” sector vis-à-vis other routine and physical production processes seems to be one of the major trends in economic development in this period. We shall go on to argue that it is better to talk about ‘a learning economy’ than a “knowledge-based economy”, since the high pace of change means that specialised knowledge becomes much more of a short-lived resource, and that it is rather the capability to learn and adapt to new conditions that increasingly determines the performance of individuals, firms, regions and countries.

According to this report, in “the learning economy crucial elements of knowledge remain specific and tacit, and rooted in specific organisations and locations”.

The distinction between tacit knowledge and codified knowledge is important because, if knowledge remains tacit, it flows less easily across organisational and geographical borders. If all knowledge were readily transformed into information to which everyone had easy access, there would be little incentive for firms, regions and nations to invest in R&D and technology gaps between regions and countries would be minor and temporary. Basically, knowledge remains tacit if it is complex or variable in quality: in situations where several different human senses need to be used at the same time, when skilful physical behaviour is involved and when understanding social relationships is crucial. This is especially difficult to overcome when the context undergoes rapid change. (Lundvall & Borras, 1997, p. 13)

Codification Agendas in Retrospect

Against the explicitness of the new economic conceptions of education and knowledge, the
competency-based training movement can be seen as continuing attempts to codify vocational knowledge. Communication from industry to educators about what competence should be developed in vocational education is mediated by language in the form of standards and learning outcomes. For transmission, workplace competence is codified, as verbal descriptions. The early moves in competency-based training involved verbal descriptions of expected behaviours (The National Training Board, 1990). The narrowness and specificity of such capacities became apparent to policy-makers and these behaviours were then differentiated using such verbal descriptions as those involving tasks, management of groups of tasks, contingency management and job/role environment skills (National Training Board, 1992, p. 29).

It was eventually also recognised that such behaviour required "underlying knowledge". And, eventually, these behaviours and implicit underlying knowledge were supplemented with Key Competencies (Mayer, 1992), an attempt to codify that which is perceived as generic or transferable across different kinds of work. These are problem-solving; collecting, analysing and organising information; using technology, using mathematical ideas and techniques, working with others and in teams, planning and organising activities, communicating ideas and information. Attempts are currently being made to codify and disseminate vocational competence in "training packages".

The emphasis on such codes appears to arise from their commercial importance in managing knowledge: eg codes are needed to derive and transmit the nature of the required outcomes, to assess whether they have been achieved, to purchase clearly delineated training, to manage trainers and their efforts, to appraise different providers in a competitive market, to pay workers, and so on.

Knowledge to be Codified in the New Codification Agenda

Lundvall and Borrás (1997, p. 46) outline the kinds of knowledge to be codified for the new learning economy, and suggest how this codification might take place. They also outline the kinds of processes of interaction that already lead to the acquisition of such tacit knowledge.

Codification of knowledge implies that knowledge is transformed into "information" which can be easily transmitted through information infrastructures. It is a process of reduction and conversion which renders the transmission, verification, storage and reproduction of knowledge especially easy. (Lundvall & Borrás, 1997, p. 31)

The classical examples of tacit knowledge quoted in the literature are typically individual skills (like cycling and swimming) that cannot be made explicit and that cannot be transmitted through, for instance, telecommunications networks. But, it is interesting to note that this and other kinds of tacit knowledge closer to the economic process, such as management skills and economic competence, can be learnt. They will typically be learnt in interaction with other people, through a master apprentice or collegial relationship. This means that tacit knowledge can be shared through interaction and co-operation. Simple forms may be accessed through imitation of behaviour, but in most cases learning is greatly facilitated if the master or colleague co-operates with the apprentice... (p. 46)

On completion of a specific project people and organisations that solve problems together will typically, as an end result, now share some of their partners' original knowledge, as well as some of the new tacit knowledge produced by the interaction. Interactive learning is the key to sharing tacit knowledge, which means, of course, that the social context is important for this kind of learning — an observation which we shall discuss in more detail later. (p. 46)

The report extends the ideas of tacit knowledge beyond the individual to the organisation and to networks of organisations. It recognises that the codification of such knowledge is static and can lose its meaning through the process of describing it in verbal terms.

Tacit knowledge is not to be found only at the level of the individual. An organisation,
with its specific routines, norms of behaviour, codes of information etc. may be regarded as a unit that carries within it knowledge, a substantial part of which is tacit. Management may, from time to time, make attempts to codify everything constituting the organisation — perhaps in order to make it less vulnerable to the risk that key persons leave the organisation — but, if they are realistic they will realise that it can only be done in a very simplistic and static environment and that the efforts involved may bring the organisation in a standstill while the rest of the world keeps moving... (p. 46)

Even industrial networks and inter-firm cooperation arrangements may be seen as repositories of tacit knowledge layered into common procedures and codes not reflected in formal contracts or other documents. Some of these procedures might be possible to codify while others would lose their meaning if they were written down. (Playing golf, drinking cocktails, flirting with professionals from another organisation, and sharing political, religious and literary tastes, may be fundamental in bringing people from different organisations together in projects of interactive learning but they do not look impressive on paper and they undermine their own function if they become part of an explicit and purely instrumental strategy.) This is a problem similar to the formation of trust in a market economy. (p. 46)

Assumptions About Knowledge and the Individual Underlying the Codification Agenda

Such a codification perspective takes knowledge as an entity that comes in parcels. These parcels can be developed and traded, provided they can be adequately represented in codes, usually verbal. In a global economy they can be traded across geographic boundaries, and the knowledge can be fed into activities at sites independent of some individual who may possess the knowledge. This perspective is less concerned with individuals per se. It is concerned with feeding codified knowledge into the development of new economic entities, and achieving this as independently of individuals, locations and time, as possible.

Previous attempts at describing skilful practice as competencies, and generalisable abilities as key competencies are predicated on the idea that skills, creativity and other complex human behaviour can be described, developed and traded. Herein lies the economic problem of tacit knowledge — it seeks to separate the individual and the setting from knowledge. In order to be traded as an economic good, this knowledge needs to be codified so that it can be bought and applied in innovation like any other good. Just as individuals are no longer needed to operate machines in manufacturing, it should not be necessary for the individual who develops new knowledge to be directly involved in innovation — just codify and trade the knowledge. Yet continuing attempts to treat vocational knowledge in this way have not been successful in generating economic wealth and overcoming societal problems like youth unemployment and equity.

This perspective leaves the individual aside. It is not concerned with individuals’ callings, ways of constructing meaning, and societally appropriate practice, or the culture of practice, than with immediate and on-going human capital, mobilisable in a globalising economy. Rather it seeks to rely on the mobility of knowledge instead of the thinking individual working in a setting as the primary source for innovation. It is opposed to ideas which give pre-eminence to the individual: ideas of individual development, empowerment, or criticality (except as they might relate to generating codifiable products related explicitly to economic ends); or continuity in meaning between work and other aspects of life and society (e.g. see Stevenson, 1993, 1994a, 1996a). The view separates knowledge for work from knowledge for other life purposes.

The Nature of Vocational Knowledge

The research literature has also long recognized such phenomena as tacit knowledge
(Polanyi, 1967), implicit knowledge (see Buchner, Funke & Berry, 1995; Long, 1995), multiple intelligences (Gardner, 1983), non-traditional intelligence (Sternberg, 1985) and the plurality of representational encoding and memory systems (Martin, 1993; Paivio, 1979; Tulving, 1984).

Contrary to its current economic recognition, tacit knowledge has usually been undervalued in academic work. Psychology has "avoided studying practical, sensory activity... (where) external activity... was viewed only as expressing the internal activity of consciousness." (Leont'ev in Wertsch, 1981, p. 51). Academic work has separated that knowledge which can be described in verbal terms from that knowledge which cannot. Thus we have disciplines of knowledge, called theory, which is taken to provide the underpinning conceptual understanding needed for action. It is presumed that, if only this verbally expressible knowledge could be acquired, then individuals could engage in generative and productive activity that is conceptually-driven. It is this conceptually-driven capacity to represent new problems that is taken by cognitive psychology to be the expertise that develops with experience in practice and which differentiates novices from experts. Non-linguistic knowledge is still often seen as "intuitive", "primitive", or even misconceived (e.g. see the discussion by Schnotz & Preuß, 1999), rather than as "task-dependent constructions" (Schnotz & Preuß, 1999). These ideas persist despite Ryle's (1949) powerful arguments against this separation of "head" and "hand" or knowledge "that" and knowledge "how". A higher value is afforded that (theoretical) knowledge which is abstracted from the concrete or particulars of a situation and organized into disciplines of knowledge ("theory"), over that knowledge which enables activity or practice. It persists as a primary differentiating feature of "vocational" vs. "higher" education / knowledge, or "general" vs. "vocational" education / knowledge, or "theoretical" vs. "applied".

There is now considerable research to challenge the confounding of knowledge with its verbal renditions. We now realise that people know in a variety of ways, none of which is intrinsically superior. Verbal concepts are but one kind of symbolisation (Nunes, 1999), and concepts are "intrinsically linked to practical and physical skills (Säljö, 1999, p. 83). Conceptual change may "not necessarily involve the replacement of one kind of representation with another, but the coexistence and integration of different representations for different tasks" (Po, Gómez, & Sanz, 1999, p. 163). Some examples of the problems of verbal representations follow. Boshuizen and his colleagues (1995) found that discipline-based verbalizable medical knowledge is transformed qualitatively in practice. Bloch (1998) concluded from his anthropological studies that language appears to play only a small role in the transmission of complex, everyday and practical knowledge. He argues that "under certain circumstances, this non-linguistic knowledge can be rendered into language and thus take the form of explicit discourse, but changing its character in the process" (p. 7). Practical skills are better transmitted non-linguistically to save double transformation into and out of language. For Bloch, the nature and form of expert knowledge for everyday purposes appears to be more related to how the knowledge is used than how it may be elaborated as semantic conceptual schemata like those found in scientific texts.

The "selection and organization of knowledge" is influenced by the "modality in which objects are most frequently encountered" (Scribner, see Tobach et al., 1997). The development of expertise consists in "becoming socialized into a specific view of the world" (Halldén, 1999, p. 55). From studies on the acquisition of blacksmithing knowledge, Keller and Keller (1996) suggest that "knowledge is organized for doing rather than abstracted into various formal arrangements on purely logical or typological grounds". The interaction between knowledge as language and knowledge as action, in expertise and its development, has been exemplified and detailed in Hutchins' (1995) detailed exami-
nation of the collective nature of cognition as a crew overcomes the failure of navigational equipment as a ship enters a harbour. From the work of such authors as Scribner (see Tobach et al., 1997), Engeström (e.g. 1999, p. 66), and Keller and Keller (1996) we also have considerable clarification of the role of artifacts and the culture that generates and surround them, in practical thinking. The conceptual change literature (e.g. Schnotz, Vosniadou, & Carrereto, 1999) also now draws on Vygotsky's idea that concepts originate in human practice. This recent literature brings together such findings as the role of concepts in helping us to categorize, engage in concrete practical action and skill; and that they should not be considered as separable from action; or from practice. It confirms that conceptual change does not necessarily replace everyday constructions of knowledge, and may well result in syntheses of different kinds of representations. Different representations compete for activation in different situations and for different tasks. While some of this literature still gives a special place to language: in the labeling of categories, which explain regularities in the world; in the expression of concepts; and in communicating knowledge, verbalized concepts are regarded as just propositional representations alongside other kinds of representations.

There are therefore considerable challenges to a codification of vocational knowledge. From this work and work in the Centre for Learning and Work Research (Beven, 1997; Stevenson 1996), the nature of vocational knowledge challenges for codification can be summarised as follows.

(a) The capacity to perform is situated and effectively depends on the context of the culture and the context of the situation:

- Mediating tools and workplace artifacts
- Capacity to make predictions and inferences based on rules known only to participants
- Complex systems of pathways
- Capacity to interpret (decode and analyze)

(b) The situated capacity to perform is normative; it involves value judgements and reconciliation of various value positions. These values are derived from a variety of sources.

(c) Tasks usually require a mix of attributes across subject areas

(d) There are serious limitations for transfer from/to superficially similar situations even within the same broad work function in the same industry

(e) While verbal labels can be assigned to knowledge this labeling is somewhat arbitrary, when selecting a level of generality to capture the construct. In choosing a label, one can go to existing taxonomies or construct one derived from features of the workplace, its functions and activities that go on within it. In either case, verbal descriptions are limited in their capacity to reproduce the schemata that are presumed to comprise productive and generative activity.

(f) The more abstract the label, the more removed from meaningfulness in actual concrete practice; knowledge in action is highly contextualized and situation-dependent

Conclusion
Thus the assumption that verbal codes for knowledge can be developed as adequate representations of the knowledge that is actually represented in memory is rather problematic. As recognised long ago by Dewey (1916), there are intimate connections among knowledge, doing, purposes and functions, artifacts, tasks and settings. Recent research has teased out the complexities of these interrelationships. There are therefore considerable challenges in seeking to codify vocational knowledge as tradeable parcels of knowledge in the way that economics demands. The very knowledge which the European Union report identifies as tacit — complex, variable, multi-
faceted, physical and social — is particularly difficult to capture verbally.

It is heartening to witness the re-evaluation of the worth of non-verbalisable knowledge, and the attention on tacit knowledge, but the assumption that it is codifiable suggests yet another confounding of knowledge with its verbal renditions. Rather, what is needed is a return to an emphasis on the learning individual, working in a setting with real physical and social characteristics. As Dewey recognised, because individuals seek to construct meaning in their work by building connections with other facets of their lives, their knowledge is idiosyncratic and highly situated. Since that time, it has been possible to add flesh to the complex nature of the schemata that are involved. It is therefore concluded that it is doubtful that it will be possible to graft onto individuals, the parcels of knowledge needed for innovation in rapidly changing workplaces.

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The Learning of Workteams

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What appears to be missing in the organisational literature on workteams is research on the interplay between individuals and the workteam, particularly from the aspect of adult learning — the potentially varying needs, processes and expected outcomes. To be capable of making decisions, solve problems, plan, and prepare the everyday functions of a workteam, individual workteam members must initially evaluate and reach a mutually satisfactory position regarding the following trade-off:

How far will individual team members' go to meet the workteam's demands and learning needs and how robust is that desire to pursue individual learning needs before those required by the workteam? Athanasou, 1999, p. 424.

Although there is very little actual research available on learning within workteams, it is recognised that simply placing people together does not ensure a functional workteam. The individuals and the workteam need to learn not only new skills and knowledge, but also 'how to learn' synergistically; coupled with the need for individual members and the workteam to be recognised as separate, albeit interrelated, organisational entities. Using a grounded theory research design two workteams from different manufacturing organisations are being observed and interviewed over a six-month period. This paper reports on the literature and some preliminary observations on learning that occurs within a workteam environment, illustrating how individual learning and workteam learning interact during the functioning of the workteam.

Australian organisations are grappling with constant, demanding changes in the global marketplace. Traditional organisational management structures and production processes are inefficient and the impact of technology and simultaneous global communication has created competition where none existed before. To counter the impact, organisations are on a quest to gain and sustain competitive advantage through restructuring the traditional bureaucratic hierarchies to workteams. Although research indicates the workteam is an efficient organisational entity, there is very little research available on learning within a workteam. Workteam learning has been the most prevalent form of workplace learning during the past decade (Mussnug & Hughey, 1997). Whilst learning is an integral component to teamwork. It should be acknowledged that learning will never automatically convert a group of employees into a functional workteam. It takes considerable time and effort to implement and sustain a team-based workplace (Lorrimar, 1999; Mussnug & Hughey, 1997).

Organisations need to tap into and increase the commitment to their employees' learning potential in terms of skills, knowledge and capabilities. This cannot be achieved by just expecting employees to work harder, but by teaching them how to work differently, emphasising the value of learning 'how to learn' and by using various learning methodologies and paradigms (Lucas, 1998).

Further research is required into workteam synergy and tacit and explicit forms of knowledge creation, and in identifying contributing learning activities and processes with special emphasis on the interplay between individual and team learning.
Recently researchers such as Dechant Marsick and Kasl (1993) and Koybashi (1994 cited in Lucas, 1998) have developed models of team learning. It is not within the scope of this paper to discuss the process, value or impact those models have had on workteam philosophy. Rather, my research has been focussing on an element of team learning that appears to have been largely overlooked in existing research. It explores the positive or negative interplay between individual team members’ learning needs and those of the workteam, and whether there is a need for alignment between the two sets of learning needs.

Learning

The term learning is a difficult concept to define because it has many different perceptions and definitions that are based on its context, physical location and application. Perhaps the simplest to understand is that learning is the acquiring of knowledge, information, and skills (Lefrancois, 1972). This definition however, is incomplete in that it does not define nor refer to learning outcomes. This has partly been rectified by Falk & Harrison (1995 cited in Oxford, 1998) who suggest learning is comprised of two components, its process and the outcomes of that process. The process of learning is not observable because it is embedded within the learning context, whereas learning outcomes can be observed for example, observing the performance of a new skill achieved through a learning activity. Estes (1975, p. 9 cited in Watkins, 1991) would appear to have a similar notion as Falk and Harrison in that:

Learning always refers to some systematic change in behaviour or behavioural disposition that occurs as a consequence of experience in some specific situation.

The responses to learning and change differ with each individual learner and are influenced by: time, provision of information or knowledge, culture, speed of assimilation, feelings of confusion, anxiety, resistance and preferred learning style (Holliday & Retallick, 1995).

There is considerable research on adult learning, and on the disputation over the value of workteams. However, there is a paucity of research on how an individual learns in a team-based workplace. There needs to be more research into the relationship, and its relevance, between individual and workteam learning modes. Holliday (1994, pp. 2–13) identified five conditions important to individual learning. Although his research was expressly related to teacher-orientated learning, it can be applied with equal relevance to workplace learning.

1. the individual learner must have and recognize positive feelings of their self
2. the individual learner must have the ability to recognise and understand their specific and preferred learning needs
3. the individual learner must have the ability to develop, apply, use and evaluate innovations in the workplace and learn from the resulting experiences
4. the individual learner must have the capacity to learn with and from others both directly and indirectly
5. The individual learner must develop a sense of ownership and self control over decisions and actions in the learning activities and outcomes.

So whilst there is research to identify individual requirements for learning there is very little research on the conditions important for workteam learning activities. Therefore, workplace learning requires a new epistemology of practice, one that not only explores and incorporates the explicit instructions and guidelines of individual and workteam learning activities, but also the tacit learning processes invoked through daily interaction between the individual and the workteam.

There has been a shift in the understanding of how adult learners learn in different contexts. Adult learners use advanced levels of mental functions such as perceiving, remembering and thinking to enhance their ability to communicate effectively and focus their learning activities in a meaningful way. These mental functions are qualitatively different
from those of children. Adult learners' traits, thoughts, feelings, attitudes and experiences influence their learning. So adult learning can never be a 'clean slate' because the adult learner approaches most learning activities in possession of those varying levels of skills, knowledge, capabilities and experiences (Olscheske, 1999). Therefore, it is imperative that an employee's learning potential reflects that same complex set of knowledge, skills, capabilities, and experiences because learning is now integrated into all aspects of work life (Shaw & Craig, 1994).

Brooks (1994) believes that learning is the construction of new knowledge and that new knowledge is one successful outcome of learning. Learning begins by drawing upon past experiences and knowledge that can be explicit, experiential or tacit. Conventional learning paradigms rely solely upon explicit knowledge, whereas workplace learning requires both explicit and tacit knowledge. It was believed that tacit knowledge could not be learnt and that it could only be 'picked up' through trial and error or pure observation.

Learning involves attending to and reflecting upon an experience that results in either a present or future change in behaviour, attitude, skills, knowledge, capabilities and beliefs. This description of learning draws on the reflective learning research of (Kolb, 1984) who defines learning as being the transformation of an experience into new knowledge. He suggests that knowledge is created in the learning process through transactions between social impulses and individual and collective experiences which are transformed and embedded into language in the form of dialogue, gestures, assumptions and shared meanings. All experiences from life, education or work have the potential for learning but for learning to occur the experience must be attended to and reflected upon.

The Workplace as a Learning Site
The concept of the workplace as a learning site is not new, and has potentially been constrained by widely held perceptions of the workplace as a narrow learning site. Some perceive it merely as a physical location in which they perform their work and believe that they come to work in order to work, not to learn (Shaw & Craig, 1994). Workplace learning is not just any form of learning activity that occurs in the context of the workplace. It involves a process of reasoned learning activities that result in desired outcomes such as increased skill bases, innovation and sustained organisational development and growth (Matthews, 1999). Resnick, Levine, & Teasley (1991) believe that workplace learning is task focussed. It occurs in a social context where collaboration develops from an experience or a problem that requires solving for which there is no existing knowledge base, and that it is cognitively different to school learning.

Despite recognition of the confusion and indecision over the concept of the workplace as a site of learning, it is clear that the concept of workplace learning is complex. Senge (1990, p. 4) states: 'As the world becomes more interconnected and business becomes more complex and dynamic, work must become more meaningful...'

This complexity highlights the need for a broader definition that incorporates not only the physical location but the shared meanings, ideas, behaviours, and attitudes that must be integrated with an individual, workteam and organisation's current tasks and goals. The outcome will always require either a change or adjustment in thinking and actions and these changes can be either behavioural or attitudinal.

The Need to Align and Balance Learning Needs
Workplace learning activities and processes have changed significantly in the past decade with a differing focus and emphasis that incorporates learning activities not considered before, such as learning through reflection, learning to learn and team learning. Rosabeth Moss Kanter (cited in Argyris, 1994, p. 36) argues that:

The dawning awareness that high-performance work systems, with an emphasis on
learning hold the key to future competitive success...represents a tremendous opportunity...

Employees today are faced with unprecedented demands in terms of quality, efficiency, and a diversely demographic workplace. There are tremendous pressures being placed on not only individual workteam members but also the workteam in terms of their capabilities to cope, learn and function at the accelerated pace demanded by the social, industrial and technological global workplace.

Despite this pressure, employees' willingness and desire to be involved in a range of workplace learning activities are constrained by their need to initially satisfy and then align and balance their learning needs with those of the workteam. It is this need for alignment and balance in learning needs that is the focus of my research. My study aims to develop a model of team learning that focuses upon the interplay — positive and negative — created during the aligning and balancing process. It is widely recognised that further learning of skills in terms of advanced cognition and self-management will be needed by individual workteam members and workteams to fulfil complex workplace expectations. However, further research is also needed to understand the factors and processes that promote or impede individual workteam members' or the workteams' learning capabilities. This is because those employees who do not or cannot accept or adapt to change through learning new competencies can create dysfunction within the workteam (Bandura, 1996).

**The Need for Workteams**

The classical hierarchal organisational structures that functioned efficiently through to the early 1980s are now increasingly being seen to be less competitive or efficient. Many Australian organisations are on a quest to gain and sustain competitive advantages through restructuring work processes and moving from traditional structural hierarchies of individual tasks to workteams.

The introduction and use of workteams is neither automatic nor easy to achieve successfully, and although much research tends to indicate that workteams are efficient organisational entities, they do nevertheless require specific workplace conditions and processes to be effective (Olscheske, 1999). Most researchers in this area agree that teams are important ‘learning sites’ well suited to the creation and transfer of knowledge and learning (Marsick, 1987). No person, as an individual can effectively or productively learn all aspects of assigned tasks or workplace production methods.

**What is a Workteam?**

A workteam is a permanent, tangible organisational structure (Felts, 1995) that is comprised of processes and properties that produce and control a specific service or production process from start to finish. These processes and properties designate it as a workteam, rather than merely a group of employees. It is an open system that interacts with its environment and requires resources in terms of time, people and skills and transforms them into outputs such as problem solutions, innovations and improved productivity and quality (Ingram, Teare, Scheuing, & Armistead, 1997). The workteam demands greater skills, knowledge and understanding of multiple work processes. The devolving of responsibility down to the point of production has required a radical upgrading of employees' knowledge, skills and capabilities and in mastering operational tools once considered the exclusive domain of management (Campion & Higgs, 1995; Ingram, 1999).

**Workteam Characteristics**

The workteam has an integrated and developed system of shared ideas, thoughts, attitudes, behaviour and objectives. All of these when combined, create its culture. A culture is comprised of patterns of interrelated roles, norms, expectations, traditional procedures, actions and standards. These define a workteam’s unique configuration as an interacting social system that allows constructive interplay between the learning
needs of the individual and that of the workteam. It is these collective beliefs and perceptions which are the foundation of teamwork (Wilson, 1973).

Teamwork

It is important to clarify the definition of teamwork as it is intrinsically related to the workteam (Lorrimar, 1999). Teamwork is intangible; it is comprised of team spirit, synergy, shared thinking, understanding, values and beliefs characterising the collaborative unifying activities of a workteam (Ingram et al., 1997). These characteristic features of teamwork are also known as "intellectual teamwork" and embrace an information processing paradigm which utilises communication and information technology processes. Workteams engage in a network of conversations and other facets of communication, which are used to develop coordinated knowledge creation and information processing (Olscheske, 1999).

The Workteam as a Separate Learning Entity

Learning in the workplace occurs in two domains. The first domain is the individual and the second is the workteam, which is recognised as a separate organisational learning entity. Osburn, (1990) believes that a workteam can be established and recognised as being a separate organisational entity through its collective learning activities rather than through individual team members' learning activities. Damon, (1996) however, suggests the idea of a workteam as a separate organisational entity capable of learning is too metaphorical. Is it possible for a workteam to cooperate, collaborate and reach consensus if the workteam members think, reason, and learn independently using different learning modes, can the workteam share those acquired knowledge, ideas and modes of learning (Lorrimar, 1999)? In fact, Watkins and Marsick (1994, p. 115) suggest that an excellent source of competitive advantage can be achieved through:

Teams that learn well are more likely to share their gains across the organisation. Knowledge, insights, language, or ideas can be transferred from one individual to another and from the team to the rest of the organisation.

Limited Research on Team Learning

The emergence of workteams has created the need for continuous workplace learning and an understanding of how workteams learn. Senge, (1990, p. 238) states:

Despite its importance, team learning remains poorly understood. Until we can describe the phenomenon better, it will remain mysterious.

Brooks (1994) and Dechant, Marsick, and Kasl (1993) agree that team learning is not a well-researched phenomenon so consequently there are no empirically based prescriptions, guidelines or specifications. The majority of existing research tends to focus on how individuals work and learn in a team-based work environment. There needs to be further insight into the dynamics of the workteam and a better understanding of the rationale and characteristics of workteam development and of the cognitive, cultural and social learning processes that mediate team learning (Lorrimar, 1999).

Team learning process

The notion that a collection of individuals such as those in a workteam can learn synergistically is not unreasonable (Edmondson, 1999). In fact, Senge (1990, p. 236) defines team learning as:

...the process of aligning and developing the capacity of a team to create the results its members truly desire. It builds on the discipline of developing shared vision. It also builds on personal mastery, for talented teams are made up of talented individuals...

Workteam learning enables the workteam to pursue and achieve higher mental functions, increase self-efficacy, innovate and create
through the processes of individual and collective interaction and learning (Brown & Duguid, 1991).

In this paper, team learning specifically refers to a process that is characterised by team-orientated learning behaviours that allow team members to develop mutually agreeable learning outcomes. Senge (1990) believes that this distinction of team learning is important because the term 'team learning' has been used to describe and define technical, production or service outcomes, such as increasing the team's performance, rather than learning outcomes.

Cranton (1997); Sexton (1994) and other researchers have identified similar activities that characterise the team learning process, such as:

• working together with mutual respect and support
• sharing information, knowledge and ideas
• listening to others' points of view and ideas
• negotiating and achieving consensus on workteam issues
• ensuring that the learning process is inclusive not exclusive.

None of these team learning activities would be possible without communication. This critical element in the team learning process includes dialogue, discussion and deliberation (Darkenwald, 1996; Dechant et al., 1993; Resnick et al., 1991). Senge (1990, p. 227) states that team learning is: 'A collective discipline which involves... mastering the practices of dialogue and discussion'.

Dialogue
Dialogue is an essential team learning skill, according to Nonaka (1991, p. 404), who states that:

Teams play a central role in the knowledge-creating company because they provide a shared context where individuals can interact with each other and engage in the constant dialogue on which effective reflection depends.

Senge (1990) suggests that dialogue encourages workteam members to develop a shared intention for inquiry and that through dialogue workteam members learn how other team members think and feel about workteam issues and each other. Dialogue is a process that team members can use to suspend their individual views, beliefs and biases allowing the creation of an environment in which all ideas and complex issues can be discussed and explored in-depth. It achieves a greater mutual understanding and aids in discovering the nature of choices, solutions and ideas. Dialogue involves learning how to recognise interactive patterns of behaviour that impede or enhance team learning. This can be achieved through using the following communication techniques identified by Lucas (1998) — pacing, inquiry, diagnosing, summarising, leading, proposing and directing.

The practice of dialogue can be especially useful when confronting 'defensive routines'. These are habitual interactions that workteam members use to protect themselves from perceived embarrassment, threats, ridicule, or conflict arising out of team learning activities (Argyris, 1993).

Discussion
Darkenwald (1996) defines discussion as the sharing of ideas, feelings and attitudes on a specific issue or topic. Discussion provides a workteam with opportunities for effective learning. Using skilful discussion, the workteam members can develop a penetrating understanding of others' knowledge, experiences and views.

Deliberation
Deliberation is defined as the reflective communicative behaviour that characterises team learning.

These three communication skills complement one another and together they facilitate a workteam's learning, synergy and performance. Often communication within a workteam tends to be interwoven with codes, symbolism and non-verbal signs (Ingram &
Hence, traditional barriers to effective communication such as education, culture, status and ego can prevent the development of shared vision and team learning (Kiefer, 1998).

Koybashi (1994, p. 24 cited in Oxford 1998) believes that team learning is a collective comprehension activity through which individual workteam members offer and openly discuss their ideas, listen to and assess other’s ideas and construct new knowledge, skills or learning capabilities. The collective knowledge, skills and capabilities created depends on a variety of social interactive factors such as the horizontal flow of information, the workteam members’ prior domains of knowledge and the availability of intellectual tools.

Brown and Duguid (1991, p.46) suggest that workplace learning is the bridge between work and innovation. It depends upon the shared narratives of the individual employees, which they imply is dependent upon social interaction such as communication. However, they suggest that it is irrelevant and impossible to differentiate between individual learning and team learning because the learning processes of the two sets of entities are interdependent.

...individual learning is inseparable from collective learning. The insight accumulated is not a private substance but socially constructed and distributed.

Therefore, while individuals engage in learning activities the collective learning outcomes appear to be important to an organisations future development and growth.

Conclusion

Argyris and Schon (1978) argue that the current unstable, economic, political and technological environment has brought about the current interest in workplace and team learning. Australian organisations operating in this instability need to understand how individual and workteam learning can be developed into a continuous activity (Matthews, 1999).

Team learning is fundamental to the functioning of a workteam. Without the principles and guidelines of a model of team learning, a workteam may well be working at less than its full potential. Workteam members would be incapable of attaining the requisite learning skills, knowledge or capabilities to develop themselves into a flexible, informed, responsive and adaptive workteam (Swenson, 1997).

I have been a non-participant observer of two workteams’ meetings for a period of six months. During this time, I have focused on the learning interactions of the individual workteam members and the workteam during their regular meetings. Whilst I have observed the extensive use of dialogue, discussion and deliberation this research is still very much work-in-progress and data analysis has not been systematically undertaken yet.

I can recall one incident, however, during a workteam meeting, which hints at a perceived misalignment and imbalance between the existing skills, knowledge and capabilities of a workteam member and the expectations of the workteam. Each team member had been given a specific project to complete, which was based upon the workteam’s objectives for the next twelve months. This team member perceived they were incapable of completing this task as it involved the use of strategic planning, investigating and researching skills and that they had ‘never even seen a project brief before’. During the meeting, the team leader reassured all the team members by saying ‘don’t worry, just have a go’.

I interviewed this team member after the meeting and asked if she felt the task was a challenge and how did it make her feel? She agreed the project brief was a daunting challenge, and she felt ‘very tense and uncertain about the process... but quite comfortable in asking for help from other team members’.

I also interviewed another team member who offered help and suggestions during the team meeting by saying [they were]...not on their own, each team member is to help each
other'. She explained to me that the task was not a daunting task for her as she had attended a project manager's course. This course had taught strategic planning and researching skills that she perceived would help her with the task.

Whilst this is a general recollection, closer study of the transcripts will provide other incidents that will enable deeper analysis of this very interesting issue of the alignment and balance between the learning needs of team members and those of their workteam.

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What is productive life?

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The question of productive life is very pertinent in my workplace - a juvenile justice for young men. In this paper I draw on themes developed in previous research into (pre)employment education and training programs, to explore the concept of productive life. There is an inherent tension between unemployment and the operation of programs that are about work preparation. Government programs such as Mutual Obligation in Australia and New Deal in Britain are set in place to link the unemployed person as client. Such programs reflect an uneasy liaison between the play of the market, the promotion of an active and self-reliant self, and attention to exclusion, risk and social cohesion. The onus is ostensibly on the unemployed person to be active, to be work ready and to become a lifelong learner. In this configuration compliance is called into play. The conflicting demands on the unemployed person call up the question of the formation of the self. I draw on reflexivity of Anthony Giddens' high modernity and Jessica Benjamin's explication of subjectivity to pinpoint some of the experiences of education and training at the juvenile justice centre.

In a world that encompasses fragile lives and sophisticated, transnational production of goods and services, post-compulsory education and training may well be becoming more significant. My workplace is a juvenile justice centre, where education and training takes the form of TAFE provision. Thus the emphasis is on vocational. However, in such a setting, the meaning of vocational, almost by necessity, is intermittently questioned.

At its most fundamental level, vocational education and training (VET), is education and training which is work centred. The detail of such a description is the issue. It calls up the relationship between work and learning and the self.

There are four intersecting aspects to this paper: the process of analysis and research, the purposes and practice of (pre)entry vocational programmes, formation of the self, and the underlying question of 'what is productive life'?

What was the process of analysis?
Whilst the current context of this question for me is my work with TAFE in a juvenile justice institution, the origins of this research stemmed from reflection on the experience of teaching in labour market programmes in a mainstream TAFE institute. One substantial opportunity for reflection involved a review of a particular statewide course. The Certificate Of Occupational Studies was a vocational course with general and industry specific components. The purpose of the review project generated by the then Office of Training and Further Education in Victoria (OTFE), was to assess the course in terms of its viability in the light of changed perspectives and requirements in the systems of national vocational education and training. Implicit questions in the review process were these: What are the salient issues and dynamics? Who says so? Where are the paradoxes and contradictions that need to be addressed and on what basis? What do these suggest about possibilities and constraints?

Devising recommendations required discernment of the critical issues, and judgements about them. What was produced, in turn, became the source of further reflection for a thesis. The critical issues identified were
The task in terms of the thesis was to take these issues and identify points of tension within and between them. The concern about credentials for instance, indicated a determination to enhance the fortunes of participants. It simultaneously demonstrated the influence of a market-oriented rationality. There is a point of tension between the two aspects. Such points illuminate underpinning themes.

The second stage of reflection on the COS project thus produced the four themes of social marginalisation; the learning culture; globalisation and the active self. The themes became the lenses of discernment for what was being produced and what could be produced in policy and practice. Each theme was utilised through guiding questions: How do the most vulnerable people fare? What learning is being advanced? What is the connection with market imperatives and globalisation? What is being promoted and assumed about the self? What are the purposes and practices of programmes?

Programmes and Policy
The main policy items for analysis I have drawn on are: Mutual Obligation in Australia (1998) and New Deal in Britain (DfEE, 1998); and the European Union’s White Papers on Education and Training (Brine1997). Curriculum
My analysis of (pre)entry employment curriculum has identified various arenas of investigation: the academic-vocational divide (Hyland, 1993 and 1995); the learning culture and the learner in post-16 curriculum (Quicke, 1997); the question of ‘really useful knowledge’ (Kilminster,1997); the focus and best practice arrangements of employment training programmes (Working to Learn, Evans et al., 1997) and the competency and Training Package approach.

An important area of research in the field of entry level vocational education and training has been learning principles and practice. Notions of student-centredness and self-consciousness underpin various interests. The literature has included: action research based learning (Kemmis, 1998); the place of reflection in the learning experience of professionals (Schon, 1983, 1996); the learning process in general adult education (Mezirow, 1991); incorporation of emotional intelligence in learning (Boud, Keogh & Walker, 1996); the role of the learner in constructivism (Kerka, 1997); the link between well-being, education and training.

The literature search was useful in terms of contemplating forms of assistance to the unemployed person which reduce social exclusion; or for conceptualising vocational education and training in terms of social and personal learning; or finally, for understanding the depth of impact on the self of global changes, particularly in the distribution and modes of employment. There was a recurring emphasis on a certain kind of active autonomy or individualism underlying policy and curriculum initiatives. Given this emphasis, there is a point where policy or programmes and curriculum studies become inadequate; where it is necessary to call up ‘grand’ theory to examine the sources and impact of this notion of self. What then is the self and what are its sources? This was the basis for the reference to the work of Anthony Giddens (1990, 1991, 1992, 1994, and 1998) and to that of Jessica Benjamin (1988, 1995).

Giddens identifies a discourse of self and links it to social forces. His theory also has a social-psychological orientation evident in the theme of the reflexive self, as well as through the explanation he develops of the sources of that self. In his more recent work he focuses on inclusive social policy which encompasses employment and welfare. The combination of personal and social formation of the self in a
context of social policy is a distinguishing feature of his work. It is thus an appropriate source of deliberation for interpreting and envisaging of pre(entry) programmes.

The Self of High Modernity

Giddens' work operates not as a recipe of analysis, but as a source through which to integrate an approach. He makes a connection between the social experience of self in this period of 'westernisation of the world' (Giddens, 1998) and theories of human developmental growth. It places the question of how people learn and make their lives in a contemporary context.

A dialectical notion of self as a self-social constitution is intrinsic to Giddens' argument. These two aspects correspond to the respective foci of his texts: self and institutional reflexivity, most recently in the domain of the socio-political.

According to Giddens, the current period is a discontinuous one in terms of marking a profound shift away from that which marked traditional social order. It is exhibited in the global reach and transformation of minute details of everyday life. More than ever before, the self is at the junction of 'globalizing influences' and 'personal dispositions;' of internal and external dynamics. Giddens maintains that the most mundane of human activities and aspirations, like what to watch, how to care, what to discuss, how to 'be', how much milk to drink, whether to do more training, what industry to enter or occupation to attempt... are transformed through their constant interaction with institutional systems of information and abstraction. The dominant forces in such systems are international media and communications, and the information does not stay put for long.

The formation of self in such a world becomes a kind of perpetual attempt at mastery of circumstances and identity; with various degrees of intensity marking the reappraisal and even purchases of life options. The reflexive self becomes embroiled in processes of continuous appraisal and self-reckoning with diverse outcomes. An individual can feel bombarded by choice, worn out by constant scrutiny of self and perhaps dubious about experts. This is something which is appears to operate at the juvenile justice centre among young men, expressed in the 'not another worker' lament! In a situation where knowledge is contingent, life matters are the outcomes of a configuration of trust and risk, doubt and security.

However, the play of human endeavour and social dynamics invokes contradiction, and ultimately the re-posing of the question of what it is to be human, potentially transforming the self and social life. In his more recent works (Giddens, 1994, 1998), the earlier focus on lifestyle is broadened, and it is socio-political practical possibilities which are the subject and source of his attention. Lifestyle matters are as they pertain to the now almost urgent context of social democracy.

Subjectivity

Giddens' positioning of self is a social reading, yes; however, it is a psycho-social framing of the self as a security system, which draws on theory about conditions of human growth and ontological security. The dimensions explored here are trust, risk and human growth; and trust, risk and administration and institutional dynamics. It is about learning about self in relation to the world. It thus is of use in re-conceptualising the active self, learning culture and productive life.

The Reflexive Self and Learning

Giddens makes mention of and calls upon versions of object relations theory to denote the way the self ontologically proceeds in the world of risk and trust he describes. Trust is presented as a vital condition of early security, as well as being a 'medium of interaction with the abstract systems'.

Trust

It is necessary to go about everyday life, with a sense of placement. This is a core premise about selfhood of object relations theory, Wittgensteinian philosophy, and existential phenomenology — all of which leave their
mark on Giddens (1991, p. 35). Placement is not wholly determined by location, yet geography helps mark it; (even distance education is not regardless of place; otherwise it would not be called distance). This sense of being at home comes with coherence which links confidence in self and a certain level of reliability of external circumstances over time. Drawing on Freud and Goffman, (Giddens 1991, p. 143), Giddens describes its development as the 'capacity to use “I” in shifting context' (Giddens, 1990, p. 54). The context could be one of finding bearings in a new environment, (very evident in the early days of a sentence) or maintaining equilibrium during changes in procedural systems, or on confronting quirks of technology.

What is being described is ontological security — a self that is grounded. This relation between the self and the social context centres on two main dimensions of psychic organisation: discursive, which is based on conscious use of reasoning, and unconscious or tacit knowledge.

Trust, Risk and Human Growth

Establishing a routine is a way of blocking of threats and sustaining hope and courage that enables trust. Time need not be fixed, but established. Giddens notes that routine doesn’t mean a removal of threats, rather it assumes anxiety, or we wouldn’t need its comfort (Giddens, 1990, p. 98). In the course of development an infant experiences a state of being at one with the here-and-now parent, with routine operating as the emotional offset to the realisation of absence and subsequent hostility.

Benjamin in particular draws out the importance of connection and identificatory love for all infants and subsequently for participation in adult life. Attention to the pre-Oedipal, she asserts, reveals the importance of the experience of interdependence, of attachment and recognition as a primary dimension of human experience (Benjamin, 1988, 1995). In this mutual recognition there is tension, for example between being oriented to what is happening around - the external — and being absorbed in internal rhythms of being held, sleeping and so on (Benjamin, 1988, p. 50). Here too I am made mindful of the so called hyper-active youth who roams around agitated and yet shows rapt attention to detail when working with metal in the engineering workshop.

Interestingly Benjamin maintains that the tension between being at one with and being separate from, operates for parent and child, irrespective of gender. For Benjamin, individuation is thus not a linear shift from oneness to separateness of Freud, but rather is a conflict between attachment and assertion, and between similarity and distinction, which operates throughout life in relationships as a continual exchange of influence.

The Reflexive Self and Institutions of Globalisation

(Pre)entry employment programmes provide a point of contact with the self and institutional dimensions of social life. In this world of high modernity and few certainties, trust in abstract systems is positioned against a backdrop of heightened perceptions of risk. There is a damage and repair control rather than a belief that more knowledge is more control. Giddens suggests that there is an intensity surrounding risk factors associated with nuclear capacities, changing divisions of labour, investment markets, disease, drugs and war (Giddens, 1991, pp. 124-131).

As the infant experience reveals, trust is predicated on anxiety or lack of knowledge of some kind and this can work both ways. Either can be grounds of mistrust. It is a fragile balance and yes there are existential paradoxical tensions, which are vital to resolve for the preservation of a coherent narrative of self-identity according to Giddens. When trust is fragile, and there is an underlying cognition of uncertainty, there is a range of reactions. There may be a return to deployment of notions of fate or the cosmic. Present actions intersect with future so there is a greater intensity requiring assessment of risks of one’s actions. Ironically, trust may deflect hazardous thinking, so we resort to risk profiling or
anticipatory bargaining or heightened experiences (Giddens, 1990, pp. 129-33).

Even if trust is sure-footed, there is a paradox in that whilst the awareness of risk gives a calculable appearance to life, there is, as well, an unease from the fact of risk. Life is less predictable therefore specialised knowledge becomes a source of emotional security as much as for practical necessity. However, knowledge is also contingent, so risk has to be managed and negotiated and that is part of the work of the reflexive self. They demand a variety of expert systems.

System Representatives
Giddens places great import on the point that trust in the system filtered by trustworthiness of the experts or their representatives; the case manager or teacher for instance. People at access points go to great lengths to be trustworthy, thereby providing the link between personal and system trust. He observes that encounters with experts can appear to take on the character of friendship, which operates as a proof of reliability. Giddens reminds us that demeanour of experts assists control and reduces the impact of fallibility (Giddens, 1991). Whilst operating as a representative expert, the individual concerned is obliged to negotiate the expectations of others, alongside her/his own preferences and desires. I would add that demeanour these days also is of an explicit authoritarian kind and that it operates in tension with friendliness. This may be more apparent in a place of correction and rehabilitation, however, it is also something which is more general to workplaces.

Other writers take another slant. The importance of demeanour reflects a new intensity. ‘[E]nergy for work’ is about the constitution of subjectivity and the ‘...mobilisation of personality’ (James cites McDonald 1997, p. 305). Here mobilisation is also management — (self)managing the soul. James declares that in such a workplace, it is difficult to work out or ‘map the contours’ of good and bad or authentic or not, or to judge motivations — even one’s own. These contributions add to the analysis of Giddens. They emphasise a general and important vulnerability — of experts, of employers as well as the unemployed person and young detainee. They also strengthen the contention that access points are places of tension between lay scepticism and professional expertise.

There is a certain level of tension between taking up or being immersed in systems, and withdrawing or being private. Paradoxically, says Giddens the intensification of administration and surveillance within nation-states leads to action in the form of increasing demand for democratic participation. The compliance that Giddens suggests may be necessary in The Third Way (1998) could curtail democracy; it also may be the precipitant of such demands. Trust in abstract systems is vital but contingent; however, Giddens does not acknowledge that this contingency intensifies the implicit and explicit operation of management or control. Trust and insecurity vie for attention. Individuals and groups have capacities to negotiate being managed or some instances of the use of expertise, but differential access is a feature of high modernity.

Throughout this description, there has been a constant theme of ontological security. The self is influenced by the intersection of psyche and social; institutional reflexivity touches souls. Institutional reflexivity means there is something that is general about social experience. Different circumstances render different configurations of the issues. To be more vulnerable does not foreclose the capacity to live with integrity and with a dynamic relation to everyday circumstances. The play of autonomy and management means that there are enabling, but sometimes desperate, attempts to cope on an existential level; for the most vulnerable, disintegration hovers. To be vulnerable is also to face perhaps more acutely, that which we are all embroiled in.

If the attention to the grounds of trust and risk in individual lives is integrated with the social and political project, the subsequent analysis is a useful source of challenge. The world of personal and social reflexivity, and of management of risk contains its own possibil-
Implications for (pre)entry Employment Programmes

The following implications of the analysis are informed by the four themes of the paper: the active self, learning culture, globalisation and social marginalisation. The aspects comprise points of tension as well as resolutions that have emerged.

• The inclusion of self is a central organising principle. This positioning of self reconstitutes Brine's (1997) criticism of the 'pathology of individualising'. It implies that the self has to be explicitly attended to in a programme. It is consistent with Mezirow (1991) and Boud, Keogh and Walker (1996) who call for reflectivity. Giddens sets it in a context that is broader than that which characterises good learning and teaching and programme. Reflection is now a social habit; however, can it be reduced to a reckoning of how to progress through modules?

• In a global world of national and regional systems, Governments have a regulatory role. The tension between advocating compliance through legislation and generating active trust has to be confronted.

• The entrepreneurial aspect of the reflexive self is an ambivalent spur to action. It reflects the influence of the market and challenges dependence on current notions of employment. It attempts to reconstitute the 'active' in active self. Work becomes a crucial concept to re-envision. That is the challenge in the juvenile justice centre.

• Lifelong learning is multi-faceted but perhaps also a reflection of the globalised reflexive world. There is perhaps a caution to the expectations of the European Union (Larsson, 1998), and the OECD (1996, 1998), that learning is not a substitute for employment. Nonetheless, there is a capacity for learning that encompasses the reflection of themes that erupt out of the changes — such as, 'what is work?'

• As advanced by Quicke (1997) and Hyland (1995) — education and training can be an instance of dialogic democracy. Emotion does not have to conflict with sound and social (pre)entry courses and programmes.

• Partnerships between public and private sectors and agencies can assist creative production in employment and training programmes.

• Contradiction and tension is not outside this depiction. Cosmopolitan contexts and student formation entail some contestation about social/moral matters, both internally and externally, for individuals and groups. For programme staff, one such source of tension and cultural clash is the demand for immediately relevant, practically oriented focus in a sub-text that says information and abstraction are also what matters. This may be an aspect of reluctance to 'do theory'.

• For some staff, constant appraisal of self in a work environment that is itself unsure of its ground creates more tension. This also applies to those who are unemployed and in programmes.

• Social cultures of risk and doubt, trust and security place more onus on staff to prove to be trustworthy as transmitters of knowledge and skills, and to be emotionally reliable.

Not all issues are resolved in this perusal of Giddens' work. Concepts of work and the compliance he advocates are the most evident of the points of tension in his theory. The tensions illuminate those aspects, which requires attention. This is it's contribution. Unresolved theoretical tensions also are a reminder that theory is a dynamic resource rather than a recipe for, of pure expression of, the experience of life.

What has been outlined is a working position — a demonstration of the feasibility of the line. It has located the operation of (pre)entry programs in a context of a changing world that is reaching the heart of how we understand and explain ourselves. Are we our own custodians? It is a paradox. There is
resilience expressed by people in the handling of contradictions, which signifies the persistence of human ideals. Programmes, which are about entry to employment, have a strategic capacity to work at this paradox. Unemployment is persisting; programmes are struggling. It is vital that a new approach is devised.

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We have a system for training delivery in Australia that, despite noble aims, does not provide any relief for people in marginalised communities. Regularly there are innovations in delivery, in content and in instructional design or curriculum theory. Nevertheless, many people do not acquire the skills to allow them to make a living in an area or location they choose. I believe that there is a need for the implementation of true holistic education for adults that fulfils the definition provided by Education 2000.

My paper will outline a framework for “community facilitation” I have developed, that brings together the current VET system and structure with concepts and strategies from “traditional Indigenous education”, as well as modern holistic philosophies and approaches. The result is a framework that will allow members of these marginalised communities to acquire the skills they want and need to achieve their goals. The methodology used in this programme will increase the social capital in the community by sharing knowledge and skills, by encouraging group problem solving and by enriching personal relationships. The knowledge and skills gained will also allow the community members to take them and broaden their horizons, hopefully to return and pass their newly acquired knowledge back to the community.

Communities without social capital are without pride and without unity. In the modern world those communities are condemned to a slow dissolution to nothingness. Bullen and Onyx (1999) define social capital as “a bottom up phenomenon. It originates with people forming social connections and networks based on principles of trust, mutual reciprocity and norms of action”. Eva Cox (1995) in her Boyer lecture said, “Social capital should be pre-eminent and most valued form of any capital as it provides the basis on which we build a truly civil society.” In order for our marginalised communities to survive and grow, each person in those communities needs to be allowed to grow intellectually, emotionally, physically, socially, artistically, creatively and spiritually. We must shift away from the reductionist paradigm and learn to view all things as interconnected. We must allow ourselves to consider the long-term results of our actions, not only to ourselves, but to our communities, our environment and our world.

Knowledge and Culture
Shared or community knowledge and culture are deeply interdependent in many Indigenous cultures. I have studied traditional Indigenous education from Canada and Australia and from all accounts traditional Indigenous education was experiential. The ‘classroom’ was the environment and the ‘teachers’ were the family, immediate and extended. The essence of education was based on language. Traditions, stories and accepted behaviour were passed to the next generation orally, using the language of the group. Jackson (1987) says, “Deeply nuanced traditional knowledge, acquired through daily experience and stories in an informal setting, however complex it might be, is not all that complicated to internalise because it is acquired as second nature, woven in with the rural setting, the daily work, the moral code.” I believe this is the key to effective learning. Taylor and Spry (1999) from Community Aid Abroad say, “If you give kids language, you give them...
identity; you give them a sense of pride, of self-esteem." The oral tradition of Indigenous culture not only allows knowledge and skills to be transferred from one generation to the next, but it also provides rules of behaviour, context and appropriateness and keeps the language alive. The community members talk to their peers and to the younger members, passing on knowledge and skills as well as tradition and values, so that the community experience can be maintained. The community is established and maintained as a whole, in contrast to the disparate residential groupings of people that pervade 'western style' countries, nullifying culture and identity. It can be questioned whether oral tradition merely maintains the status quo, reinforcing time-honoured traditions and stifling innovation, or allows for individual achievement and entrepreneurship. While it may be true to say some Indigenous cultures used their oral traditions as a moral and practical straitjacket, in order for cultures to survive they have had to adapt. That means that knowledge and skills are still conveyed through story telling and visual media, but the knowledge, skills, attitudes and lessons passed on incorporate all information relevant to modern living. This process of cross-cultural development of Indigenous communities has slowed down the assimilation and probable assassination of some of the world's most vibrant cultures.

Many communities in Australia are becoming marginalised. This occurs in both rural and metropolitan areas, often by 'stealth'. Businesses are closed, new investment isn't forthcoming, population declines through lack of employment opportunities, institutions close and services are reduced. Members of these communities feel betrayed, disillusioned, useless and scared. People find themselves caught up in their own world with their own problems, unaware or uncaring of others around them, trying to fight against a system which victimises the oppressed until they give up. Do current training and employment structures service the needs of these people? I believe not. I do, however, believe that by utilising strategies that worked for Indigenous communities for thousands of years and coupling them with an imaginative use of the current training framework marginalised communities can be revitalised. Learning communities can be created and the social capital of the community can be increased to a level which is self-perpetuating. Individuals can again become members of a community sharing knowledge, skills and experiences. The learning communities can foster the connections between people, places and events, encouraging creative thinking in much the same way Indigenous communities have done for centuries before European colonisation and industrialisation. However, it is possible that the facilitation of learning communities could still allow some members to become marginalised if they are not comfortable interacting with their neighbours and sharing their life and newly acquired skills, knowledge and experiences with others. In order to ensure this does not become an issue the facilitator will need to be particularly attuned to the needs and wants of the community members as individuals. The facilitator will need to ensure the process and outcome of the facilitation is inclusive of all community members; thus allowing the individuals to choose the level of their involvement while still fostering an awareness that any individual can increase or decrease their level of involvement as their needs change.

Outline of the Community Facilitation framework

This framework is based on the following premises:

- People should be able to choose the direction their lives take—specifically, how they want to make their living and their right to the training that will give them the skills and knowledge they need.
- Communities should not be so fragmented that the members do not feel empowered to go out and attempt to reach their goals, as many are now.
- Opportunities to utilise the current training system should not rely on funding following the enrolment of students. This
funding method makes delivery to small numbers of participants or participants in remote locations prohibitively expensive even with the inclusion of new learning technologies, which, of course, bring with them issues of access and technical literacy.

- Communities should not be forced to use a system that relies heavily on providers, Industry Training Advisory Bodies (ITABs) and local Department of Education and Training (DET) offices to provide data on the kinds of training required for the area and the local industries. The resulting training delivery may often be contrary to the wants and needs of the community members.

- We must fully utilise training packages. Training packages are a much more flexible tool than a backbone to the current system than the old curriculum. Unfortunately, there are many providers and practitioners who believe training packages are inadequate, too specific or not specific enough in their requirements. This contrariness of opinion leads to poor delivery and assessment, thus devaluing the system and the qualifications it supports. This, of course, ultimately leads to training not being delivered in the way that is best for the learner.

- Communities should be empowered to create projects which enrich both the community members and the environment in which they live.

This framework seeks to utilise the skills and knowledge that exist already in marginalised communities to provide a baseline for the members to begin to revitalise the community.

An individual or team of facilitators will live in the community and begin by ascertaining the skills and knowledge that exist in the local area, the needs and wants of the individuals with regard to training, employment opportunities, support and the needs and wants with regard to services and facilities.

The facilitator will also determine whether there is an active Adult and Community Education (ACE) sector in the local area. If there is, the facilitator will liaise with them regarding becoming a Registered Training Organisation (RTO) and administering the community facilitation project. If there is not an active ACE sector, the facilitator will liaise with community groups to facilitate the creation of one. The creation of an RTO will ensure that all the learning that may be benchmarked against national competency standards will be assessed and recorded accordingly. This ensures the learners achieve not only personal development and opportunities for future employment, but also nationally recognised statements of attainment or qualifications, which are portable. It will be the responsibility of the facilitators to ensure the bureaucratic constraints of the RTO process do not impede this dynamic and holistic approach—no mean feat itself!

This framework allows members of the community to engage in learning that is relevant and of interest to them. The projects that evolve from the framework will benefit individuals and the community as a whole and should lead to an improvement in facilities and services, with the members managing the process and taking up key roles in the organisations that develop from the projects.

The whole process will take place in an environment of reflection and feedback to the community through learning circles. This will ensure the knowledge gained through the day-to-day experiential activities will be passed on to other members in the community, allowing them to learn and benefit from the experiences of others. The process should also become self-perpetuating, community members providing ongoing training to others to ensure that the community moves forward.

**Relationship of Indigenous Cultures to Action Learning and Holistic Principles**

This links back to the Indigenous cultures I spoke of earlier. In many Indigenous cultures the skills and knowledge that are needed to survive are integrated into daily life and passed down through the community and
generations by active participation and verbal feedback. The community members work together to gain knowledge and skills, and this benefits both the individuals and the community. Their learning is relayed to the other community members so they may benefit from and utilise the learning, which occurred as a by-product of the process. Action learning strategies emphasise the learning which occurs when a person experiences the process of an action: whether the action is familiar or alien to them, each time the event occurs there is learning. This framework is aimed at the community member capturing that learning and reflecting on it to allow other community members to benefit from their experience.

A working example of Indigenous culture, action learning and holistic principles is the Four Worlds Institute in Alberta, Canada. This organisation was formed to counter the effects of alcoholism, poverty and powerlessness in Indigenous communities on the High Plains of Alberta. It has four strategic principles on which it bases its work (Four Worlds Institute, 1990). They are:

1. Development comes from within.
2. No vision, no development.
3. Individual and community transformations must go hand-in-hand.
4. Wholistic learning is the key to deep and lasting change.

Their vision was to restore respect for the Elders and the traditional values of the High Plains tribes, while still making use of, on their own terms, the modern technologies for health, education, training and economic development. Now 18 years later, their programmes have generated over 5 million dollars of funding from a variety of governmental and non-governmental sources, funding which has been turned back into resources for the communities.

Indigenous practitioners and holistic educators have long emphasised interconnectedness and values. These key groundings can become the basis for the revitalisation of marginalised communities, although there is much talk amongst holistic practitioners of education about what holistic education actually is. Education 2000, a meeting of 80 educators in Chicago in 1990, came up with the following statement.

Holistic education is not one particular curriculum or methodology: it is a set of working assumptions, which include the following:

- Education is a dynamic, open human relationship.
- Education cultivates a critical awareness of the many contexts of learners' lives.
- Human intelligence is expressed through diverse styles and capacities, all of which we need to respect.
- Holistic thinking involves contextual, intuitive, creative and physical ways of knowing.
- Learning is a lifelong process. All life situations must facilitate learning.
- Learning is both an inner process of self-discovery and a co-operative activity.
- Learning is active, self-motivated, supportive and encouraging of the human spirit.
- A holistic curriculum is interdisciplinary, integrating both community and global perspectives. (Web address: <http://www.neat.tas.edu.au/HENT/gate.htm>)

The Education 2000 statement reflects what the Four Worlds Institute is doing, as well as the values underpinning the community facilitation framework.

'Community facilitation' is not only holistic in nature, it incorporates 'community-based learning' and supports the principles of lifelong learning espoused by a number of writers in the early 90s.

Challenges
There are a number of challenges to this framework, relating to the fact each person and each community is unique. Different communities will provide differing challenges to the facilitators. I have listed some below.
Gaining enough trust of the community to ascertain their real needs and wants. People in marginalised communities feel unimportant and lacking in confidence. This may lead them to write off their own opinions and needs and wants as unimportant and irrelevant to the wider community.

Facilitating the establishment of an RTO. The framework for the establishment of RTO status can be time-consuming and appear overwhelming. The need to provide information critical to that status, and the records maintenance associated with it, can be very daunting. It will be essential for the facilitators to provide extensive mentoring to the community members directly involved in the administration of the system.

Providing a ‘scope of recognition’ that is suitable. In establishing the RTO status a ‘scope of recognition’ needs to be defined based on the skills of the trainers and assessors. Since the community facilitation model relies on local experts for the delivery in the real work context, it will be a challenge to define the scope, meet the registration requirements and still provide the community with the expertise it needs.

Meeting nationally recognised standards of assessment and recording. The facilitator will need to provide extensive training and ongoing mentoring to assessors and administrators to ensure the assessment and reporting requirements are being met and currency is being maintained.

Funding for the RTO, the training of trainers and assessors and the resources (securing permissions, funding and resources for community projects that may support the training and delivery of knowledge and skills). Funding is a major issue in training for the above areas. The facilitator will need to provide extensive training and mentoring to the community administrator who will be responsible for funding. Part of the funding for the capital projects will need to be diverted to these areas. The administrator will also need to be aware of the myriad of small funding projects that are available from Federal and State governments through organisations such as Australian National Training Authority (ANTA), Framing the Future, and Learnscope, as well as other funding for community development projects etc.

Finding local people who are willing to be mentors in their skill area and mentors who meet the subject needs of the people in the community. Many people in marginalised communities may not realise the skills and knowledge they have, they may not think they can effectively pass them on or they may think their effort will be too insignificant. Clearly the facilitator will need to make all the members feel useful, valued and appreciated.

Ensuring the community project becomes self-sufficient and self-perpetuating. It is essential that the facilitator set up a training and mentoring programme that will ensure the whole process is self-sustaining and managed by the community. The idea that the facilitation programme is self-sustaining is critical to the ongoing development of the community. The facilitators need to encourage an atmosphere of success and achievement, leading to a growth in individual and community self-worth, which leads to increased community wealth, (both intellectual and monetary).

Conclusion

Of course, there are many community development projects occurring in many different parts of Australia. Similarly, there are many training organisations and job-network providers who are trying innovative and interesting ways of providing training and work opportunities. There are also a number of community-based learning circles, sharing knowledge and learning for the benefit of their community. It is my belief, however, that these projects, approaches and circles remain fragmented and localised. There need to be a way of revitalising marginalised
COMMUNITY FACILITATION THROUGH ACTION LEARNING AND LOCAL CO-OPERATION

communities, whether urban or rural, in order to make them viable, rich in culture and attractive for others with a view to relocation and investment. I believe the way to do that is to develop a holistic approach and I hope this framework may be a first step. Vasily Sukhomlinsky (1968) said, "I firmly believe that the human personality is in exhaustible; each may become a creator, leaving behind a trace upon the earth." This community facilitation model allows ordinary people to create something which will help sustain their own community and take it on into the 21st century.

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This paper discusses a current study of the experiences gained within a project that is using the World Wide Web to develop participants' community development and information technology skills as part of a capacity building process in rural communities. A theoretical basis for the study is provided from the literature of adult education including a framework that examines concepts of learner stances. Current understandings of the online learning experience are also presented. The paper argues that in order to create the conditions for engagement within a critically reflective online community there must be a thorough understanding of the nuances involved in the learning process from the perspective of the learner. It describes the initial experiences of the group as they encountered a problem-based online learning environment and began to engage in online group discussion. The paper concludes with some early results from the study.

The Community Development online learning project is funded through the Rural Health Support and Training (RHSET) scheme. The project is being conducted over a 12-month period by the University Department of Rural Health, Tasmania (UDRH) and is expected to be completed in February 2001. The project aims to provide a framework for the on-going development of skills within the health care provider community to respond to the capacity building needs of local rural communities. The study described in this paper is an essential part of the evaluation of the project.

The project has two stages. In the first stage, health professionals and key community stakeholders working in rural and remote areas of Tasmania undertook training in community development and online facilitation. During this training the participants gained skills of online facilitation and participated in planning a community development project. As a result of the experiences of the first group the model will be revised before the participants take on the role of online facilitators and conduct training of the module. The philosophy underlying community development emphasises that knowledge is really the capacity for action and that learning communities are the embodiment of that capacity. The World Wide Web (WWW) has been chosen as the vehicle for this project because of its perceived advantages in providing equitable access of learning to a group of rural and remote health and community workers from a wide geographic spread.

Introduction

The praises of web-based learning have been sung by many and varied proponents of this method of education. Recently this included Spender and Stewart (2000, p. 4) touting what they term E-learning as "the only way ahead". They predicted that electronic learning will "radically change the way people learn" and likened this to another technologically driven learning revolution — that of the
printing press. The printing press allowed learning to occur apart from the church, and so the Internet is promised to shift learning away from the public education system.

While acknowledging that online learning is still in the early stages of development, Spender and Stewart (2000, p. 5) have no hesitation in stating:

"Anyone who doesn't have an exhilarating and positive experience (of electronic learning) should blame the provider, not the medium."

Is this a realistic assumption? Will providing a quality learning program with a high level of support for the learners be sufficient to allow a positive experience? Will there be other revolutionary changes in learning relationships? This paper argues that before we can begin to answer these questions we need to develop an understanding of learning processes from the perspective of the learner. Hara and King (1999) reminded us that the fine-grained dynamics of virtual classrooms are unknown, with little research completed on the learning process as the semester progresses. In an acknowledgment of the need to capture the changes in learning that occur over time, the Community Development study uses the concept of learner stances. This paper discusses a study into the processes involved in learning from the perspective of the participants. It is hoped that the findings of this study will help to develop a better understanding of the impact of new digital technologies on learning relationships.

**Constructivist and Collaborative Learning**

The WWW is promoted as an ideal place to create and support constructivist collaborative learning environments (McManus, 1996; O’Kane-Powell & Walker, 2000; Spender & Stewart, 2000). Advantages include flexibility and the ability for geographically disparate groups to learn together. Constructivist learning theories (including problem based learning (PBL) and action research) view the learner as an active participant in the learning process, involved in constructing knowledge through a process of discussion and interaction with learning peers and experts (Harasim, undated). PBL is noted by Savin-Baden (1998) as developing the learning skills of critical thinking, including flexibility, adaptability, problem-solving and critique. This is in direct contrast to the more traditional teaching models when the learner acts as a passive object expected to absorb information, which can then be replicated at the appropriate time and place (e.g., in an examination). Senge et. al. (1994) saw the change in emphasis from ‘teaching’ to ‘learning’ as an essential response to a climate of rapid change.

**Creating the Conditions for Growth in Learning**

The theme of growth in learning through critical reflection is frequently encountered in the theoretical understandings of constructivist learning (Boud & Griffin, 1987; Senge 1994); Brookfield (1995); Mezirow (1996); Savin-Baden (1998); Tennant (1991); Wuagneux (undated)). The key reflection and inquiry skills of critical learning are noted by Senge et. al. (1994) as bringing tacit assumptions to the surface, and with this a growing awareness of the assumptions and beliefs that link “what we see” to “what we conclude”. When learning challenges the known way of thinking, the result is a collapse of the learner’s previous frame of reference (Taylor in Boud & Griffin, 1987). Taylor used the term ‘disorientation’, Senge referred to ‘fragmentation’, Brookfield to a ‘loss of innocence’, while Savin-Baden called this phase ‘disjunction’. Whatever the terminology there can be no doubting the ferocity of the emotions that accompany it. Savin-Baden referred to the sense of fragmentation of part of, or all of the self, which she noted is:

(C)haracterised by frustration and confusion, and a loss of sense of self, which often results in anger and the need for right answers...[In the early stages] this fragmentation can result in attributing blame (for not being able to learn effectively through Problem Based Learning) elsewhere, usually towards the tutor (1998, unpaginated)
Given the emotional turmoil that accompanies constructivist learning and the implied changed understanding of one's situation in the world, why do educators persist with this mode? Is this frustration a 'bad' thing, or is it an inevitable part of encountering a new way of learning and thinking? The answer is, of course, in the affirmative. Paradoxically constructivist learning also results in the transformation and growth required for full cognitive development. Wuagneux (undated) argued that disequilibrium is not only a predictable stage but also necessary for meaningful learning and reminded us that, 'people are not at their keenest when life is too safe. Facing risk is the only way to gain confidence because confidence is the result of mastering challenges' (undated, unpaginated).

The Community Development Module

Study Site
The Community Development module is a continuing education module designed for health and community workers. The syllabus is based firmly on a constructivist approach to learning. It is designed to develop the capacity building skills of participants, required when responding to the needs of local rural communities and is being delivered through a web site developed by the UDRH.

The Community Development module provides a process leading to the production of an authentic and engaging project — the topic of which is chosen by each participant, or small groups of participants. The Website (www.ruralhealth.utas.edu.au/comdev) contains links to mentors, Website reference lists, reading materials, activities, discussion questions and additional readings organised along five main themes. These include action learning, developing project plans, developing community networks, and a facilitator guide. The module syllabus and assessment criteria are available on the web. The grading process is based on Australian National Competency Standards and participants can either ‘complete’, or ‘not complete’. Full participation in all aspects of the module (including the bulletin board, electronic journaling and producing a project plan) is required to successfully complete. The learning module and the facilitator guide are both protected by a user name and password. Once participants enter these they can access each section of the module.

The Participants and the Facilitator
In August 2000, 26 participants commenced the first stage of the module. They came from a diversity of backgrounds (church groups, community development workers, community nurses, community online access centres, dental therapists, disability workers, health promotion officers, housing officers, local government occupational therapists, and policy officers), and had a variety of qualifications, including practical experience, TAFE qualifications, and diploma and degrees in the specific specialisation. They were located throughout Tasmania, including the two northern islands, King and Flinders. The group was selected on the basis of rurality, existing knowledge of community development, and email/computer access. The majority of the group had only minimal experience with computers, and this has been mainly with E-mail. Only six participants had previously experienced distance education, with only one of these familiar with online learning. The facilitator is one of the authors of this paper, Susan O’Kane-Powell, who was co-writer and facilitator of a print-based Community Development module and who recently completed development of an online aged-care module, including a model for online learning for health information.

The Aim and Processes Involved in the Study
The study aimed to identify the stages of learner stance by using the framework of Savin-Baden’s, Dimensions of Learner Experience (1998). The framework comprises three stances: Personal stance, Pedagogical stance and Interactional stance. They are promoted by the author as providing a means
of structuring the learners' experience of engaging with a PBL process. This framework described the outcomes and processes involved in engaging in PBL. Within each stance are individual domains. The domains denote the discrete spheres within each stance. The study used Savin-Baden's framework to allow a process analysis to chart the progress of the cohort of participants in the online intervention. Savin-Baden found that students move from one domain to another over time. It is hoped that the results of this study will provide descriptive information about the processes that result in particular outcomes for the participants — at each stage of the learning process.

All the participants were provided with Savin-Baden's framework to be used as part of a reflective journaling requirement of the module. Informed consent was obtained before the course started, and will be obtained again prior to focus interviews. Pseudonyms will be used to protect informants’ identities. The findings of the study will include the participants' perception as identified by a three-fold process:

1. The participants will identify their own stage of development throughout the module.
2. E-mail journals and Bulletin Board messages will be analysed to identify the stage of learner concept.
3. At the completion of each of the two stages of the project, focus groups will be conducted (by an external evaluator).

This three-pronged approach is being adopted to capture the dimensions of learner experience over time and will allow the measurement of changes as the course progresses (Abruzzese, 1996 in Ryan et al., 1999). Capturing this data will add to the depth of understanding of how learning takes place.

Challenges within the Module

The Community Development module challenges the participants by exposing them to the perspective of constructivist learning in the learning style used and the change of emphasis on learning as an individual to learning as a group. Roberts (in Senge et al., 1994) cautioned that the process of learning collectively is unfamiliar and will result in the challenging of disciplines on an intellectual, emotional social and spiritual level. The process of becoming critically reflective flies in the face of the traditional model of health professionals training — one noted by Roberts (in Senge et al., 1994) as involving the handing on of specialised knowledge and skills from the 'expert teacher' to the student. As Roberts commented, health professionals see themselves as keepers and teachers of valuable secrets about the health of their 'clients'. As a result, information only passes one-way. Many health workers have previously not been required to share ideas, thoughts and feeling much beyond their own informal networks. It is a big step to state ideas or opinions or reflect on community development and styles of facilitation on the electronic bulletin board, a 'public' forum, and with a group that is largely unknown. It is of little wonder then that this can cause difficulties for learners.

Current Understandings of the Online Learning Experience

Not only is the forum and process unfamiliar but the stage of learner concept may also impact on the level of participation. The concepts of 'disjunction', 'disequilibrium' and 'fragmentation' have particular importance in the early stages of online learning. Bohm (in Senge et al., 1994) promoted engagement in dialogue as a tentatively proven strategy for movement towards a new frame of reference. There is however a very real risk that participants may not choose to engage in dialogue on the electronic bulletin board. The disorientation that accompanies a learning 'disjunction' has been shown by Taylor (in Boud & Griffin, 1987) to result in a crisis of confidence and withdrawal from the learning group. Those that do contribute will have to learn to persist despite initial frustrations. Hara and King (1999), Sandelands (2000) and Wegerif (1999) all noted that in an online learning
environment the early stages are often marked by frustration and confusion that can result in withdrawal by some students. Sandelands (2000) found that much of the angst expressed was related to coming to terms with the unknowns involved within the action process and saw learners as needing to develop an ability to balance the emotional and intellectual components within learning. He recommended giving voice to the fears within the group as part of the group bonding process.

Wegerif (1999) described a perceived threshold that must be crossed dividing the group into 'Insiders' and 'Outsiders'. He found that students needed to perceive that they were insiders before they identified themselves as part of a community. Those identifying as 'Insiders' were more likely to complete the course. It therefore behoves us to find out as much as we can about what allows learners to persist, and how we can attend to the very real need to build a sense of community among the participants and foster a critically reflective culture.

**Early Results**

At the time of writing (October 2000) participants had completed the first topic of the Community Development module and are working their way through the facilitator guide. While it is much too soon to draw any significant conclusions, thus far feedback from the majority of the participants has focused on difficulties with cognitive engagement, workload, motivation and a relatively small number of problems with the technology.

**Cognitive Engagement**

The materials have been designed in such a way that, with support from the facilitator, they generate and sustain in-depth participation with the materials, while at the same time fostering a deep understanding. All participants stated that they are enjoying the readings, however the majority expressed high levels of anxiety in relation to sharing their insights on the bulletin board. The expressed angst reflects uncertainty about the 'proper' attitude and style to be used in an electronic format, problems with the lack of visual feedback (the nods, eye contact one gets in a face-to-face situation), not having physically met the other participants and the facilitator, and the stresses that accompany having to own their learning in such a public arena. As an attempt to build a sense of community and allay some of these fears three face-to-face introductory sessions were held throughout Tasmania. It would appear from immediate increase in the use of the bulletin board (post session) that this has been effective for some participants. Other strategies that have been put in place include providing profiles and E-Mail addresses of everyone in the group, encouragement to work in small groups/pairs, the provision of generic and specific feedback that is timely and useful, and the provision of phone support from the facilitator.

**Workload**

One of the most common reasons given for delays in starting and slow progress through the materials has been that the Internet is seen as an additional extra on top of an already busy workload. Regular use of the WWW and E-Mail has been built into the module to enhance participants' informatics skills and increase participant awareness of the availability and content of community development information that is readily available to access — even in the most rural and remote community settings. It is hoped that as learners engage more with the module they will recognise the connections between their own work and the course materials. Facilitator feedback stresses these connections.

**Motivation**

Some learners are currently expressing low levels of motivation. The materials have been designed to be learner-centered and require self-directed learning. This has caused some problems for the majority of the group who are used to the traditional guidelines and rules for education — based on local geography and the physical presence of a directive teacher. One participant openly expressed this as, "you must tell me what to do, and when to do it").
For others the change of emphasis to learner-centered learning has been something of a 'catch 22' situation. They like the aspect of being an autonomous learner but at times feel they are falling behind in the workload due to the lack of precise instructions. The facilitator guide provides readings and activities designed to explore these concepts fully. The group is therefore able to be conscious of its own processes. This should assist learners in coming forward to identify their own current level of anxiety on the bulletin board, which can then aid in both personal growth and the group bonding process.

**Technology**

Using technology as a vehicle for the learning has proved to be challenging. This has been more so for those with limited access. Those experiencing problems with technology were those with the least amount of experience. For these learners this was associated with high levels of stress, often expressed in emotive E-Mails to the facilitator. Interestingly, despite the offer of phone assistance, only a handful of participants have taken advantage of this option. Printed help sections on 'how to use the online learning module' and 'how to use the bulletin board' have been distributed by mail. They provide clear diagrams and pictures. Feedback on the usefulness or otherwise of these has been mixed. Those who have attended a face-to-face session find them to be a useful back-up. Those who were unable to attend find them of limited use. Other strategies that have been put in place include the use of the Tasmanian Online Community Access Centres (participants can book a computer for an hour, and have one-to-one support from an adult tutor), and help from rural health students on placement in rural health settings. Often these students (required users) have high levels of information literacy, especially in the area of health resources on the Internet. In these cases participants access online computers through the UDRH Rural Health Teaching Sites.

**Conclusion**

This paper sought to go beyond the hype that surrounds new digital learning technologies instead choosing to place the focus on the processes of online learning from the perspective of the learner. Although the study is still in the early stages, the results are already providing another piece in the complex mosaic that makes up the psychology of adult learning. We need to become aware of how people learn to become critically reflective and how they manage the transition from being a solo passive learner to becoming an active member of an online critically reflective group. The framework *Dimensions of Learner Experience* provided us with a tool that can help illuminate this process. This paper also argued that engaging in constructivist learning creates predictable crises of confidence for the learner. These crises can potentiate dropouts in the early stages of an online course. A series of strategies need to be put in place to deal with this contingency, both in the real and virtual world. An important aspect of this is normalising the experience by creating an awareness of the stages of learner stance. This assists the learner to develop strategies to deal with the angst that accompanies this phase, including using the online group as a sounding board. Is this really a revolution in the way we learn? Perhaps, yes, in the places that training happens, however the actual processes involved within engagement in a constructivist collaborative learning group are merely an extension of adult learning that has been in place for some time.

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Learning for Employability: A Community of Practice

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The paper discusses the issue of employability and equity, and through analysis of labour market exchange, provides a more socially just meaning to the term than those generally found in the literature. It then explores contributors to employability as communities of practice in preparation for further research. Learning for employability is thought of as resulting from the combined intentional and fortuitous contributions of many people — in families, education, industry, government, community organisations, the media; and not least, the learner him/herself. They take place within an ever changing environment resulting from the interplay of innumerable factors — institutional, cultural, historic, social, regional, technological and economic. These factors affect beliefs about what knowledge, skills, attitudes and attributes affect employability, what are promoted, and what individuals develop. A better understanding of the different expectations, perceptions and interactions, and their consequences for individuals, is expected to assist educational practitioners to contribute more effectively to the employability of those they teach. This is the prime objective of a program of research within the Centre, involving all academic staff, entitled Employability in the Emerging Knowledge Society and its Implications for Education and Training.

Whilst benefits are being derived from increasing globalisation of national economies, they are not being evenly shared. Within first-world countries, the highly educated and powerful are gaining increasing wealth in real terms; others, especially amongst the young and not-so-young, are excluded to a greater or lesser extent because of lack of success in getting paid work or having only intermittent employment. For the latter groups, there is a likelihood of suffering psychologically as well as economically. And as a consequence, there is added demand on the community for support services and increased threat to social stability. Technological change, though one contributor, is not the root cause. Changes in technologies and customer preferences are nothing new. Indeed, for first-world economies, ongoing innovation in processes and products has provided an increasing standard of living for generations. The reduced demand for labour that has accompanied the technology shifts has enabled new industries to develop and expand. However, developments such as those in communications and information technologies appear to be radically changing Australian industry’s relative demands for different types of labour (Maglen & Shah 1999). Furthermore, barriers that have hitherto constrained a global approach to finance, production and service delivery are disappearing. This has meant sectors such clothing and textiles, moving offshore. At the same time, we are seeing a breaking down of the implicit social contract wherein employers accepted some responsibility for the job security of their employees. Downsizing appears to be as much about outsourcing of phases of production and services, as it is about a reduction in the overall, required amount of labour as a result of new technology. For those who manage to sell their services in an outsourced arrangement, and for many of those who, for the present, retain their jobs, increased job...
insecurity is commonly combined with uncertainty about hours or timing of work ('time-flexibility' in the lexicon of employers).

Equity in Employment
Governments are challenged to increase equity in employment. The stronger a country's economy, the greater is the demand for labour. But there can still be groups within a strong economy who are disadvantaged with respect to the labour market, as typified by the position of blacks and Hispanics in the US, the country generally viewed as having had the most consistently strong economy for over a decade. So, alongside the quest for strong economies, there is increasing interest in why some people are particularly disadvantaged in the labour market.

Data for 1994-96 from the Australian Bureau of Statistics show that those with more education have greater security of employment and shorter periods of unemployment, than those with less education (Vickery, 1999). Presumably, education levels approximate to skill levels. However, factors other than education and skills obviously affect an individual's success in gaining and retaining employment — ones such as parental wealth, status, ethnicity, place of living, labour market regulation and, as has already been alluded to, age. Moreover, access to education and skills is not independent of these factors. Programs with objectives such as wealth redistribution and industry regionalisation obviously can help. So can social programs which seek to change employer perceptions that stereotype people of particular backgrounds. However, increasing interest is in whether there are particular capabilities and attitudes which contribute to an individual's 'employability'. The Organisation for Economic Co-operation and Development (OECD) states:

Developing young people's employability is a key policy issue for ensuring their successful transition to the labour market and access to career-orientated employment. This involves helping to ensure that they acquire the skills, knowledge and attitudes that will allow them to find work and to cope with unpredictable labour market changes throughout their working lives (Bowers, Sonnet & Bardone, 1999).

The International Labour Organisation (ILO) (1998, p. 107) expresses a similar view and implies a need for lifelong, employment-directed learning: 'The concern is now for lifelong employability and there is considerable doubt whether initial training can suffice for the employment needs of a lifetime.' For the long-term unemployed, the ILO notes a particular problem: the longer a person is unemployed, the more likely it is that employers use it as a screening device by interpreting it as an indicator of a lack of skills; at the same time skills and motivation decline (ibid. p. 184). The ILO stresses that, in these circumstances, 'employability skills' are not enough: (re)training must be combined with successful employment.

Employability Skills
To improve young people's employability, it is commonplace for governments to have identified what they judge to be the skills common to all forms of work and to have required that education deliver them. In Australia, we have seen the development of the Key Competencies, their inclusion in vocational courses, and schools being encouraged to address them across the curriculum.

No one would reasonably question the importance of the Key Competencies — literacy in English, numeracy, and skills in technology use, data manipulation, problem solving, team-work and inter-person communication. But are they generic and stable skills, or are they more specific and subject to change? It seems that context cannot be ignored (Billet, 1998), hence early assumptions about their unproblematic application were probably invalid. Moreover, do the Key Competencies, in fact, represent what is commonly demanded by employers? Keep and Mayhew (1999) in the UK, note in reference to employees in the growing, in-person service sector: 'For this type of worker many
of the ‘skills’ tend to be based on personal characteristics and psychological traits rather than acquisition of theoretical skills and knowledge.’ Coffield (1999), also in the UK, sees ideal workers in the mind of employers as ones who ‘quickly internalise the need for employability, who willingly pay for their own continuous learning and who flexibly offer genuine commitment to each job, no matter how short its duration or depressing its quality.’ Then there is US research that suggests career success to be associated with mental ability, extroversion and conscientiousness (Judge et al., 1999).

Conclusions such as these, if applicable to Australia, appear to have national policy implications, but what they are is far from obvious. There are ethical questions as well as epistemological and curricular. Questions can be asked, too, about how well Training Packages and New Apprenticeships promote employability, and the effectiveness of school-based, TAFE-based and industry-based provision. And what of vocationally-based verses discipline-based Bachelor and higher degree courses?

The Research Program

The Education Faculty at the University of Melbourne has recognised the importance of employability. As a provider of teacher training, the Faculty has the potential to play a major role in the education system, both in raising people’s employability across the board, and in achieving greater equity. This year has seen the introduction of a program of research involving all academic staff within the Centre for Human Resource Development and Training, entitled Employability in the Emerging Knowledge Society and its Implications for Education and Training.

Our focus has been on gaining a better understanding of ‘employability’ as a social construct, its determinants and especially, human influences, and how educators in interaction with their communities might increase employability, in absolute, and in equity terms.

Meanings Given to ‘Employability’

It has first been necessary to decide what, exactly, is meant by ‘employability’. A check of the literature reveals that there is no one view. It is probably most commonly taken to mean the capacity to acquire and retain a job (for example, Saterfield & McLarty, 1995), although this meaning is seldom stated explicitly. Alternatively, the term may be used to mean capacity to retain work in a particular enterprise or context. But in the Netherlands, it means flexibility to perform another job in or outside the organisation in which the person works (Van den Toren, 1999). None of these meanings, to our thinking, sufficiently accommodates self-employment capability or re-employment capability (for instance, following enterprise-provided training). Nor do any enable a distinction to be made between ‘good’ and ‘poor’ jobs. (To illustrate: person A is skilled to perform a particular unpleasant and poorly paid job; person B is skilled to perform a pleasant and well paid one; the level of demand for their labour is the same [of course, unlikely in reality.] To say that the employability of person A and person B is the same, without some qualification that acknowledges the different satisfaction levels, goes against notions of fairness.) Finally, none seem to overcome unease about the potential for the concept resulting in some people being labelled as ‘unemployable’, or legitimating the notion that it is up to labour to match itself to the demands of capital, with no obligation for capital to cater for the interests of labour beyond what is ‘strategic’.

Market Exchange

In order to examine the meaning of ‘employability’ further, and to assist understanding of the factors that determine it, we commence by looking at labour market exchange. We treat this exchange as in place from recruitment to termination of employment. Each party is orientated towards satisfying certain values and fulfilling certain expectations. Collectively, these orientations drive the parties to commence or maintain the
exchange (accept appointment/stay with the job; recruit/maintain the employment arrangement).

We have used a socio-economic model of exchange rather than a purely economic one, as it is more comprehensive. Indeed, Zafirovski and Levine (1999), conclude from their consideration of the work of Weber, Pareto, Veblen, Etzioni and others, "The need for such a shift derives from the realization that the ruling paradigm (of rational choice) has become such an intellectual handicap that "things that are obvious and important can be seen more easily by a naive observed [sic] than by specialists armed with a theoretical perspective that blinds them to the obvious.""

Max Weber portrayed social action as being driven by one or more of four orientations: instrumentally-rational, value-rational, affective and traditional (Weber, 1968, pp. 24–26). He saw these orientations as affecting choice of work and choice of labour (ibid. pp.140–156). In Table 1, we draw on Weber's work to suggest how the orientations are brought to current labour market exchanges. This has involved updating some of Weber's ideas; in particular, where he saw value-rational orientations as mainly applying to religious calling, we see them as now more commonly associated with a desire to undertake other sorts of care-providing work (social welfare, nursing, child care, 'green' jobs etc.).

On the supply side, orientations find expression as attitudes, aptitudes and enthusiasms. Furthermore, for reasons of interest and motivation, orientations will tend to be reflected in knowledge and skills, albeit tempered by circumstance. The model implies that, on the demand side, the employer probably expects to do more than buy labour as knowledge and skills to satisfy instrumentally rational expectations; for instance, attitudes that match the enterprise's 'culture', or attributes that accord with personal preferences, may be important too. Ignoring the issue of relative supply and demand, the exchange depends on an acceptable level of concordance between the supplier's knowledge, skills, attitudes and attributes and the purchaser's demand for them, subject to an acceptable level of match between the orientation-associated values and expectations of the labour supplier and what the employer, as purchaser, offers.

Regarding the issue of self-employment, we suggest it can be driven by an orientation towards, for example: independence, that cannot be adequately met through selling of labour; tradition, that demands taking over the family business; gaining a better economic return on skills; or creative/innovative expression which, it is felt, would otherwise be unfulfilled. It follows that self-employment requires an acceptable level of match between the person's orientation-associated values, expectations (including financial), knowledge, skills, attitudes and attributes and what self-employment can provide.

Employability — A Fuller Meaning

Seen in this way, a person's employability, in a non-coercive market, is a function of the total potential remuneration-generating employment in the economy (local, national, global, as is relevant), for appointment to which the person possesses the knowledge, skills, attitudes and attributes required by employers, and for which there is the potential to meet his or her orientation-associated values and expectations to an acceptable level. Through competition, others with employability for the same work affect the person's probability of gaining employment but not his or her employability.

This view of employability puts it in context, and respects the interests of labour as well as of capital. Acting to increase equity with respect to employability, becomes a matter of assisting disadvantaged persons to acquire the knowledge, skills, attitudes and attributes that would qualify them to undertake work for which there is potential demand as a consequence of the total amount of that work within reach, and that would be acceptable to them as individuals. Increasing the employability of the Australian labour force as a whole implies either 'ratcheting up'
LEARNING FOR EMPLOYABILITY

Table 1
A Socio-economic Model of Modern Labour Market Exchange

<table>
<thead>
<tr>
<th>ORIENTATION CATEGORIES*</th>
<th>LABOUR SUPPLIER SEeks TO SATISFY ORIENTATION-ASSOCIATED EXPECTATIONS AND VALUES SUCH AS</th>
<th>LABOUR DEMANDER (AS EMPLOYER OR RECRUITER), SEeks TO SATISFY ORIENTATION-ASSOCIATED NEEDS AND VALUES SUCH AS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumental rational</td>
<td>Income, utilising abilities, status, independence, human relationships</td>
<td>Improved output and profit, meeting statutory obligations, status and power, greater business sustainability</td>
</tr>
<tr>
<td>— involve cost/benefit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>considerations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value-rational</td>
<td>Expression of commitment (e.g. to providing care for people or the natural environment)</td>
<td>Good corporate citizenship</td>
</tr>
<tr>
<td>— altruistic considerations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affective</td>
<td>Meeting likes and dislikes, especially emotional (e.g. creative urge, fear of flying)</td>
<td>Matching personal preferences, fitting with organisational culture</td>
</tr>
<tr>
<td>— cultivated and innate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Traditional</td>
<td>Satisfying family tradition (e.g. in agriculture, public service), conforming to regional tradition (especially in ‘one industry’ communities e.g. mining)</td>
<td>Staying with the ‘old school tie’</td>
</tr>
</tbody>
</table>

Note: The model draws heavily on the work of Max Weber (see text). *Expectations may find a place in more than one category. For instance, corporate citizenship behaviour may be for calculated ends, in which case it would belong in the first category rather than the second.

the level of knowledge and skills, (and perhaps attitudes and attributes) across the community, or getting a closer match to what is required by employers. They are not necessarily synonymous. A closer match may depend on more enterprise-specific training acquired on-the-job rather than higher level knowledge and skills. Whilst the latter have intrinsic value, unless there is an expansion of the potential work in which the knowledge and skills can be applied there may be little economic impact. This means developing more ‘high spec’ industries (high quality and high value-added), as well as the abilities upon which they depend.

...business that develops low-spec goods and services in a tradeable sector is likely to be in competition with producers of similar goods [or services] not just in developed countries but in developing ones... (F)irms which adopt a high-spec product [or service] strategy, are unlikely to be reliant on price/cost competition. They are competing on a product [or service] itself, its particular characteristics, on their ability to alter these characteristics to meet changing customer needs and taste, and on their ability to ‘customise' Keep and Mayhew (ibid.).

Learning for Employability

It behoves educationists, career advisers and the rest to assist the young or not-so-young person, in developing his or her employability, to explore his or her values, beliefs, aptitudes and attitudes and their implications for types of employment, as well as to develop knowledge and skills.

Inputs to employability

We now turn our attention to the sources of a person’s learning for employability.

Genes set limits, but a multitude of factors, from conception and throughout life, affect employability—institutional, cultural, historic, social, regional, technological and economic. These factors, of themselves, open up opportunities and constrain or preclude
others. They also affect perceptions about employability.

Research Questions

Longworth and Davies (1996, p. 130) discuss 'learning communities' for the purposes of increasing the employability of those within them. Whilst their analyses are helpful, we see it as more profitable to consider how communities, 'learning' and otherwise, operate in reality. Are there different perceptions of employability within education, industry and the community with different beliefs about what knowledge, skills, attitudes and attributes affect employability and how they should be promoted? Do different perceptions result in conflicting practices? Are some especially beneficial? It is these interactions (or lack of them) within 'communities of practice' that we are particularly keen to investigate, especially between the educational sectors, and between them and families and businesses. How might educators facilitate more effective interactions, especially where there is social and economic disadvantage? We hope to identify what might be called 'communities of best practice'; but doing so without also identifying the conditions that enable those practices to 'fit', could be counter-productive.

Are perceptual differences amongst families an issue? Alison Taylor thinks so. In her critique of 'employability skills', Taylor (1998) points out, 'A student whose parents work in a factory or store is likely to have a different conception of skill and of his or her opportunities than will a student whose parents are managers are store owners.' She sees policy for employability at government level in Canada as failing to recognise such complexities; on the other hand she sees some educators within schools working to deal with the deficiencies through policy adaptation at the individual level.

The issue of employability appears to be gaining the increasing attention of the research community internationally. It is to be hoped that disinterested, critical debate, coupled with empirical investigation, has the potential to assist governments to develop policies that can increase equity in employability and increase employability overall, rather than to resort to ill thought out, ineffective 'quick-fix solutions'.

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A Cup of Tea, a Bex and a Good Lie Down:
Tensions in Assessment

Annette Green and Rozzie Brennan
Charles Sturt University, Wagga Wagga

There are some clear tensions in Assessment Practices emerging within the education sector. The Australian Qualifications Framework agreed to nationally by all States and Territories established the articulation arrangements between qualifications awarded by schools, TAFE, private providers and University sectors. The greatest area of tension for Universities comes in establishing the parity and credit transfer arrangements for credentials awarded in other sectors. Competency Based Training and Assessment are normal practice outside universities and while some may cling to predominantly norm referenced patterns of assessing student progress, the VET sector has gone quite the other way. The presentation will therefore address the issues of:

- Broadening assessment practice
- Assessment pressures on the University sector
- Competencies, outcomes and accountability
- Definitions of good practice in assessment

Scene: The Office of the Head of a School of Education many galaxies away.

Characters: Professor Prudence Precedent, HOS
           Vetna Vocal, Lecturer A

Vetna Vocal, Lecturer A
(nervously) You wanted to see me about the grades form?

PP: Yes, sit down. You have too many non-substantive grades here. 5.2% are TA, 12.34% are GP and I don’t understand how so many of the rest are in the credit and distinction categories. It has been a nightmare trying to fit them on a Bell curve! Look at the figures for the other, more experienced lecturers and you will see the difference is startling.

PP: (interrupting) This is most irregular… it’s almost as if you think everyone should pass.

Of course they should, if they make the effort and my teaching is up to scratch. Now about the GP’s, I have a list of reasons and names….

PP: (interrupting) I am not sure I want to hear. You can e-mail me a written summary. You will end up marking till Christmas. You are new here, and I think I will take a personal interest in ensuring you start to conform to the procedures we have had in place for years and years to ensure equity and efficiency in assessment procedures.

PP: I was considered the assessment expert at my TAFE College before I came here, and I have given papers on ‘Adult Learning Principles’ and ‘Good Practice in Assessment and Evaluation’ at a number of VET Conferences.

Well you can put all that nonsense behind you now. You are at a
University currently and we have regulations, policies and practices enshrined in precedent. So many irregularities...and we haven't even started on normal grade distributions yet! I will speak to you again about this.

PP&VV: Right now I think I need a cup of tea, a BEX and a good lie down!!

Context
The last decade has ushered in some very big changes for the University sector. There has been a slow moving historic change since the time of John Stuart Mill and Newman, with their notions of a liberal education, towards an increasing vocationalisation of Universities (Hanrahan, 2000). Charles Sturt University is one of the new types of Universities where the preparation for professions and the inclusion of non-traditional vocationally focused disciplines which fit in with other forms of vocational education and training, has lead to new tensions and innovative and disparate practices. The main changes accompanying this vocationalisation of education include: increased accountability; shrinking budgets; a Federal Government that seems intent on decimating rather than building Universities; increased student numbers and student diversity; an ethos of competition rather than collaboration and the ever present force of technological imperatives. These have all changed the nature of academic work permanently and dramatically. Class sizes have increased, and the number of hours in the day has apparently shrunk.

It has also been an exciting time. The new technologies have lubricated communication and the work being done in the areas of teaching, learning and assessment have given us some new insights into the ways in which accountability and academic transparency can be liberating for staff and students alike.

VET Assessment Practices
In Vocational Education and Training, and in other disciplines, we have seen the University sector acknowledge a more generous view of what constitutes intelligence and knowledge. This has been reinforced by the development of an Australian Recognition Framework which links together qualifications gained in different contexts of learning, and makes articulation between the sectors easier and less exclusive. In terms of assessment practices, we have a sometimes unhappy intersection between Competency Based Training (CBT) enshrined in the National Training Packages (TP), and the practices of tertiary assessment which are disparate, deregulated and occasionally whimsical in their construction. Recognition of Prior Learning and Credit Transfer are a constant source of renegotiation as the different sectors make often individual arrangements between themselves about these ‘deals’. The AVCC in combination with ANTA are making some valiant efforts to address this issue at the moment.

In the meantime the influences of both sectors on each other are fascinating to map. Increasingly people are seeking a university education which is motivated by their need for employment preference, and the magnet of professional development is linked to notions of lifelong learning which, at its most fundamental acknowledges that the world is changing fast and all segments of the working population need to study to survive.

People are coming back to Universities rather than going from school to University. Only 20% of the CSU student cohort comes to us via school based exit credentials. The laterality of the experience which they bring with them is impressive. In this context assessment becomes less of a sifting device and more a question of how we can, as academics, build reality, relevance and acknowledgment of past experience into a process which has for so long conformed to a normal distribution curve. It may be our experience but for a lot of our students it is a reversion to past world that they have professionally and academically left behind a long time ago.

The Implications
The implications of these trends for University assessment include:
• the need to make assessment practices more transparent and explicit
• an acceptance that students bring prior knowledge of great worth to their university experience, and our role is to help them construct new knowledge from this platform
• a commitment to demystifying the processes of learning and assessment.
• an understanding of the new and emerging roles of assessment.

The changing demography of our students entails a profound rethink of the assessment principles which underpin our practice. Their expectations and experience demand that we give as much attention to the richness of our assessment practices, as we do to our teaching. When this is contextualised within a Distance Education or Flexible Delivery mode, the absence of compensatory face to face interactions makes assessment an even more critical component of education.

Varieties of Practices in Assessment

In other sectors, such as schools and accredited training contexts, assessment practices also vary widely. There are practices which can be usefully considered within the University context. Moderation is a process which promotes equity, professional development and understanding in teachers who have experienced good sessions. Moderation is funded in accredited literacy and other accredited training programs, and has been practised in Queensland since they moved to school based assessment in Senior School about twenty years ago. It operates on two levels

• The task is moderated. This involves a group of practitioners evaluating and critiquing the task set in terms of how explicitly it conveys the process and the performance criteria to students as well as the appropriateness of the task at that stage of the course. It also provides a great opportunity to broaden the range of assessment events a teacher can use

• The text is then moderated. Participants bring student samples that are at the cusp of levels, or pass/fail, and the text is examined and discussed so a consensus can be reached as to the result. Once again, this is also an opportunity for teacher professional development as so much of the discussion is rich in teaching and learning practices from others involved in similar disciplines. All student work is anonymous, of course, but the teacher submitting is usually the first to offer a question or defence of the particular text under discussion.

The more assessment tasks are developed where the performance criteria is detailed and made explicit to students, the more important it becomes to examine what it really is that the students have to do, and how it will be judged. NSW schools are struggling to come to terms with this shift in assessment practices as the new courses and reporting requirements are being introduced across all curriculums, with particular emphasis in the HSC.

The National Framework of English Language and Literacy found that notions of competency based assessment were more difficult to match with assessing language and literacy. This difficulty produced a new notion of competency, where there were three tiers:

• assisted (competency)
• independent (competency)
• collaborative (competency)

This model can be useful when planning a series of assessment activities, which has been recently trialed with some measure of success in a VET subject called Learning: Adolescence and Beyond. It is a ‘return to study’ first subject for many VET students, and was complex and caused many students to drop out. The first assignment has been very carefully structured so the students are scaffolded through a ‘take home test’ activity which encourages students to demonstrate their ability to read, summarise and synthesise the first module. Later assignments move towards more independent tasks. The collaborative level is the most
difficult, yet it is the type of competence which most clearly replicates the way most workplaces operate. Thus assessment operates in a continuum of varied strategies and practices.

Another external practice which is not as evident in many University assessment procedures is the notion, so central to adult learning principals, of ascertaining and valuing the student's own knowledge, values and attitudes that they bring to the course. In VET, our students are often advanced practitioners who bring a wealth of professional experience and knowledge to assessment activities. The University offers them both career advancement opportunities and extension to this deep contextualised knowledge as well as providing theoretical frameworks and affirmation that they are on the right track. These types of students, and the recognition of their lives and experience, do not sit comfortably with conventional 'pass/fail', lose marks if late, no negotiation on topic changes and choices mentality of the more traditional university assessor.

Types of Assessment within University contexts
An examination of the Charles Sturt University Assessment policy reflects the diversity of strategies being used in assessment. Table 1 gives a snapshot of many types of assessment activities, and is, of course, not complete or inclusive.

A New Way Forward
VET staff at CSU have a commitment to the theme of making the criteria for assessment explicit. This decision is based on the following assumptions about the nature of our work and the backgrounds of our students:

- our student cohort comes to us with work and life experience which is unique.
- our entry requirements specify that our students must be able to prove that they have at least three years industry experience and a minimum Certificate 3 under the AQF. They are both qualified and experienced adult learners.
- our work is to "affirm their knowledge and experience by providing a theoretical framework for their prior learning" (Rushbrook, 2000)
- normal distribution curves are predicated on definitions of the distribution of 'natural ability' which do not acknowledge the level and types of learning and skills which our students bring with them.
- grading should be based on the extent to which students can demonstrate an achievement of the outcomes not on a comparison between the students in a cohort.

Table 1
Assessment strategies at Charles Sturt University

<table>
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<th>EXAMPLES OF UNIVERSITY ASSESSMENT</th>
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<td>practical reports</td>
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<td>short answer tests</td>
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<td>video presentations</td>
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<td>essays discussing journals</td>
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• students are frequently used to a criterion-referenced system of assessment in their workplaces.

One of the new assessment strategies we are looking at in VET has its heritage in the United States (Rushbrook, 2000). It is based on the idea that assessment criteria must be explicitly tied to the outcomes of a subject and that this information is not the private province of the teacher/lecturer. This means that the assessment expectations and their accompanying 'standards' are retrieved from the intuitive and embedded constructions of knowledge within the lecturer’s memories, and made transparent and accessible. “We all know a HD when we see one. This assessment methodology makes this accumulated knowledge available to students and demystifies the process of guessing what is inside the lecturer’s head “ (Rushbrook, 2000). This approach to assessment builds on research into the factors influencing success in Distance Education. Students ask for community, acknowledgment and transparency in all areas of their study. “Success in distance education instruction is positively correlated with a sense of ownership and community amongst the students...Building community and ownership requires the use of learning strategies that are flexible and adaptive and the use of delivery strategies that incorporate interaction and dialogue “ (Cochenour & Reynolds, 1998, p. 39). Separation tends to heighten student’s worries about the expectations of their performance. (Cochenour & Reynolds, 1998). One part of our work is to reduce these anxieties by making the most important part of the process for students, assessment, a non-competitive standards framework referenced process.

The grade related criteria are then documented for the students who are given the opportunity to choose the grade level which they want to work towards. Each grade has a set of specified criteria which, if fulfilled, will result in the award of a particular grade. The students make a well-informed and logical decision about which grade they want, and the amount and the type and amount of work they need to do to achieve it. Higher grades may, for instance, entail extra work beyond the base level expectations of the assessable task. They may need to do further reading or research on the given topic, or show ‘initiative’ in collecting data and reporting on it depending on the type of task being completed. Research shows that students frequently strive for grades above the ‘average’ determined by a norm-referenced Pass or Credit. The expected distribution of grades is skewed and the quality of student work rewardingly higher than is the case under a norm referenced pattern of grades. An interesting conundrum.

We can all remember being defied by essay topics at school. Their vagueness, their mysterious lack of guiding parameters, the different ‘culture’ of school, and the constant struggle to work out what was expected made topics like “What I did on my holidays “ a cause for tears not learning. As we move into this new century, we need to merge the ‘client focussed’ entrepreneurial aspects of the ‘new university’ with good practice where assessment is one of the most important tools for teaching and learning, not a barrier to keep students out of our game. Diverse and well thought out assessment activities combine good teaching and learning principles with methods of checking students have attained the learning outcomes clearly and explicitly specified from the beginning. One of the authors of this paper was overheard saying, ‘If they don’t do well, I haven’t done my job.’ This summarises the VET team’s current approach to assessment. The emergence of CBT and CBA, whilst not providing the solution to all assessment problems, does teach us that being explicit, negotiable and supportive in the assessment process can make the experience real and related to the student, their learning and their sense of themselves as independent and engaged learners who reserve their courage to keep learning.

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Making Pathways: Asking New Questions About Youth in Transition

Jayne Bye

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Seeing youth in transition as a problematic group in society is a recurrent theme in the school to work transition literature. Central to this view is a notion of a normative transition process (i.e. full-time school to full-time work) which is now no longer accessible to mainstream youth who have otherwise enjoyed a supposedly unproblematic transition. Despite the fact that this linear model of transition has been heavily critiqued, it still appears to drive much discussion of policy and its perceived failure to provide quality outcomes for youth in transition. This paper asks whether there may be other productive ways of assessing the school to work transition and indeed, other questions which might be asked about how young people perceive their experiences during this process. In posing these questions, this paper will also examine the use of the “pathways” metaphor and question its utility in the current context. Does it serve to represent the complex processes now being described in the latest transition literature which points towards new ways of thinking, new types of knowledge and new ways of accessing and utilising knowledge in the transition process?

The “Youth Problem”

There are a number of recurrent themes in the youth transition literature. By far the most common theme is what might be labelled as the “youth (transition) problem”. This aspect of the literature takes as its central precept the fact that since the late 1970s and early 1980s, youth transition to adult roles has become a more complex and risky process due to the collapse of the youth labour market and the subsequent marginalisation of youth from active citizenship due to unemployment. Central to this view is a notion of a normative transition process which is now no longer accessible to mainstream youth who have otherwise enjoyed a supposedly unproblematic transition. As Theissen and Looker (1999) point out, this concept of a normative transition process draws upon the life-course literature which proposes a series of “markers” such as finding a full-time job, getting married and having children which define entry into adult life. As Dwyer (1997) points out, the assumption in this model is:

...that there is a natural process of development for young people leading from full-time schooling and then on into full-time work as the prelude to the achievement of responsible status of adulthood, citizenship and the parenting of the next generation (p. 17).

The impact of these assumptions can be seen in the recent history of policy development concerning youth employment, education and training. For example, Dwyer makes direct links between this model of the life-course and policy decision-making in Australia. He cites the Working Nation policy as such an example, since it...defined the young in terms of studendthood and saw the teenage years as a “period in which to invest in education and training” as the necessary prerequisite to “help young people to enter the workforce” (Commonwealth of Australia, 1994, p. 90) (p. 17).
Assumptions based on this model also still guide much of the critique of the policy provision. For example, Sweet (1998) although admitting that the problems faced by youth in Australia are broader than the measures that unemployment statistics describe, states that a “successful move for young people from full-time education to full-time work is a crucial step in their efforts to become independent adults” (p. 2). Similarly, Curtain (1999) proposes a series of three performance indicators to measure the success or otherwise of youth transitions, two of which are focused on full-time employment rates.

In the discussion below, this paper will foreground the question of to what extent this model is still relevant and whether or not the negative assessment by many commentators of policy interventions based upon this model does anything to progress the debate. The discussion will draw upon a body of critique which questions the legitimacy of the model especially in current conditions where youth “transitions have been described as ‘increasingly disorderly and fragmented’” (Evans, 1994, p. 39).

Critique of the Linear Model

There has been a rigorous and critical questioning of the adequacy of this normative “full-time school to full-time work” model to describe and/or predict youth transitions to adulthood. According to this argument, the social and institutional structures — family, education, industry and the state — which formed the basis of any legitimisation that this model claimed, can no longer be relied upon to deliver the expected outcomes. This critique positions the debate in the current climate of declining influence of traditional life shaping structures and of globalised economies (Beck et al., 1994 cited in Chisholm, 1999). It foregrounds the key concepts of “individualisation” and “risk” as useful concepts to describe youth in transition rather than their ability to meet the expectations of the linear model of life transition.

Other theorists argue that not only is the world not “like that” now, in fact for many young people, there never was a linear, unproblematic transition from school to work. For example, Chisholm’s (1999) analysis of the problematising of youth transitions examines the argument which focuses on the adequacy of the life course theorisation to describe the experiences of all youth. According to Chisholm (1999):

There had always been problems with this kind of conceptual framework. There were obviously individuals and groups whose lives did not match the normative expectations that had been carried over, unquestioned into sociological discourse of the life course. Until the 1980s, these “atypical” patterns were effectively treated as deviant or deficient... Minority-group and lower-class men, together with almost all women, were simply “not up to standard.”

... It was not until young men generally began to have serious problems in meeting the tasks and milestones of youth transitions between education and employment that the mainstream youth studies community (as well as government policy making) started to raise more fundamental questions about the social construction of youth transitions altogether, however... It is arguable, however, that major policy measures with significant funding to respond to transition difficulties gained momentum only once it became clear that many “ordinary kids” who were neither unqualified nor necessarily from lower-working-class backgrounds were affected (p. 305-306).

Failure of Policy — But failure by what measure?

In an historical overview of the formulation of youth policy in Australia since World War II, Irving, Mauders and Sherington (1995) pinpoint a number of key developments which have served to shape current approaches to policy concerning youth transition from school to work. They point out that it was during the early to mid 1980s that “youth emerged as a significant policy area”
LEARNING TOGETHER, WORKING TOGETHER

(p. 247), largely due to the new Labor government’s realisation that “immediate full employment of the young would be impossible to achieve” (p. 248). The growing realisation that youth unemployment was now a “major structural dilemma, and a growing and intractable problem across the Western world” (p. 244) saw the focus of youth policy change in important ways.

Irving, Maunders and Sherington (1995, p. 248) suggest that from the time it came to office, the federal ALP’s youth policy was essentially framed around education and training, rather than job creation. As a number of youth policy commentators have noted, this shift in policy focus has had a number of implications for the way youth have been constructed by policy.

If policy formulation discursively constitutes the subject for whom the policy is designed (Irving, Maunders & Sherington, 1995 citing Yeatman), this shift to viewing youth as citizens whose deficits can be targeted through policy intervention is significant. In this case, the deficit lies in their employability (White, 1990). Thus the focus has been effectively shifted from the changing global economic structures which created large-scale youth unemployment in Western industrialised nations to the individual, who if in possession of the right skills (gained through education and training programs), would be able to overcome the obstacles faced in the transition from school to work. In this policy construction, youth becomes “the problem” rather than global economic trends.

The outcome of this shift has seen a range of changes made to the post-compulsory curriculum with, broadly speaking, an emphasis on increased exposure for young people to vocational education and training. Indeed, as Sweet (1998) notes, ‘Increasing young people’s participation in vocational education and training has been one of the central priorities of government during the 1990s’ (p. 8).

However, recent appraisals concerning the impact of such policy initiatives are not positive in their findings. McKenzie (2000), for example recently stated that —

Despite the substantial reforms during the 1990s that drew in large measure on the Finn Committee’s pathways imagery, analyses and recommendations, it is perhaps fair to say that a decade later there is still considerable disquiet in Australia about the nature and functioning of the pathways open to young people (p. 2).

Schools remain a focus for initial intervention, especially in terms of attempts to curb early school leaving for those young people for whom the traditional curriculum holds little interest or perceived relevance. Yet, once again, the efficacy of such measures has come under widespread doubt:

Ainley observes that there has been a rapid growth in school-industry programs during the 1990s, in which students spend part of their time engaged in structured learning in workplaces. But he also points out that in many instances the extent of contact with the workplace is quite limited. The most rapid growth occurred in programs that offer students only brief periods of time out of the school and in the workplace. Only 2% of senior students are found in programs requiring 20 or more days of workplace learning (Sweet, 2000 p. 7).

... The dominant impression from these figures is of a school system that has responded little to the increasing diversity of student interests and talents that has confronted it following the marked increases in retention rates observed during the 1980s (Sweet, 2000 p. 7).

In a similar vein, Sweet’s analysis of the youth employment, education and training statistics paints a pessimistic picture:

In summary, the outcomes for the vocational education and training sector are: no growth in overall participation; declining apprenticeship numbers; traineeships being increasingly captured by adults; and a decline in the provision of extended and broadbased courses. This record cannot be said to be positive for youth, and stands in marked contrast both to the rhetoric of
government policy during the 1990s and to public expenditure priorities (p. 10).

There are a number of important policy problems and implications arising from this negative assessment of the policy interventions designed to improve school to work transition. The first is the widespread sense among prominent commentators that policy has not been successful in responding to the demands of the current situation, especially with regard to the 15-19 years cohort. These indictments on the inability of policy to positively impact upon the outcomes for young people in transition can perhaps be explained by considering the difficulty of policy planning in periods of rapid change. Chisholm's (1999) analysis offers an explanation which can be seen to be useful in that it forces the debate to consider the role of research in terms of the context in which policy decisions are being made:

Most education-to-employment transitions research is necessarily empirically retrospective (using data referring to the past, albeit often recent), even when it is explicitly future oriented (i.e., interested in forecasting future trends). The perils of social trend forecasting are legion and its frequent inaccuracies are well known; it remains, however, an indispensable element of social theory and policy. The task of judging the extent to which the future can and will replicate the past or can be extrapolated from existing data is the crux of futures analysis. This can be hazardous, especially in periods of very rapid change (such as the present) and in particular when the pace and nature of change suggest that our societies and economies are undergoing a genuinely qualitative change (for example, the transition to post industrial economies or knowledge societies).” (Chisolm, 1999 p. 299).

Furthermore, the perceived failure of policy may also be due to a lack of current research. The current critical evaluation of policy responses may be well founded, however, by appearing to share rather than challenge the assumptions of the policy makers about the most desirable school to work transition process, they perhaps lose the opportunity to progress the debate by offering different ways of analysing the issues.

Pathways — A limited interpretation of the metaphor?

Another important theme in the transition literature is the attempt to capture or describe the transition process in terms of metaphors. In particular, the “pathways” metaphor has been a powerful image in Australian education and training discussions since the release of the Finn Report in 1991 (Wyn & White, 1997; McKenzie, 2000). McKenzie (2000) notes that the report:

... argued that the concept provided a useful mental image to explain the various combinations of education, training and employment activities which individuals may undertake over time to reach a destination such as a desired qualification or type of employment (p. 2).

This image has served to shape debate and policy formulation in a number of ways. As McKenzie points out, this image portrayed a "sense of order and structure" (McKenzie, 2000 p. 1) in a world of youth transition that was by all accounts becoming increasingly complex and fractured for many young people. The utility of such an image in these circumstances might rightly be questioned. In an analysis of the image, Wyn and White (1997) focus on the implications of the notion of pathways in terms of seeing each young person as the individual cause of their own problematic transition.

This metaphorical use of the idea of transitions positions young people as individual viewers of the landscape on which the pathways are visible and accessible. Young people make their individual choices (after reading the relevant "maps" or talking to travellers who have gone there before) and
take their 'paths' towards their destinations. The paths are assumed to be there, so if some young people do not make it to the destination, the fault lies with them. In this way, the metaphor of transition effectively individualises the process of growing up, and its outcomes (p. 99).

This notion of the individualisation of the pathways process has been verified in recent discussion on the variety of "paths" young people appear to be taking. In a review of data collected in the Longitudinal Surveys of Australian Youth (LSAY) program, a sample of 1229 participants who did not obtain tertiary qualifications within a seven year post-school period, engaged in 500 different patterns of activity. From this data, McKenzie (2000) commented that "pathways through education and into work in Australia can be characterised more as individually constructed than as institutionally based " (p. 4) and goes on to note that:

The fact that labour markets in loosely-coupled systems such as Australia are relatively open and less dependent on occupationally-linked qualifications means that young people are able to try a variety of jobs as part of the career maturation process. Because much of the employment of young people is part-time and casual in nature (including many of the jobs held by students), the early work experiences of young Australians are often episodic and fragmented (p. 5).

Traditionally, such experiences have been portrayed as less than ideal and as having direct and negative consequences for young people attempting to make the transition to full-time work. However, in a recent comparison with the more structured transition system in Germany (generally regarded in the internationally comparative literature as being a "safer" system for transitional youth), Australian young people, by the time they reach the 20–24 years age band have comparable employment rate outcomes (Sweet, 2000). It would seem that the transition problems of the 15–19 year old age band decrease (or even disappear in comparative terms) as the cohort gets older.

How can this be explained? Could it be that episodic and fragmented work experiences have some vocationally educative value for the young people involved? And if so, what types of learning take place in this process? Current research in the Australian context does not appear to address such questions. Perhaps by letting go of the assumptions underpinning the normative full-time school to full-time work model and not using this model exclusively as the measure of successful transitions, different questions might be asked about this increasingly complex trajectory and perhaps different solutions/interventions may be arrived at.

It would seem, moreover, that the pathways metaphor has a particular set of values underpinning its use in the Australian context. In McKenzie's analysis, it is clear that certain identified pathways are more valued than others. Pathways which lead to episodic or fragmented trajectories are judged as being unsuccessful and yet, Sweet's interpretation of the comparative statistics would suggest that by the time young people reach their early twenties, these individualised pathways (both "successful" and "unsuccessful" types) have lead effectively to the goal of employment rates comparative with other transition models lauded for their success. Perhaps the pathways metaphor might be better utilised if the concept of pathways forged in non-mainstream conditions are valued or at least examined for their educative value, as well as pathways followed in the more traditionally valued way.

**New Questions**

One of the main aims of this paper has been to examine some of the assumptions underpinning current discussion about youth school to work transition and to highlight opportunities where new research may shed light on seemingly intractable problems. New research might also look at the questions posed by Chisholm (1999) about how young people respond when the existing transitions...
systems appear to have lost their efficacy. New questions about youth in transition might focus on the type of knowledge needed to engage in transition activities and concepts of the self-efficacy of young people engaging with the world of work. Research might also explore the types of knowledge generated by these processes.

Positioning new research in this way links it to a wider theoretical discussion about the nature of the transformation of Western industrialised societies and the challenges this creates for young people and policy makers alike. This discussion has as its key underpinning idea that:

Young people today are growing up in a different world to that experienced by previous generations — changes which are significant enough to merit a reconceptualization of youth transitions and processes of social reproduction (Furlong & Cartmel, 1997 p. 6).

Re-thinking youth policy in this way might usefully draw upon on key concepts such as "individualisation" and "risk" in the work of Beck (1992) and Giddens (1991, both cited in Furlong & Cartmel, 1997). Beck's concept of risk portrays the world of late modernity where "predictabilities and certainties characteristic of the industrial era are threatened and a new set of risks and opportunities are brought into existence" (Furlong & Cartmel, 1997 p. 3). This theorisation concedes that risk is not equally distributed in society and that the inequity traditional to class-based society is still apparent, however, it also proposes that social structures have fragmented and collective identities have weakened, leading to a greater sense of individualisation.

Rethinking transition in this way might give insights into productive ways of looking at work and knowledge in these new, less certain times. It may become increasingly relevant for policy to consider how youth are negotiating the transition from school to work, given the failure of existing transition systems to guarantee successful outcomes for more mainstream youth. In an interesting reversal, studying the traditional techniques of the marginalised may produce knowledge which can aid the increasingly embattled "mainstream," especially if it is true, as Chisholm (1999) contends, that:

...such systems can no longer effectively guide, control, or predict outcomes (such as in the formula "formal education and training, appropriately selected and provided, results in corresponding employment on a secure basis and, for the good achievers, career advancement"), their logic becomes redundant — above all, for those expected, cajoled, or forced to pass through their machinery...they must gain access to and acquire competence for a "second system" — effectively a communication network — in which they learn to play a gameboard whose configurations change with every move. What kinds of knowledge and skills underly and are required by such a transitions game?

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Old Economy – New Economy and the Challenge For Education

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The 'old economy' is the way companies have traditionally done business in the past. Companies in the 'new economy' makes use of the Internet to sell goods and services. There will be significant changes in workplaces over the next decade as a result of the so called 'new economy' and as the lines between the 'old economy' and the 'new economy' become blurred.

These changes will include Workplace Flexibility, Globalisation, technology, and emphasis on work/family life balance. As these changes occur, educational institutions need to be able to anticipate and respond to the needs of the employer and the employee. This would involve: greater emphasis on lifelong learning; training will become more performance based and less about building skills; performance will be seen in terms of value-adding rather than a prescriptive job description; 'soft' skills will become a priority; greater need for computer skills at all levels.

Several decades ago, employers were looking for typists, switchboard operators, keypunchers and lift operators. Cutting edge office technology included electric typewriters, telex machines and dictaphones. Today people search employment sites on the Internet for jobs such as Webmasters, LAN operators and desktop publishers and the latest office technology includes digital phones and personal digital assistants.

We are living in a world it was hard to have imagined back then — a world, often referred to the as New Economy, that is powered by technology, fueled by information and driven by knowledge.

These changes have gone hand in hand with structural changes in the economy and the labour force

- continuing high unemployment levels and a growing base of the long-term unemployed
- a labour market where education and training has become necessary and the number of unskilled jobs have diminished
- increase in part-time, contract and casual work with the concept of permanent tenure in a job decreasing
- the privatization, deregulation and downsizing of the public sector and the resulting growth in outsourcing.

The influence of these changes go beyond new equipment and faster communications. The workforce and the workplace as we know it are being fundamentally changed and consequently skills needed for the workplace are being redefined and reorganised.

This information-based, skills-intensive economy of the 21st century is presenting new challenges for education and training.

In order to understand the impact that these changes will have on the workplace there needs to be an understanding of what the New Economy means.

The Characteristics of the New Economy

- Fast
- Values intellectual property over tangible assets.
- Has borderless markets — all markets are opened up and tariff barriers lowered
- Red tape/bureaucracy cut
LEARNING TOGETHER, WORKING TOGETHER

• Increasing demand for efficient business practices. This process started around 10 years ago with BPR (business process re-engineering) i.e. looking at ways to do things better. Then 5 years ago came the introduction of ERP (enterprise resource planning). This has been followed by the introduction of e-commerce which now provides the tools and infrastructure (through the Web) to accelerate this striving for efficiency.

• The customer is in charge. The old traditional way had been to measure market share, customer retention and performance against a fixed set of competitors. In the future it will become much more important to measure how much a customer costs to acquire and retain — that is, the measurement of a customer’s lifetime value.

• New style of businesses (termed ‘Third Wave’ businesses) dealing with personalised products rather than customised products.
  • First Wave businesses were a product of the industrial revolution.
  • Second Wave businesses (most organisations fit into this category) are built around Fordist notions of consumerism involving mass production and advertising. These companies ‘customise’ their products for what they think will be a certain market.
  • Third Wave businesses, on the other hand, develop ‘personalised’ products for customers and not markets. Along with these businesses come a new and growing breed of demanding and technologically savvy ‘superconsumers’. These people are called the Third Wave purchasers who currently make up 22–30% of the adult population but who have nearly 50% of its discretionary income. By 2020 they will represent 50% of the population with 80% of the discretionary spending power. 82% of these Third Wave customers do their purchasing of products and services online.

The Characteristics of New Economy Companies
• Thrive on innovation — innovation is about developing networks and applies as much to managerial processes as it does to the invention of new ideas
• Less wedded to traditional hierarchies than Old Economy companies
• Move away from centralised decision making
• Shed layers and numbers of middle management. In Australia, companies tend to have bigger management teams than their US counterparts.
• Develop many alliances and partnerships locally and internationally making involvement in new ventures faster, cheaper and less risky
• Challenge the way things are done traditionally and are less constrained by traditional thinking
• Able to hire and retain quality staff
• Are early adopters of technology and are able to become much more efficient because of the processes which have been put in place over the Internet.
• Have short cycle times for the release of new products and services
• Are able to mix and match ideas and have an ability to think quickly on their feet.

Overall, the New Economy means flat management structures filled with empowered staff who are able to use their initiative and know-how to make decisions at ‘e-speed’. The goal for an organisation is flexibility, an open mind and transparency of operation.

The Impact of the New Economy on the Workplace
The effect of globalisation:
• global businesses will expand as cheaper technology allows for more small businesses to reach international markets
• international business alliances/partnerships will increase
• cross cultural sensitivity and understanding will become more critical
• the need to balance local requirements with the need to operate in a borderless world

The workforce needs and priorities are changing:
• Need to balance work and family
• Flexible workplace arrangements (flextime and flexiplace) as opposed to the traditional work arrangements
• need for simplicity
• workplaces that promote safety

Workforce training and curriculum needs:
• Continuous workforce learning will become essential. As job changes are introduced with the take-up of new technology, workers will need supplementary skills to remain competitive in their existing jobs.
• Training will become more performance focused and less skill building focused
• problem solving and decision making will become a standardized and required curriculum for workers
• computer skills will be needed by all workers.

The definition of jobs and assessment of performance will alter (see Table 1):
• employers will value workers based on versatility, strategic thinking, ability to lead, problem solving, technology skills and interpersonal skills
• a need for greater computer skills will increase at all levels of the organisation
• hierarchical structures will be replaced by task focused teams
• performance will be judged more by value-added contributions and less by pre-determined job descriptions
• complexity of work will grow
• what is meant by a job title will take on a new meaning

The Education and Training Requirements of the New Economy
The changes that will take place in the workplace and workforce will affect all organisations, whether they are Old Economy or New Economy companies, as new technology is adopted, communication improved and a growing need for information.

Workforce skills which will be required in the New Economy include:
• independent and critical thinking skills (It has been determined that this is the skill that most sets apart successful from unsuccessful graduates)
• problem solving skills
• resource management
• interpersonal skills
• communication skills
• information analysis/analytical skills
• understanding systems
• Biztech (technology based skills)
• project management
• team work/team leadership
• entrepreneurial skills
• workplace readiness knowledge

It is predicted that the demand for workers with vocational qualifications to 2005/2006 will grow at a faster rate (19%) than the overall employment growth rate (13.4%) (MONASH Centre for Policy Studies).

The fastest growing occupations will be those dealing with:
• people skills
• knowledge rather than physical and computer skills.

The slowest growing occupations will be those requiring:
• dexterity and
• strength.

Challenges and Implications of the New Economy for Education And Training Providers

The rapid rise of the New Economy and the need to be on top of an increasingly large information flow is producing a new style of training which must be

• Less formal
• More needs-based
• Often takes place on the job
• Often focuses on short courses
• Less specialised than previously
• Offers a broader range of 'soft' skills and avoiding too narrow a focus on the technical skills area.
• Give employees and employers a documentation process that will allow them to record acquired skills.

Challenge 1

Training is becoming not only an inseparable part of working conditions and work contracts but is also being used by employers as a way of retaining quality staff. Employers are recognising the need to continually upgrade the skills of their staff as well as employees demanding training to ensure job portability. This has become very important as often people change jobs with 2–4 years being the average in a position and education and employment experience is becoming seen as a collection of skills and knowledge that will need to fit a succession and variety of employment and not one career choice. Training programs can been seen as a point of competitive difference between employers, particularly for those aged under 30.

Challenge 2

Lifelong learning to ensure lifetime employability. With the changes that have already occurred in the workforce and with more rapid changes that will occur over the next decade as a result of the New Economy, the importance of continuous workforce learning is becoming critical for both employers and employees.

Challenge 3

Education and training providers must pay attention to market research that identifies labour market needs which are directly related to existing and emerging skill needs as well as leading to appropriate qualifications that employers value and students need. Training providers need to find a way of helping students learn how to adapt to the accelerating rate of technological change as well as understanding how to provide knowledge to the workforce and how to retool people for new careers.

Challenge 4

Educational time and space boundaries are slowly being overcome with round the clock services being provided along with teaching/learning away from the traditional classroom. Training needs to be delivered at a time and a place to suit students and in a manner that meets students/workers needs and interests. Often this will rely on on-line delivery. In the US, for instance, market researchers have reported that 92% of corporations planned to implement web based training in 1999. Within 3 to 5 years, more than half of all corporate training would be delivered by technology with an estimated $10 billion being spent on web based training by 2002. It is thought that the balance of 50-50 will eventually be achieved between the classroom and the non classroom with the integration of the traditional and emerging technologies to deliver web based training with instructor based training. (<www.ddiworld.com>)

Education organisations need to evaluate what the best delivery approach is in order to accomplish the desired skill requirements and learning outcomes in a changing society rather than just move to the use of emerging technologies. Unfortunately, providers are facing increasing pressure to adopt online
training delivery without research being undertaken to ascertain its real benefits. These pressures include the ability to reach a large number of people over large distances, the uniformity of content delivery and the lower cost compared to traditional classroom delivery. With employment turnover high in some industry sectors, companies are often happier to push for e-learning rather than investing a lot of money in the live classroom, regardless of appropriateness to content.

Challenge 5
The development of new products and new solutions in e-education. The e-education sector needs to develop a range of new tools to make optimal use of the new opportunities provided by technology. e-education still needs to work out the best direction for this. The current trend is to maintain what is currently in place but apply new technology to delivery. There need to move towards a new model for the delivery of knowledge and skills to suit the new type of customer.

Challenge 6
Development and implementation of educational and training programs that acknowledge and understand the importance of the ‘third wave’ customers and their training needs. This will need to be balanced with the more traditional approach currently used for the ‘second wave’ customers and the challenge for education providers will be finding a way to ride both waves at the same time.

Challenge 7
Finally, along with the shift in focus from training towards performance within companies, businesses are becoming serious about the need to measure training results and to quantify the effectiveness of training programs. This push for measurement is very evident in the US where many large businesses are currently adapting different techniques including ‘concept mapping’ in the search for an effective efficient measurement tool. Educational providers will need to put resources into the development of a tool or range of tools that will suit the local market as well as internationally.

More challenges for educational providers will emerge as the decade passes and newer technology is developed which will result in other changes in the workplace and in society. The constant challenge is to ensure that education keeps abreast of the new and emerging trends and changes as they occur.
This paper is in two parts. Firstly, it discusses hypermedia as a learning medium and, secondly, it explores the potential of on-line methods for hypermedia research. On-line methods have been used extensively in cognitive research, and especially in the area of discourse research. In the first part of the paper educational hypermedia is briefly outlined as are the Pedagogical Strategies of Hypermedia (interaction with the learner) and the specific educational purpose of Hypermedia (the types of learning taking place) in an effort highlight a number of questions that need the attention of researchers. In the final part, two recent studies that adopted on-line methods for examining learner-hypermedia interaction are considered and the benefits and limits of each method are discussed.

Part 1 — Educational Hypermedia

Some see hypermedia as an ideal knowledge representation format that allows for generative or adaptive learning (Dede, 1988; Jonassen, 1986, 1988); a powerful environment for exploratory learning for ill-structured, advanced knowledge domains or literacy education (Spiro & Jehng, 1990; Spiro, Feltovich, Jacobsen & Coulson, 1991); or a platform for multidisciplinary learning in the increasingly complex and growing field of science (Davenport & Cronin, 1990; Marchionini & Shneiderman, 1988). Some characteristics of hypermedia are that it is hierarchically organised information (text, pictures, graphics, sound, video) “with associative or referential links able to be manipulated using a graphical user interface (GUI)” (Lai & Waugh, 1995, p. 26). It is a network of ideas/concepts connected on the basis of their associative or referential links in addition to organisational links and suitable for information searching and retrieval. Duchastel (1990) sees the important features of hypermedia as being: non-linear access to information, varied information access, integrated information access, ease of access to information, and free access to information.

This implies that information seeking is the fundamental underlying hypermedia activity, one which Jonassen & Grabinger (1990) describe as “a fundamental learning activity, precursive to many others” (p. 13), and which Marchionini (1989) sees as a “special case of problem-solving” (p. 57). These activities would seem to be linked in most learning processes, i.e. learning is essentially a problem-solving activity in which information searching is an important skill. This nexus between problem-solving and information searching as a hypermedia activity is discussed further in the following paragraphs.

Information searching for problem-solving.

Research shows that: information searchers prefer facilities such as keyword search or an index mechanism (Joseph, Steinberg, & Jones, 1989). However, where search questions are vague, people tend to resort to browsing or exploring strategies (Marchionini & Shneiderman, 1988). Marchionini (1992) proposed a framework for information seeking tasks which reflects the iterative, non-linear, and opportunistic characteristics he sees as typical of end-user information seeking...
patterns. In contrast, Wright (1990) attempts to impose some structure on the search process by proposing that six different types of search tasks can be identified. These he describes as:

• search target simple and fully known
• search target simple but only partially known
• search target complex and fully known
• search target computed from on-line trade-offs and feedback from the computer
• search target simple but unspecifiable to a computer, and
• search target unrecognisable for the purposes of terminating the search (pp. 176–178).

Identifying search processes in this way seems to be educationally useful for two reasons. Firstly, these processes can be thought of as a range of pedagogical strategies capable of eliciting from learners a number of different learning outcomes. Secondly, this diversity of search processes would also require learners to engage in a range of cognitive activities and develop a range of cognitive structures. Pedagogical implications are discussed in more detail in the next section. Firstly though the cognitive implications are discussed in more detail.

Cognitive processes. The cognitive processes involved in hypermedia usage are similar to those involved in two other domains: information retrieval and reading (Duchastel, 1990). Duchastel states that the information retrieval aspects of hypermedia lie in its navigational aspects, which involve searching and browsing. In terms of the reading aspects of hypermedia, it is not concerned with the processing of language, but rather with comprehension, and includes knowledge processing from both graphical and textual information. Duchastel identifies four cognitive processes that seem central to interaction with hypermedia: browsing, searching, integrating, and angling.

A brief description of each follows. Browsing is what hypermedia is principally for. Browsing is encouraged by the presence of buttons (links) which signal to the user that related information is available. Searching is another cognitive process continually activated by hypermedia. Searching occurs in response to a question which might be quite specific through to quite broad. The more specific the question the more straightforward the search is. Integrating is the global process of learning that cognitive psychology recognises most clearly. It involves the structural character of knowledge as knowledge is constructed by the learner. It is the active process involved in understanding, and consists in interrelating conceptual elements of knowledge in a coherent semantic net. Angling is the term used to denote the active process involved in establishing different perspectives on a topic of knowledge (viewing it from different angles). Being capable of examining multiple perspectives not only adds to the learner’s knowledge of the topic, but also can potentially enhance higher skills such as critical thinking.

Duchastel (1990) groups these four cognitive processes into two broader processes. He considers that browsing and searching together form the learner’s outward expansion of information from where he or she currently is. The learner goes out to access new information. Integrating and angling, on the other hand, are seen to form an internal review of information in order to consolidate the topic being studied. The learner turns inwards to ensure coherence in learning. Thus, Duchastel (1990) sees hypermedia interaction as a constant and dynamic flow outwards and inwards in the processing of information. Therefore, these four cognitive processes which can be considered in terms of two broader categories, would seem to have important implications for the design of any learning activity in a hypermedia medium.

Duchastel further asserts that “Hypermedia is not an instructional tool: it does not provide a prescribed presentation of information that can be assiduously followed by a learner. But it is a learning tool: it provides easy access to the information that a learner deems required in mental model building” (1990, p. 231). Given this lack of
suitability to be “assiduously followed”, it would seem to be inappropriate for some forms of learning (e.g. guided learning and guided practice, where the learner needs structure and structured advice). This appears to be in stark contrast to conventional computer based tutoring systems whose strengths appear to be in their ability to oversee and monitor the application of strategies. It is in this context of "as a learning tool" that hypermedia appears to have the potential to accommodate both a variety of learning styles as well as to develop within the learner the capacity to use a range of cognitive activities.

Hypermedia is complex and is difficult to define. However the literature outlines some of the characteristics of its structure, emphasises its capacity as an information searching for problem-solving tool, as well as highlighting some to the cognitive processes it is capable of eliciting. There is a number of important cognitive aspects of the medium. Firstly, it provides multiple access paths to information which suggests a capacity to support a number of learning styles. Secondly, the different types of search tasks which it enables ought to be capable of promoting the acquisition of different kinds of knowledge (e.g. comprehension, application, analysis, etc.). Finally, the dynamic flow of information processing should have potential for developing different kinds of cognitive representations in learners. The current state of knowledge about hypermedia raises a number of questions: firstly, what significance do the inward and outward cognitive processes of hypermedia have in developing different kinds of knowledge? And secondly, can these processes be pedagogically embedded to support learning?

To answer such questions firstly requires a more detailed understanding of the pedagogical strategies that hypermedia can elicit from learners.

**Pedagogical Strategies of Hypermedia**

**Interaction with the Learner**

From the above description of hypermedia, a salient question therefore, is to what extent might a hypermedia learning environment provide learners with a rich array of learning strategies. It is proposed here that the interaction between hypermedia and learner is likely to be best developed from a theoretical base rather than from the current apparently knowledge organisation basis. Current attempts at a presentation of domain knowledge, which tends to drive much of the computer-based learning currently in existence, seem to be based on a view of how the domain is organised rather than on how learning takes place.

One of the features that distinguishes media used in computer-based learning environments from other instructional media (e.g. text) is the interactivity, which allows a communicative dialogue between the learner and the instructional system. That is, the effects of a computer-based learning environment depend not only on the types of information displayed (as with written text), but also on the types of interactions through which the learner can communicate with the instructional system. It is the form and function of these interactions with the learner that are discussed in this section. Chen (1995) considers that interactions are generally designed to serve four types of functions: providing flexibility, providing assistance, providing learning activities, and operating the system. Through these four functional means, hypermedia is able to present both instructions as well as knowledge to the learner. It is the communication of the knowledge aspect of hypermedia that is the focus in this study. What is particularly important is how current learning theory might inform this process.

In learning settings, knowledge is communicated to the learner by means of pedagogical strategies. Instructional researchers continually report that different learning objectives require different instructional methods (e.g. Reigeluth & Curtis, 1987; Gagne, Briggs & Wager, 1988), and that certain pedagogical strategies can significantly influence the outcomes of learning (Reigeluth & Curtis, 1987; Collins, Brown &
Newmanl, 1989). Chen (1995) categorises pedagogical strategies used in communicating knowledge at two levels: the basic pedagogical methods (i.e., conventional teaching strategies such as setting goals, instructions, demonstrations, explanations, illustration, and feedback) and advanced pedagogical strategies such as modelling, coaching, scaffolding and fading, and exploration (Collins et al., 1989). Chen argues that modelling, coaching, scaffolding and fading, and exploration are advanced in the sense that they have been demonstrated as effective in educational practice and that they increase learners' interactions and encourage learners' to become active participants in the learning process. These pedagogical strategies are explored further later in this paper.

The groups of cognitive apprenticeship methods outlined above provide a framework from which to develop strategies that could provide for different educational purposes. They provide a basis on which to examine various hypermedia approaches in achieving differing educational purposes. It is proposed that these strategies may be applied to hypermedia in order to activate prior knowledge effectively, accelerate knowledge compilation, and articulate reasoning. In this way they would foster comprehension, cognitive skill acquisition, problem solving, and the transfer of cognitive skills. These outcomes depend on the kind of learning being targeted in particular kinds of instruction. Differing educational purposes are discussed next.

Specific Educational Purpose of Hypermedia

The Types of Learning Taking Place

The different types of knowledge targeted in instructional media can be categorised as domain knowledge, operating knowledge, affective content, and knowledge required for implementation (Chen, 1995). The knowledge that a program is designed to develop is referred to as domain knowledge (discussed in detail in the next section) and the content and structure of that knowledge representation affect the quality of the program. Nonetheless, successful execution of any computer-based program also requires the learner to understand features of the program as well as having knowledge of how to manipulate it. It is not proposed to discuss all of these purposes in this section, but rather to focus on domain knowledge.

Within instructional media, studies on learning have suggested that effective teaching involves explicit teaching of various strategies such as problem-solving and metacognitive strategies (knowledge about the memory and learning) (e.g. Palinscar & Brown, 1984; Scardamalia, Bereiter & Steinbach, 1984; Schoenfeld, 1979). Domain knowledge is also categorised according to the way it is structured. Chen (1995) categorises knowledge structures as hierarchical, linear or fragmented. In a hierarchical knowledge organisation, the knowledge elements at different levels associate with each other by certain relations (e.g. temporal, partial, or logical relations). In a linear knowledge structure, the knowledge elements are associated and presented in a linear sequence, whereas fragmented knowledge refers to isolated facts concepts and actions. Sowa (1992) adds a further category called a network which shares properties of other categories but in which knowledge elements may be connected back to the same point. These categories of domain knowledge appear similar to the characteristics of hypermedia outlined by Duchastel (1990) and identified in an earlier section. The relationships are illustrated in Table 1.

In the previous section, it was suggested that hypermedia may have potential for representing knowledge in ways suitable for generative or adaptive learning, exploratory learning, advanced knowledge learning, as well as problem-solving. These are characteristics often identified in the literature on effective adult learning strategies (Knowles, 1989), and the development of vocational expertise (Stevenson, 1994). As shown in Table 1, the characteristics of hypermedia appear to mirror representations of domain specific knowledge structures identified in this section. This suggests some basis for structuring hypermedia in such ways as to
target the effective development of different kinds of knowledge.

The first part of this paper has examined three important aspects of hypermedia: firstly, hypermedia as an educational technology; secondly, the interaction of the learner with that technology as pedagogy; and thirdly, the types of knowledge that hypermedia might develop through interaction with the learner. These several aspects have raised a number of questions with respect to hypermedia as a suitable learning environment.

Two overarching problems are apparent in present instructional research relevant to the use of information technology for learning. Firstly, there appears to be a lack of systematic and precise examination of instruction using information technology according to the pedagogical principles outlined above. Secondly, our understanding about which features of hypermedia (hypermedia structures) might effectively promote what types of learning is incomplete (i.e. what significance do the inward and outward cognitive processes have and can these processes be pedagogically embedded). Thus, a need exists for those researchers examining educational hypermedia to firstly consider the ways in which the interactions between the learner and hypermedia might be more systematically examined (Beven, 1999).

In the next section two recent studies are examined. In particular, the nature of the ways in which the learner-hypermedia interaction data was collected and its effect on the learning and learner.

Part 2 — Researching Learner-Hypermedia Interactions

As hypermedia applications become more widespread in education, training and work, there is an emerging need for a comprehensive theoretical model of learner-hypermedia interaction to guide researchers. Models of learner-hypermedia interaction will help to understand the potential of hypermedia applications, help explain potential usability problems and eventually provide guidelines for system design interaction (Roulet & Passerault, 1999). However modelling learner-hypermedia interaction requires a thorough and systematic investigation of the cognitive processes at work during such interactions. How does the learner represent the information structure of the system? What kind of goal structures does the user build in order to locate task-relevant information? And how does the user navigate through the system?

These questions cannot be answered from only a theoretical or technical perspective. Instead they need to require the "confrontation of theories, techniques and empirical data about system usage" (Roulet & Passerault, 1999). Several methods of data collection are currently available to researchers, including post-tests, user interviews and the analysis of user-system interaction protocols. The latter is particularly useful as it permits the 'on-line' observation of users' strategies. However, such protocols can be very complex and thus the researcher can become overwhelmed by both the data and its complexity. Therefore, how to select and analyse appropriate data would seem to be a central problem in usersystem research. Two recent studies have started to address these issues and are briefly discussed next.

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Study 1
Barab, Bowdish, Young and Owen (1999) investigated the role of different intentions for constraining kiosk searches and whether selected variables related to reading comprehension were also related to document search. In this investigation their interest was in the use of log files (time-stamped records of students’ navigation choices whilst in the kiosk). They describe an interactive-computer kiosk, as used in their study, as ‘... textual, visual, and auditory information arranged in multiple dimensions and organised in a non-linear fashion in which the users chooses which topics to explore’ (p. 378). In other words, as a hypermedia space. Log files were of interest to them as they considered them to be a non-intrusive tool for seamlessly capturing navigational performance. These researchers argue that log files contain information, specific to kiosk actions, that provides insights about the intentions of the learner, that is, they provide a ‘... unique opportunity to capture navigational choices, from which the researcher may infer intentions, without intruding on the process itself’ (p. 386).

The kinds of data this methodology they collected in their study included; total time on task; screens visited; index buttons selected, directory buttons selected; and level of depth for the task. By employing a range of statistical analysis they were able to compare differences between specific and general searches and compare the navigational profiles of students assigned a simple of complex problem. Moreover, they were able to reinforce their hypothesis that there are distinctions between document search and reading comprehension and that hypermedia relies on different processes with the former being text-based and the latter being object orientated. By collecting information regarding what types of selections an individual makes (i.e. text-based screens, digitised movies), the sequencing of the different screens and the time spent processing the various components of the environment, researchers are afforded a non-intrusive window into knowledge acquisition strategy, information search and problem-solving of both individuals and groups.

This methodology relies essentially upon quantitative data that can provide a rich picture of what the learner is doing. Whilst this is of course very useful, many research questions are more concerned with why learners are doing what they are doing. For example, in understanding the navigational choices made by learners, what they did compared with others would provide insights into the kinds of ways learners were using hypermedia. However, very little would be known about the reasons underlying the navigational choices they have made.

Study 2
In contrast, Roulet and Passerault (1999) have undertaken some systematic observation of learners interacting with hypermedia. They stress that interest is with a ‘learner’ rather than a ‘user’ to stress their interest in what they term as ‘serious’ hypermedia usage as opposed to more casual situations. They propose a number of strategies for studying learner-hypermedia interaction as a function of the ‘observation grain’, or level of detail of the events analysed. A central purpose of their research is to understand the cognitive processes of orientation, navigation, self-regulation, and what factors may affect them. They believe that on-line methods have potential for the study of learner-hypermedia interactions and that some on-line methods designed for discourse processing research have been used successfully. Moreover, hypermedia usage offers a new range of indicators, since users have to make explicit decisions repeatedly during navigation. They use the term “interaction protocol” to refer to the series of events which occur during hypermedia usage (e.g. mouse clicks, page turns) with corresponding time stamps.

In addition, they consider that other data such as verbal protocols or subjects’ answers to inserted queries can be included in the protocol. As a result, interaction protocols can ‘...take the form of a complex and heterogenous set of data, which must be carefully handled in
order to yield meaningful information.' (Roulet & Passerault, 1999 p. 210). A way of dealing with this complexity is to consider what they call the observation 'grain' when designing a study. Selection of such grain will be largely determined by the objectives of the study. The 'grain' may be defined as the precision of the events considered as units of analysis. Figure 1 outlines their levels of observation of grain.

Defining the appropriate observation grain is an essential step in the design of a study involving interaction protocols (McLeod, 1991; Roulet & Passerault, 1999). At the coarse grain level the activity is considered as a whole. For example, the time taken on a task may be an indicator of its complexity. At the intermediate grain level, only some significant events are recorded. For example, those events in which the users refer to a diagram for help. At the fine grain level, each event recorded during the interaction will be considered.

Selection of the appropriate grain would seem to be problematic and a matter of study objectives. At the fine grain level it would be easy to be overwhelmed with data, however, at the intermediate and coarse levels it would be easy to miss meaningful patterns in the data. Moreover, denoting what constitutes and event, or a series of events, would seem to be both arbitrary and problematic. The notion of verbal protocols, whether as 'queries inserted in the hypermedia itself', or as 'talk me through what you are doing', are both intrusive and may impede upon the fidelity of the learners ordinary actions.

Conclusion
There is a growing need for sound empirical methods in the area of hypermedia research and development (Beven, 1997, 1999). In this paper the nature of educational hypermedia has been discussed and two promising approaches to the systematic collection of learner-hypermedia interactions have been outlined. An understanding of learner-hypermedia interactions would seem to be at the core of any examination of educational hypermedia. The kinds of research questions being posed will largely determine the methodology researchers will adopt. Maintaining the fidelity of the learner-hypermedia interactions is a critical consideration.

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The Long War Between the Two Traditions of Adult Education: Where do you belong?

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This paper gives an historical overview of the 'long war' fought between education for a critically conscious citizenry and training for industry. It is argued that 'learning for life' is more complex than 'training for work' and the economic rationalist rhetoric of 'winners and losers' induces an element of fear into post-compulsory education, acting to constrain learner's choices and limit the critical development that educators can aspire to in their teaching. It argues that industry abrogates responsibility by forcing the costs of training its workforce onto the community. Adult educators are asked to reassess whether we live to work, or work to live, and to bring a critical questioning to the pressures currently inhibiting the development of learning communities.

The Journey

Most journeys into adult education originate in a motivation to help others fulfill their capacities in some way and, if we are truly dedicated, to change their world for the better. In order to develop and maintain philosophical integrity as we travel on this path, we need to keep in mind what brought us to its first steps, what inspired us to take them. As a way into the subject of this paper, I would like to take you back to my own first steps. Beginning tertiary studies via mature entry, I found native delight in the disciplined pursuit of knowledge, in Theatre Studies and Educational Drama, Psychology and Sociology. I took study seriously, but it was also a lot of fun, because I chose my studies from natural interest. I will be forever grateful for that brief window of opportunity, now all-but closed in the changing climate of tertiary study.

When I came to adult education, what appealed to me most about the philosophy was the emphasis on volition. This was articulated in the core principles of respect for the learner as a self-determined adult who independently chose to learn, and negotiated their learning processes and goals with a facilitator (Knox, 1986). Discovering adult education theory that centered on the complexities of the individual’s learning experience and volition, the importance of cultural sensitivity and context was inspiring. Concepts such as transparency, accountability and effectivity gave promise of fairness and justice and would, or so it seemed at the time, inevitably sweep away hidebound bureaucratic practice that allowed tired, top-down teaching methods to continue to insult the learner’s intelligence.

As I explored the field further, issues of correspondence between theory and its practice began to emerge. Institutional circumstances frequently compromised the learner’s volition and constructs such as negotiated learning processes existed only in lip service. And, though philosophical approaches such as andragogy (Knowles, 1990) were advocated, their implementation seemed a long way off for most educators in the field. And then, there was Competency Based Training. Although CBT theory advocated individually paced learning, it quickly became obvious that in institutional practice, the first things dispensed with were
volition and negotiation, any motivation towards excellence lost in the bland construct of ‘competence’. It was 1993 and the hyperbole surrounding CBT was in full flight as industry moved to adopt its practice with alarming alacrity. However, though its acronym became a sort of discipline-specific swearword for me, the field held little interest. Being inclined to independent thought, discovering radical education and educator Paulo Freire (1970), whose work focused on expanding the learner’s freedom through developing critical skills, was exhilarating. Here was adult education with a real focus on the learner and their needs, with a methodology that highlighted the socio-political context of learning and the importance of critical dialogue as core principles. To me this seemed to practice what the others only preached. However, although radical philosophy and methodology are taught in all self-respecting courses for adult educators, again, implementation proved problematic for even the most dedicated in a climate of commodified vocationalism (Allman & Wallis, 1997).

As with the liberal-humanist philosophy, radical education also becomes co-opted, its emancipatory praxis subsumed in an institution that has less and less to do with freedom or emancipation, and becomes little more than an impractical entertainment for people who have to teach in the ‘real world’. The ideas of Freire, radical enough to have him flee his own country had, it seemed, become politically impotent in the hands of the liberal academy. However, further study into the history of adult education has found a longer list of heroes in a radical tradition that began centuries before the 1960s.

Two Great Traditions
Contrary to the hegemonic version of adult education, I intend to argue here that there are two distinct traditions in adult education and not the one all-encompassing liberal tradition as some, such as Whitelock (1974), would claim. Although the liberal tradition has historically had the validating benefit of hegemony to back this claim to ownership, not only is it not the singular tradition of adult education, but neither has it been the seminal force in the development of that field of human endeavour. That honour, as I have argued elsewhere (Merlyn, 2000), belongs with the working classes, in their striving to lay claim to the cultural capital of their civilisation and to force the ruling class to a more fair and equitable distribution of the common wealth. I will argue that the driving energy for to the universal right to literacy, literature, and education came from within the working class and has its roots in the radical literary tradition.

This tradition has perhaps its earliest origins in the 14th–15th century Lollards and their clandestine movement to vernacular literacy, wresting religious texts from the latinate culture of the Church and aristocracy (Kelly, 1970, pp. 8–10). With lay literacy also came a wider accessibility of pre-Christian texts in the vernacular and an ever-increasing challenge to the exclusive literary-intellectual domain of the clerisy and aristocracy. Since these were clandestine movements, their spread can only be speculated upon. However, this early common impulse to read proscribed literature must have been tenacious, as by the 16th century sufficient cause existed to prompt a proclamation of censorship that set legal limits on what could be read by who (Williams, 1965, p. 180). And so the dance went for another three centuries. Always the movement upward from the lower orders, to claim their cultural capital through literacy and learning, always the counter-move downwards to constrain and control what they could read, learn, and aspire to, forming and cementing a new class system that perpetuated the old intellectual and economic inequities (Thompson, 1968).

It is important to remember just how terrible conditions were in the teeming slums of 18th–19th century working classes, where the average life expectancy of the ordinary labourer was seventeen years old (Lucas, 1977, p. 42). With starvation wages and working days that started and ended in darkness, there was little energy left with which to aspire to
learning; yet they did. Although much of the impetus of upward social mobility was a product of the emerging power of the middle classes, in their challenge to aristocratic rule they had also loosed the corset of social stratification that held the rumbling belly of the masses in check. Autodidacticism has its strongest roots in the Dissenting groups and artisan classes, and much of the radical literature circulating in those networks came from the pens of aristocratic and middle class radicals. Their ideas filtered through to the masses in a literature of the streets, producing a popular radicalism of sufficient force to alarm their rulers (Webb, 1955; Jacob, 1981; O'Day, 1982; Thompson, 1968). Since feudal times a clandestine literary culture, disseminated by pedlars and chapmen, had existed amongst the lower orders, and the radical message spread through these ancient networks (Webb, 1955, p. 29). Although, as Thompson observes, Wesley's Methodism served to anaesthetise the wider insurgency to a 'slumbering radicalism' (1968, pp. 52-55), without popular support within the working classes of the radical campaign there would have been no radical tradition, as Derry (1967, p. ix) explains:

The Radical tradition is as much an affair of agitation and organisation as of political theory. Its roots lie not in the studies of the learned, but in the hopes of the self-educated and the dreams of the humble. It centres in the chapels of the north of England. It expresses the desire of working men for a better and fuller life for their children. It reflects the ambitions of self-made men seeking recognition for their class. It expresses the protests of the outsider and the underprivileged.

Between the late 18th and early 19th century it was no longer just radical upper class intellectuals and liberal humanists in the vanguard of the radical literary tradition. As the momentum to organised resistance galvanised in the nascent trades unions and Chartist movements, greater numbers of intellectuals began to emerge from the working class itself (Murphy, 1972, ch. 1). This movement held education as the key to freedom, reflected in the Chartist slogan 'Knowledge is Power', the plethora of often short-lived journals and newspapers, and an array of educational initiatives (Merlyn, 2000; Johnson, 1988; Kelly, 1970, pp. 135–138). Repressive legislation, violent suppression and a campaign of anti-radical propaganda ensued. Stamp duty was raised to quell the upsurge of radical publications and put them out of reach of the poor, resulting in what is know as the 'war of the unstamped'. In its time-honoured tradition, the radical press (comprising 'at least 562 newspapers and journals'), went underground (Vincent, 1981, p. 115). A loyalist campaign persecuted known literary radicals (Philip, 1995) and together with the Evangelicals produced an avalanche of propagandist tracts against radicalism for the middle classes and cautionary tales of inappropriate ambition distributed to the lower classes and captive audiences of charity (Vincent, 1981, p. 114). Calls for State-supported education mounted in order to control the direction of working class education and, although mass schooling did begin to increase, it could not keep pace with the thirst for independent thought: As public literacy grew circulating libraries and reading rooms abounded, groups of sedentary workers paid colleagues to read aloud as they worked, and whole streets shared a single newspaper after it had been finished with at the public house (Webb, 1955, pp. 33–34).

The Church and religious sects took a primary role in much of the educational provision for the working class and indigent, their agenda to school the poor to their station in life. This practice is exemplified in the assurances of the Evangelical Hannah More to her Bishop, that she 'will allow no writing for the poor ...[so as] not to make fanatics but to train up the lower classes in habits of industry and piety' (Webb, 1955, p. 16). Against this concerted campaign by the ruling classes to control working class education, public and clandestine autodidactic networks of radical correspondence and text dissemination grouped, fell apart, and
LEARNING TOGETHER, WORKING TOGETHER

Throughout the 18th–19th century in ever-increasing numbers, groups met for mutual self-improvement, attending lectures, forming discussion groups and, at great expense because books were so difficult to acquire for ordinary working people, small libraries (Altick, 1957; Vincent, 1981). While popular radicalism waxed and waned with the vagaries of the market, radical education through literature and discussion fed into this growing public literacy, forming a distinct working class tradition that maintained a thesis of co-operative emancipation and critical political discourse against incursions by middle class liberal individualism.

Working class-initiated institutions experienced constant subversion and subsumption, either deliberately or inadvertently, as the middle classes moved to claim and control their education. The London Mechanics Institute founded by Chartists Hodgskin and Robertson (1823), was subsumed by Francis Place and his utilitarian backers Bentham and Brougham, who directed the Institute's curriculum away from political issues into trade-based instruction and more benign liberal arts (Craik, 1964, p. 18; Altick, 1957, pp. 188–212). Boughton makes a salient connection between the furore in the London Times over the publication of the Communist Workers' Educational Association manifesto (1847), written for them by Marx and Engels, and the first liberal-inspired Working Men's College with its university extension courses in 1854 (Boughton, 1996, p. 157). The liberal tradition developed within this ethos of constraint on working class initiative, erupting seven decades later in the revolt of the Plebs League at the erosion of working class principles by academics at Ruskin College, and initiating the first Central Labour College (Craik, 1964, pp. 37–78). Over the centuries a pattern emerges, of initiatives of the working class-based, socialist-communist tradition in adult education consistently pre-empting liberal intervention, which acted as rear-guard containment and adapted methodology developed by radical educators (Boughton, 1997, 1999). The now-common 'tutorial' system itself is an adaptation of university extension classes to conform to pre-existing working class learning methodology (Lawrence, 1999).

There can be few dedicated adult educators whose practice has not been informed and inspired to some extent by the ideas Freire espoused. However, it is often taught in isolation and few recognise that the contemporary strand of radical education, for which Paulo Freire is an icon, belongs to that ancient 'great tradition' of the striving of the masses for a just society. This rupture in the radical tradition has occurred, some argue, because Freire was not radical enough. Youngman (1986, pp. 180–185) and Austin (1999, pp. 45–46) concur, arguing that Freire rightly belonged to the socialist tradition, and his failure to articulate class-consciousness in revolutionary organizational terms in his early, most influential and less socialist, work rendered his ideas devoid of real political force. Freire distanced himself from his acolytes' misunderstandings, disclaiming the role of initiator of the ideas he practiced and disseminated (Torres, 1998), yet Torres argues that the versatility of those ideas allowed their reach to become global, inspiring millions in multiple ways. Perhaps Freire's reluctance to identify as Marxist allowed western progressives to openly embrace his ideas in an environment of cold-war paranoia. It might also be argued that the adaptability of Freire's ideas acted to dislocate the radical tradition from its class origins in our society.

It was out of the 18th and 19th century middle class alarm at working class insurgence and self-directed education that the Evangelicals began that second 'great tradition'. Whilst amongst those ranks there have undeniably been people of true liberal humanism whose contribution to the working class cause has been of great value, the tradition in which they work has historically been an education of social control and constraint. Their 'great tradition' is, and remains, one of paternalistic prescription, of providing fodder for industry at the behest of employers and, though cloaked in terms such as economic
success and individual excellence, its inevitable product is to disable working class cohesion by instilling a paradigm of competition rather than co-operation. This tension between the two traditions has fluctuated until this day in a perennial debate which is now manifesting again between adult educators who espouse a social change praxis and those who would see the profession wedded to the status quo and the demands of industry (Kerka, 1996). It comes down to the question of whose interests are central to the learning process? Since to put any but the learner’s interests as central to education is antithetical to everything both liberal humanist and radical educators profess I would ask you two questions: In which tradition do you see yourself as truly belonging? Where are you now?

The Great Divide

There has been an intense pressure on adult education to respond to new industrial and technological demands, and for the past decade at conferences around the world, the drums of change have grown louder. Virtual messiahs such as Dale Špender keep upping the ante on universities, insisting they forget their foolish attachment to face-to-face teaching and the liberal Arts or suffer virtual death. Vocational training leaders, such as Hermann Schmidt, urge VET teachers to prepare their students with greater learning capacities for the fierce, ever-changing, world (1999). The philosophy informing this global imperative abounds in the postmodern discourse that declares the end of certainties, both ideological and personal, in a fragmentary experience of life wherein the market is the only valid arbiter of value and meaning (Edwards & Usher, 2000). All convey their message of postmodern reflexivity with a sense of excitement and urgency, expounding change as total, inexorable, and perennial. However, for many, it is not hope but anxiety they spread with their missives of speed and change and their insistence that people have no choice but to learn continuously.

Like their religious equivalents, it is not the joy of finding, but fear of losing that underpins their message. Although the dynamic images that these evangelists dandle are attractive, people lacking in the critical skills that a radical praxis might develop find the inexorable nature of globalism hard to refute. The field of adult education has become infused with the stresses accompanying the losers-and-winners hyperbole of the global market. Now, for educators and learners alike, it is no longer ‘you have freedom to learn’ but now ‘you must learn or you will get left behind’. Jansen and Wildemeersch (1998) use the term ‘risk society’ to define the conditions in which dominant social institutions instill a hegemony of insecurity that serves their own economic ends. This hegemony prescribes a society in which a sense of ‘risk’ pervades all levels. It extends from the vagaries of the employment and share markets, to the personal, where people are told they must continuously reframe both their world-view and their own identity in a lifelong learning project, or face the consequences of exclusion from the opportunities this adventuring may bring.

It is my belief that, in following this dictum, adult educators collaborate in the formation of this new winners-and-losers class system. Certainly, there are people who are naturally equipped to win in this climate, who revel in the mobility of their skill portfolios and are elastic in their self-identification processes. But there are also many others who find such pressure inhibiting, their capacities unsuited to the knowledges and skills demanded by industry and government policies, and the prescribed pace of change faster than they can meet. Marginalized and blamed for their failure, these people internalize their second-class status (Jansen & Wildemeersch, 1998), and provide fodder for an endless cycle of inappropriate ‘training’.

Low-achieving young adults in high-unemployment districts are directed into prescribed training. Bullied into learning (as our federal government is currently doing), they become recalcitrant, doing only as much learning as is needed in order to qualify for the Youth Allowance; and everybody loses.
Any enthusiasm for learning that might have existed is lost, teachers lose any sense of achievement, and society loses human and economic resources. I am not suggesting that the learning of vocational skills is peripheral to adult education. Indeed, to learn new skills and advance economic and social status has been an integral part of much of the historical motivation in adult learning. Given real choice, real volition, and support instead of bullying, those young people may find their way into vocations through activities that have not appeared immediately vocational.

The issue here is those core principles of volition and respect. Without these, learning becomes narrow and anxiety-ridden, rather than the joyful adventure into our common cultural capital, intellectual expansion, and personal skills which adult educators would wish for their clients.

For a brief window of time between the seventies and nineties, as community centers blossomed with a raft of Adult and Community Education classes and that energy inter-related with community development programs, we seemed to be moving towards that desired state. Some of the courses run at these centers were, indeed, altogether whimsical. The ACE calendar in my home town used to regularly satirize this with a mock course in the vein of 'Charting the Navel Map with Umberto Umbilico' or some such silliness, and these would still get a few inquiries. The point here is that, though perhaps up to one third of those courses on offer may not have had immediate vocational potential, people still want to learn these things. That means people exercising their free will to choose to learn and the freedom of access to whatever their interest drew them, people coming together to learn from each other and enjoying their learning experience. To me, that's what makes a 'learning community'.

To learn what and when because you want to, not because someone else says you have to. That was the right people fought for over the centuries. And wasn't it that vision which the early vision of technological change promised to fulfil: more time for leisure, the right and access to knowledge as cultural capital belonging to all, fulfilling the human potential within everyone simply for the sake of growing happier and wiser as a community? That was certainly the goal of both the radical educators and the humanist liberals who forged the traditions and philosophies of adult education; and inspired me to think it a worthwhile career. Although there are still many people dedicated to those principles they are struggling to maintain them against funding strictures that prioritize vocational outcomes. The era of 'freedom to learn' now seems so brief a window of opportunity, as pressure mounts almost daily to convert all post-compulsory education to vocational outcomes, as Schwenke shows in her 'Snapshot' of community-based adult education in Australia (1999).

A Great Future?

These changes have not crept up and caught us napping. They have swept over us with all the cacophony of the global IT circus, and many have been swept away in its winners-and-losers rhetoric and bureaucratic hyperbole. Technological change is trumpeted as the savior of civilization from one end of the globe to the other, but few seem to be asking what is driving it, whom does it benefit and, most importantly of all, will it make us happy? And what constitutes the 'real world' anyway? Is it the world of vast corporations and competitive hyper-nations, or real people's lives? Some might find the cut and thrust of corporate aristocracy to their tastes, but the vast majority of people prefer a sense of security in which to live, love, laugh, raise children, and some satisfying work to support their real lives. We are told that through lifelong learning work will become more enjoyable, but with casualisation and the high priority paid to IT, life and work are merging in the wrong direction. From recent reports, IT doesn't make us all that healthy, either as individuals or as a society, and though may be a fun toy and a smart tool, it is just a tool, and when you turn off the power its just a load of [s]crap.
Despite all the hoopla of new media and new economies surrounding globalism, if you take a historical perspective it is just that centuries-old laissez faire wolf all dressed up in a new spin. It is still the upper classes telling their economic inferiors that this is the way it is, like it or not, and you better just get up to speed with the game, so they can make more money. Adult education has had the ground under it shifted so far into the vocationalist camp that even those who align themselves with the status quo tradition are beginning to realize that with the loss of ethical practice, critical development, and learner volition, liberal democracy itself is under threat. Levinson (1999) discusses the current debate on the growing need for wider political and civil education if we are to preserve our cherished liberal democracy in the face of increasing corporate oligarchy. The integrity of our profession’s core principles is at stake, and it is for us to close the widening gap between what we preach and what we practice. As Finger et al point out, ‘the political has become very personal’ and adult education is entering a period of intense redefinition of identity and mission that will demand a personal political philosophy from educators (2000, pp. 17–23).

I suggest that what learners need most are not more pressure and hyperbole, but teachers who truly place volition, respect, and critical perspective at the center of their learning. There really is no way around Freire’s principle of the inherently political nature of education, and if we are to defend the integrity of our profession we are going to have to resist the pressure to dehumanize our practice. I’m not suggesting you become a radical activist overnight. I am suggesting that the quality and intention of the programs you are asked to implement need to be questioned much more closely. It will be important to give colleagues the support needed to resist what is patently at odds with the rights of adults to volition and respect. Each adult educator needs to decide their position in our tradition/s and choose their sticking point, where professional principles and student’s rights to respect and volition will not be further compromised. As adult educators, the quality and scope of our learning communities begins, and ends, with us.

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Building Learning Communities in Industry: The Contribution of Competency-Based Training

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From the perspective of a social theory of learning, this paper explores the contribution of competency-based training (CBT) to building learning communities and forming constructive worker identities in industry settings. Drawing on data from a national evaluation of CBT, the process of identity formation for workers through the discourses and practices of CBT is discussed, particularly in relation to an increasing recognition of the importance of life-long learning for workers and innovation within enterprises. It is argued that, in some contexts, CBT and the credentialing it has provided seem to have contributed substantially to developing positive learning communities. Nevertheless, a preoccupation with pre-specified, procedural and technical knowledge is apparent in CBT, with the values dimension of training remaining largely unaddressed. Indeed, in emphasising standardisation, CBT often precludes the critical and anticipatory learning required for social innovation in the workplace and enriching cultural and personal change. Such outcomes appear to be neither in the best interests of workers and the community generally, nor of individual enterprises and industry as a whole. Some rethinking of arrangements for competency-based training in the workplace is presented.

Wenger (1998, p. 220) describes a learning community as a locus for creating, as well as acquiring, knowledge and involved in its own social reconfiguration through the learning of its members. He also describes identity as ‘a way of talking about how learning changes who we are’ creating ‘personal histories of becoming in the context of communities’ (ibid, p. 5). The nature of learning communities and the identities of their members thus appear to be mutually constitutive. What kinds of learning communities and worker identities, then, seem to be developing in industry settings in relation to the discourses surrounding CBT? How constructive are they, for enterprises, workers and the community as a whole? As Garrick (1998) points out, if values in learning contexts are purely instrumental, for example, ignoring care, empathy and community responsibility in the interests of company competitiveness, then this may well be socially and personally detrimental. In addition, given the changing nature of work, the importance of developing worker identities consistent with innovation and life-long learning is being increasingly recognised (Kearns et al., 1999). Therefore, to what extent, and in what ways, does CBT enable workers to develop new perspectives that can enrich their lives, opening up new opportunities for themselves and their communities?

Based on a national study, conducted in 1998, and entitled, ‘Evaluating the contribution of competency-based training’ (Mulcahy & James, 1999a), this paper explores the implications of CBT for enterprise communities and worker identities, particularly in relation to the discourses of competence surrounding CBT and the types of learning arrangements and contents that CBT affords. That CBT is a highly contested area is well-
documented. For example, Sweet (1994) expressed concern at its behaviouristic emphasis, while Jackson (1993, pp. 48–49) highlighted its potential to ignore the interrelatedness of work tasks. That conceptions of competence have also undergone changes, to include a cognitive dimension but, nevertheless, still excluding values, has also been recognised (Stevenson, 1995).

The study was designed in two main parts: a telephone survey of training managers throughout Australia and eight detailed case studies. For the telephone survey, one hundred and ninety-five (195) company training managers (or equivalent personnel) were each interviewed by telephone for approximately twenty minutes. Companies contacted were sought across four major industry sectors and a balanced sampling by size of establishment, location, State/Territory and industry was attempted and, for the most part, achieved. At least eighty-two per cent of these companies were using nationally-accredited competency-based standards, and at least forty-two per cent accredited enterprise-specific standards. However, very few of the more recently produced national Training Packages (Comyn, 1998) were in use at this time. Almost all companies had been using CBT for at least one year. An interview protocol was employed, consisting of open-ended questions relating to the purposes of CBT, its uses and effectiveness in each enterprise, any issues arising from the training and advantages and disadvantages associated with its adoption. For each of the case-studies, undertaken in eight diverse enterprises differing according to the criteria described above, data gathering involved observation of the delivery of a module or part of a Training Package over a number of sessions, together with in-depth, semi-structured interviews with six key enterprise personnel, including workers and practitioners.

It is argued that, in some contexts, CBT and the credentialing it has provided seem to have contributed substantially to developing positive learning communities. Nevertheless, generally, CBT appears to preclude the critical and anticipatory learning required for social innovation in the workplace and enriching cultural and personal change. Such outcomes appear to be neither in the best interests of workers and the community, nor of individual enterprises and industry as a whole.

Conceptual Framework: Transformative Learning and Identity Formation

Wenger (1998, p. 215) writes: 'Because learning transforms who we are and what we can do, it is an experience of identity ... not just an accumulation of skills and information'. He also distinguishes between education and training, describing 'education' as transformative, but 'training' as only formative. Transformative learning, then, involves opening 'new dimensions for the negotiation of the self' (ibid, p. 263), an essential component of life-long learning. More specifically, identities of competence within our communities form through an interplay between reifications of competence, as in competency standards (or the discourses surrounding them), and the experience of participation in competency-based training and assessment. Indeed, identities are said to form within a dual process comprising what Wenger calls identification and negotiability, always in tension, and operating through the modes of belonging of engagement, imagination and alignment. For example, identification may involve a preference for engaging (sometimes vicariously, through imagination) with particular people or ideas, rather than others, and aligning oneself with them. Negotiability, on the other hand, 'refers to the ability, facility, and legitimacy to contribute to, take responsibility for, and shape the meanings that matter within a social configuration' (ibid, p. 197). It thus relates to issues of power within the community. Other particularly important experiences in identity formation include our past history and potential futures (our learning trajectories), and our means of negotiating local ways of belonging with global ways, that is, with broader styles, discourses and social structures (ibid, p. 149). Below, a number of different worker identities are explored,
constituting particular kinds of learning communities and reported as being developed as a result of CBT.

Communities of Procedural Knowers: 'Really Know(ing) How to Do It'
The identity most frequently accorded to employees as a result of undertaking CBT programs was that of 'procedural knower', a person who 'really know(s) how to do it', and who can perform at a specified standard, rather than just having 'got a pass mark at school'. A behaviouristic notion of CBT still apparently prevails. It was reported that, 'Competencies must be linked to what workers actually do or else they see it as an academic exercise', and one training manager confessed:

> When I came out with a tertiary qualification I thought I was it and a bit: it only takes a week to work out that you know nothing. CBT doesn't leave people at the end of the course knowing nothing.

Thus to claim to 'know' was to be able to 'do' or to 'perform' one's knowledge, with knowledge being linked directly to performance on a task. Indeed, a discourse of performativity (Garrick, 1998, p. 101) seemed to pervade many workplaces, with knowledge being valued for its immediately usefulness only. A competent person, within this framework, does not require further knowledge. Indeed, it appeared that CBT might well lead to 'finish(ing) up with a person who is tailor skilled to your business', but unable to imagine possibilities for change, or contribute to social or technical improvements. Such workers appeared to be on a formative, but not a transformative, learning trajectory. Training in specific skills, to the exclusion of broader perspectives, leaves little room for the development of capacities for life-long learning and limits the potential of the learning community. And, of working to enterprise standards, one training manager commented, 'there is a risk that you could make a guy so narrow that you could make them unemployable in any other industry or organisation'.

Buck (1997, p. 96) explains that companies always have activities that cannot be totally regulated and planned. Indeed, he argues for the development of workers who can deal effectively with changing situations, that is, those possessing a situation-oriented ability to act. Knowledge and practice are thus seen to be emergent (Wenger, 1998, p. 96). Yet, there was little evidence in the data that CBT lends itself to developing non-routine problem-solvers or innovators, people who might help in shaping the work environment and work processes. Within a performative discourse of competence, little space is available for encouraging such identities. Indeed, the limitations of excessive reification of competence in competency standards, and an accompanying lack of negotiability, are illustrated by the case-study from Western Australia. This described a logging company (Timberco) in which detailed work instructions had been devised, forming a set of behavioural objectives and competency standards. No-one was allowed to deviate from these instructions and training was a matter of how to use the machines. While recognising the relevance of such training and an improved safety record, nevertheless, it was seen as narrow and restrictive. One trainee described how he modified procedures, based on the tacit and experiential knowledge he had acquired through his work. If he saw a possible improvement, he reported, he would act on it. However, such innovative activity could not be officially recognised. For assessment, he was compelled to conform to what the work instructions specified.

Many training managers expressed concern about privileging the 'technical' in CBT, to the exclusion of exploring values and developing personal qualities. The judgement to engage in 'right' action was seen as crucial (Stevenson, 1997, p. 86) but a capacity not amenable to the simple measurement procedures of CBT. For example, in the logging industry, it was said that comprehensive environmental care training was neglected and, in Health Services, that CBT fails to acknowledge that training there is to produce
"assertive, informed carers'. In the Hospitality industry, the story was similar. "The soft skills and attitudinal requirements of the hospitality industry are hard to measure" and therefore given scant attention. Thus, more 'holistic' training appears to be required, recognising multiple dimensions of competence, including the technical, social, cultural and personal. More educative learning communities might then be developed.

Communities of Standardised Workers: 'Can't tell one guy from another.'

As already described at Timberco, and consistent with much of the data, a major goal of CBT appeared to be conformity. This involved rule following rather than understanding, bench-marking rather than innovation and 'singular ways of performing' (Garrick, 1998, p. 65) rather than acknowledgement of differences. For example, one training manager from a large, Victorian construction company commented of CBT: "It takes the guesswork out of training, provides guidance and clear rules, and gives organisations confidence knowing (that) what we are providing is training to a tested standard". Thus CBT becomes a 'standardised reification to connect to the world and the organisation of work in terms of narrow procedures' (Wenger, 1998, p. 169). Such views were prevalent at other case-study sites. For example, at Plantco, a Queensland nursery, the company manager commented: 'To be competent means that they can do all the tasks that are on their job sheets without the need of constant supervision and correction.' Thus workers were being neither encouraged nor expected to improve upon work processes. Moreover, it was thought desirable that training should be standardised. As a supervisor at Timberco said: 'You know that one person's training is going to be exactly the same as the next person's training'. Standardisation was not applauded by all training managers, particularly in relation to assessment practices that failed to reward outstanding performance. As a number of people commented: 'Can't tell one guy from another...just pass or fail'. 'No stars and heroes'. 'Stifle(s) those who want to perform'. 'Producing a nation of mediocrity'. Of course, no design for learning can ever totally determine practice (Wenger, 1998, p. 229). Yet, in many workplaces, CBT's excessive reliance on reification appears to inhibit negotiability (both for workers and training personnel), thus reducing opportunities for rich, transformative learning and the development of innovative learning communities.

Communities of Adaptable, Committed, Productive Workers: 'It's all about getting orders out and learning while you do it.'

While standardising workers and training them in correct procedures, CBT was commonly seen to have an additional role in industry. This was to encourage adaptability among workers, developing the competence to manage workplace change. Such change was often associated with quality assurance and occupational health and safety requirements, increased competitiveness and entrepreneurship, and the introduction to the workplace of new technologies and techniques. Thus flexibility within workplaces through multi-skilling and cross-skilling was stressed, as well as flexibility across workplaces through the development of portable skills. 'Commitment' and close alignment with the company 'vision' were also seen as essential. However, even within this view, learning is still seen as a means to furthering routine productivity — not in enhancing knowledge-making or in encouraging novel problem-solving (see also Mulcahy & James, 1999b).

Thus, a training manager in a large construction company in Victoria explained: 'Staff are expected to be able to keep up and get ahead of modern expectations, particularly in the area of quality assurance and safety'. Further, a manager from a medium-sized, horticulture company in rural Tasmania noted that he expected CBT to facilitate 'the ability for all employees to adapt to change...to build in flexibility where people are committed
...hearts and minds stuff. Another commented, 'A happy worker means a happy workplace — CBT helps us work towards getting this balance'. While creating 'happier workplaces' and workers is hardly to be decried, encouraging such alignments is potentially exploitative (Garrick, 1998, p. 73). Moreover, it may be damaging in forging new identities that play out beyond the workplace. Thus competitiveness may be stressed at the expense of more inclusive values, 'extending more deeply into the person' (ibid, p. 62) and changing aspects of the self. Identification is expected but with little accompanying negotiability.

At Council, a case-study site in South Australia, major changes in staff identities were actively being sought, encouraging greater competitiveness and entrepreneurial capacities. Cultural change was underway. For example, the Acting CEO described these new identities as follows: 'I mean we have plumbers, carpenters, who now come to us and say: 'Right here's our business plan... we want to work out of home, we want to set up a van... just like our opposition would'. Council's future was seen to depend on such identities, as well as on applying specific procedural knowledge. Team work was seen as particularly important to the development of many businesses, including Council — though the development of team skills was often seen to reside outside the province of CBT. At one case-study site, Bathurst, a small wood-turning, manufacturing company in New South Wales, the manager explained:

Being competent means having the skills we need right here, but it is much more than that. A person could have the skills but not gel at all with the others at work — that's a useless situation, nothing really gets done well at all... To us, that's what being competent is all about: developing skills that are meaningful for everyone on the team.

Thus, in general, the data revealed a preference for the formation of a particular type of expertise, described by Ellström (1997) as adaptive rather than developmental. Adaptive expertise emphasises competencies for handling routine tasks that are frequently recurring and is important where predictable responses are required, for example, in preparing a quality product in record time. At Bathurst, the manager noted: 'We are a very reactive business. We're not so proactive. If a customer wants an order today, they want it today... not in two weeks time'. On the whole, learners and workers were neither encouraged nor expected to redefine learning or work tasks in relation to the competencies, nor anticipate any possible alternatives for engagement. Workers were, however, expected to 'react' to changing circumstances. Candy and Matthews (1998, p. 13) describe anticipatory learners as those who explore opportunities for new learning and who constantly scan the environment in an attempt to predict and imagine what the possible future directions might be. Thus, within this framework, learner-workers are encouraged to shape change processes rather than adapting to reified requirements. Few companies contacted in the evaluation appeared to engage in such learning, though one that did is described in the following section.

Communities of Innovating Workers: 'A group of individuals who can be proactive.'

Ellström (1997, pp. 68–9) describes the concept of developmental expertise, involving, '... continuous experimentation and innovative activity on the part of employees during ongoing activities in everyday work' (ibid, p. 270). Illustrating the importance of this concept a trainer in a medium-sized, manufacturing company in Victoria, another case-study site, Carco, described what he aimed to achieve for the shop floor workers in the training program: '...a group of individuals who can be proactive within their company and therefore can achieve a better workplace for themselves'. The design for developing 'proactive' identities in this company was described as 'project work'. In the module observed by the researchers, small groups of workers identified workplace problems, researched relevant issues and pertinent technical information, and managed themselves in seeking
potentially viable solutions. Trainers and others, usually from within the company, though not exclusively, were organised to assist them in achieving their goals. At the end of the training module, each group presented a written and verbal report to the assembled managers and engineers of the company. It was therefore essential to establish a good case, increasing the chances of having problem solutions accepted.

Thus many facets of the person were engaged in such a program. Indeed, the training was also designed to improve worker-management communication, attempting to overcome the kind of boundary relations in this area (Wenger, 1998, p. 168) in which each side tends to stereotype the other. One trainee commented: ‘It makes you feel equal to management, this training course. The gates are open’. Thus the ‘peripheral wisdom’ of the learning community (ibid, p. 216) was being harnessed through this training, apparently releasing social energy and promoting innovative thinking.

Of his increasing capacity to diagnose difficulties and solve problems, another trainee commented wryly: ‘I even surprise myself sometimes’. And a supervisor noted the results of this training with appreciation: ‘They’re finding the problems a lot earlier... They’re solving those problems... They seek people to help them, they come up with ideas, new ways of doing things’. While discussing within the program the new management vision (including increasing the company’s competitiveness), a trainer noted: ‘We certainly encourage people to have their own point of view...even though they may not be the sort of thing the company would encourage them to have’. Thus competence development at Carco included a critical values dimension (Waterhouse & Sefton, 1997), one clearly embedded in its social and cultural context, but involving active negotiation, not simply compliance. This program, then, sought to develop a collective capacity to reflect (that is, to imagine possible alternatives), and to act wisely and skillfully in the workplace environment. It was transformative and educative, emphasising worker involvement in company decision-making, but premised on a basis of knowledge and skill. It afforded ample opportunities for anticipatory learning rather than providing ‘correct’ answers. Rather than merely adapting and reacting to complex, dynamic situations, the focus here was on the ability to reshape them. However, CBT itself was not the ‘driver’ of this program (though competencies were used as accountability requirements). Thus it cannot be argued that CBT itself develops such communities.

Communities of Motivated, Credentialed Workers: ‘Getting their skills recognised on the job is what really counts.’

Most of the telephone interview data and all reports from the trainees interviewed for the case-studies were very positive about CBT. Those who participated in it valued it enormously. Indeed, the sense of belonging and recognition that such training afforded appeared to have improved morale and created a feeling of pride and achievement among workers. Trainees valued their national credentials both as a passport to other workplaces and as an expression of their competence and skills. For those lacking other formal qualifications, the so-called unskilled or semi-skilled, such recognition, sometimes through the system of Recognition of Prior Learning (RPL), appeared especially important. Thus, new learning trajectories were being created through credentialing, providing opportunities for identification with the broader system beyond the enterprise. Valued futures could be imagined and anticipated.

The following statements were made. ‘Encouraging and good for morale as they can see what they are achieving; recognition of their work and experience’. ‘Employees feel (they) have competitive edge; won’t be behind the times’. ‘When it works you gain people who are enthusiastic about their work, understand its value and their contribution’. ‘(CBT leads to) higher self-esteem’ and ‘greater job-satisfaction and pride’. Moreover,
people previously unsuccessful at school, were not afraid to engage in such training. 'It's not book learning, they can actually go and do it'. 'CBT is a really active, hands-on thing — people love that'. Thus, while in many ways appearing narrow and rigid, such training seems to be developing identities of competence for those for whom experiences at school may have been disempowering — contributing to more positive learning communities. With pride, the manager at Manteena, a small construction company and case-study site, described one of his previously 'unskilled' workers from a non-English-speaking background, as follows:

Have a look at (him) over there. He has worked in the industry forever and a day. Everyone knows him and everyone wants him to work for them...He has never done an apprenticeship, never been in a classroom to learn a trade, never done any formal training...He's now got a record of his skills, he's on a higher wage and he's now training our workers...You know what? English is about his third or fourth language but that's not what CBT looks at.

Similarly a trainee at Bathurst volunteered:

It's great to have your skills recognised. Sometimes just a nod of the head tells you that you've done it well...I've done other courses where I never knew how I was going until the end. I come to work here, work, learn and every day leave feeling that people are seeing change in me and in what I do.

It is sometimes difficult to determine the extent to which the reported effects of CBT are the result of introducing training per se, the excellence of the practitioners, or the competency system in particular. CBT may, in many companies, be the first and only form of training offered to workers. However, of new learning trajectories at Plantco, a trainer commented:

I think the recognition process has probably contributed more (to trainees' skills and knowledge) than some of the training that we've provided because it's given them a benchmark...to work on and something else to aspire to.

In relation to negotiability in the formation of identities, CBT was said to engender a sense of empowerment through self-responsibility and result in greater self-knowledge in the area of skills and capacities. The following comments were made. 'CBT) allows for people to be responsible for own learning'. 'CBT) requires people to be active learners'. 'Trainees learn at their own pace'. 'The workers get paid directly for their level of competency, so they're more willing to say where they need help'. 'People feel more empowered as they value the skills and knowledge obtained’. 'Staff use it as a tool to manage upwards, telling supervisors that they need certain skills, and hence training'. 'People are much more aware of what they can do and what they need to work on’ and they 'enjoy learning together'.

Whether the CBT system is genuinely empowering, involving real opportunities for worker/learner negotiability, is a moot point (Garrick, 1998, p. 62). Learner ‘responsibility’, as used in the discourses of CBT, usually implies self-management towards predetermined goals. In addition, ‘ownership’, while arising out of an increasing sense of power, often involves greater self-investment in work processes and further commitment to and alignment with the purposes of the workplace. As noted before, this is potentially exploitative. Damaging experiences of CBT were also reported by a few training managers. In a climate of redundancies, a system of accountability can transpose itself into a weapon of management, resulting in resistance and lack of communication.

Now workers are no longer keen to be assessed, they are scared of it, suspicious of it and openly aggressive. Whenever assessment is suggested the workforce believe that redundancy is the real reason for the assessment. As a result, workers are not game to say what they can't do, or are having trouble with (Large construction company, Victoria).

In addition, pathways for workers to progress within the organisation are not always avail-
able. Similarly, motivating workers by linking competencies to pay rises and fairly apportioning bonuses is not always successful. Indeed, it was reported as 'hell on wheels' in one company, because of the industrial relations difficulties subsequently created (see also James, 2000). Under this system, workers were also said to be undertaking training primarily for the money, rather than for the personal and professional development.

Conclusion
In writing of a design for learning, Wenger (1998, p. 232) points out that opportunities are needed for expertly managing the tensions in curriculum between participation and reification, identification and negotiability, the designed and the emergent and the local and the global. Such a design is a 'proposal for identity' (ibid, p. 235) and thus for the development of a learning community. Structures and frameworks, reifications that are portable across boundaries, are still important, if workers are to identify with others within a global system. However, trainers require the power and legitimacy from policy makers and company managers to engage in 'translation work' (ibid, p. 186). This involves more than 'tailor-making' a worker for the business but imagining many possibilities for learning, reflecting on training outcomes and exploring new activities — in the interests of workers' life-long learning and enterprise community development, as well as productivity.

Thus, both global and local designs need to be seen as emergent, with outcomes, in many cases, reaching beyond the stated competencies. Indeed, as Laird & Stevenson (1993) recommend, perhaps a set of general aims, with suggestions for reaching them, might well be more appropriate than detailed outcome statements. Reification is necessary but behavioural, prescriptive and often limiting expectations are not. Moreover, workers need encouragement to make knowledge for themselves, both individually and collectively. Further, training needs to acknowledge and explore values appropriate to working life — other than those of efficiency and effectiveness. Thus workplaces can become sites for transformative learning, educative learning communities, that open up new possibilities in the negotiation of identities, and also support capacities for life-long learning. As Wenger writes (ibid, p. 154) identity is 'something we constantly renegotiate during the course of our lives'. Industry training can and should contribute to this renegotiation in constructive ways.

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Learning Together, Working Together

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These changes have been informed by efforts to adapt, modify and extend traditional models of adult education, community education, vocational education and training, human resource development and related disciplines.

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- How are concepts of learning as a community of practice relevant to the relationships among the human resource needs of work, frameworks for qualifications certification and accreditation, and the role of teachers, trainers and policy makers?
- How are new digital technologies revolutionising learning relationships, and what impact do these have on stakeholder communities, their interests and concerns?
- In what ways do emerging systems of post-compulsory education reorganise, redefine or reinforce the exclusion of communities and individuals from education and training?
- What strategies can be implemented to generate genuinely inclusive practices?
- What are the boundaries of economic globalisation?