Abstract

This paper reviews the 86 articles published in the first seven years of publication of the Australian and New Zealand Journal of Vocational Education Research (ANZJVER). It clusters the articles in three major categories: Learning and Teaching, Policy Context and Improving Research. Most articles are concerned with understanding the nature of vocational knowledge and improving its acquisition. These articles are clustered into groups concerned with student characteristics and needs; vocational knowledge, learning and instruction; curriculum decision-making; assessment; training in industry; and off-job vocational teachers. Articles concerned with the policy context are clustered into those concerned with competency-based training (CBT) and those concerned with political, organisational and structural change. It is concluded that the research reported in the journal has important implications for policy and practice. Areas where additional research work is needed are also discussed.

Introduction

The ANZJVER has been published twice a year since 1993 by the Australian National Centre for Vocational Education Research (NCVER). Since 1997, it has been adopted as the journal of the Australian Vocational Education and Training Research Association (AVETRA). All articles published in the journal are blind refereed by at least two reviewers. The 86 articles published over the past seven years consist of 76 written by researchers in Australia and New Zealand and ten written by researchers from the United Kingdom and North America. Together, they represent a substantial sample of research in vocational education over most of the past decade, with most of the research Australian.

The review is intended to introduce readers to the major themes and coverage of the journal as a whole, so that each article can then be explored further by interested readers, and so that researchers are
introduced to broad areas of existing work. Accordingly, the review is not intended to capture the full content and richness of each individual article, but rather to be a vehicle for accessing the work. Another important goal of the review is to suggest some areas where further research is needed. The focus of the 86 articles, published from 1993 to 1999, can be summarised schematically as in Figure 1. (The numbers do not add up as one article is counted in two areas).

**Figure 1: Focus of articles published in the ANZJVER from 1993 to 1999 (Numbers in brackets)**

- **LEARNING AND TEACHING (58)**
  - Student characteristics and needs (12)
  - Vocational knowledge, learning and instruction (16)
  - Assessment (8)
  - Curriculum decision-making (8)

- **IMPROVING RESEARCH (3)**
  - Off-job vocational teachers (6)
  - Training in industry (8)

- **POLICY CONTEXT (26)**
  - Competency-based training policy (21)
  - Political, organisational and structural change (5)

The articles are reviewed in the following pages in terms of their contributions to advancing understanding in each of the major areas of Figure 1. A full list of articles is given in Appendix 1, clustered by each
of these headings. From the figure and the appendix, these published articles reflect major focusses on issues related to teaching and learning, that is the acquisition of vocational knowledge (58 articles) and the policy context (26 articles), with three articles on research and evaluation concerns themselves.

**Student characteristics and needs**

Research on student characteristics has provided findings about student interests, the characteristics and needs of different student groups, the effects of looking at student participation, access and equity from different perspectives, and improvements needed in student services.

**Interests**

Research on interests has focussed on the study aspirations of school students and leisure interests of older students. School students in years 8 to 11 have been found to aspire to continue their studies in technical and further education (TAFE) or higher education, in order to gain high status jobs. Their aspirations were found to be largely unrealistic but these aspirations became more real as they got older (Waugh 1995). While students' judgements of interest in vocational education subjects did not make full use of available information, they did focus on the most important variable, ability (Athanasou 1999).

A study of TAFE students found that they engaged in leisure activities for about 11 hours a week, with few significant differences between males and females and between full-time and part-time study (Athanasou & Kircaldy 1998). On average, males, more than females, preferred competitive and high contact aggressive sports. Differences were also age-related.

**Student profiles and needs**

Research in this area has examined the questions of overall participation targets, the success of students with different entry
profiles, the needs of professional women, the needs of the long-term unemployed, the learning styles of Asian students and the metacognitive needs of students, including those with disabilities studying flexibly.

**Participation targets**

In comparison with a social service lens, indicators of participation, access and equity, derived from an economic utility lens tend to mask inequities and barriers to participation and may be moving the population of TAFE further away from representativeness of society at large (Powles & Anderson 1996). Participation targets in other countries suggest a need for more differentiated targets for Australian vocational education and training (VET) (e.g. targets for different industry sectors, under-represented groups, recognition of prior learning (RPL) entrants, private vs. publicly funded, age categorisations and milestones) (Butterworth 1995). However, this would not, of itself, necessarily generate many sought improvements in the system.

**Entry profiles**

No differences have been found in the learning goals and approaches to learning of university and TAFE students in similar fields of study (Fuller & Chambers 1999). Students from TAFE, school and tertiary admission entry in the first year of a Bachelor of Social Work degree had a relatively lower performance, and the high failure and drop-out rates compared with those transferring from other university study (Cameron 1999). The group who succeeded least was mature-aged students entering via the tertiary admissions test.

**Professional women**

Professional and managerial women have been found to perceive their training needs to be in the area of social/interpersonal, managerial and specific skills (Poole et. al 1994).
**Long-term unemployed**

Occupational skills/personal development training courses can improve levels of well-being for long-term unemployed people, with elevations in attitude to work and employment expectations, and with well-being flowing from the course being supportive and encouraging interpersonal relationships between trainer and trainee (Creed et. al 1996).

**Asian students**

Asian students from a Confucian-heritage culture have been found generally to have a more academic approach to learning than Australians and high academic performance in international comparisons (Biggs 1995). Biggs argues that the relatively high achievement and performance of Asian learners, despite their apparent learning styles, may be influenced by early socialisation factors.

**Metacognitive skills**

Professionals working with students with disabilities have identified a need for the development of metacognitive skills, especially with moves in flexible delivery (Boote 1998). Boote argues that such needs are general, applying to all students.

**Student services**

The present range, level and quality of student services and amenities were found to fall short of the diverse needs and interests of students, especially those from disadvantaged backgrounds (Anderson 1999). General improvements are needed in the areas of services aimed at employment, financial assistance, health and safety, student association and student facilities. Among the needs of specific groups are those related to learning at a distance, child care, disabilities and structured training arrangements.
Summary

Thus, the 12 articles on student characteristics and needs have been wide ranging, with only a small number of articles dealing with any particular need or characteristic. There has only been one study reported for each of the following groups: Asian learners, professional women, learners with disabilities, learners with different entry profiles and the success of a course aimed at long-term unemployed people. Our understanding of the characteristics and needs of vocational learners would be further enhanced if there were more studies. Such additional studies are needed, first, in each of these areas, to verify the kinds of findings already reported; and, second, to move beyond the selected concerns for these groups and beyond these groups to the whole range of vocational learners. Vocational learners are diverse, and both policy and practice need to be informed by more studies of their characteristics and needs.

Important considerations have been argued for appraising the appropriateness of different indicators of participation, access and equity. There is considerable scope for augmenting the two existing studies in this area of vocational education, which is important for achieving community social equity expectations for the vocational education sector.

Vocational knowledge, learning and instruction

The majority of published articles in the journal have been concerned with understanding vocational knowledge and improving ways in which vocational knowledge can be acquired. Different kinds of vocational knowledge have been differentiated using cognitive theory and there have been many studies of the kinds of knowledge used in vocations. Studies directed at improving learning have examined the situatedness of vocational knowledge, approaches to learning for transfer and improvements in instructional design.

Vocational knowledge

Since early work, published elsewhere, on conceptualising vocational expertise in terms of cognitive theory (Stevenson 1986, 1991, 1994a),
there has been substantial further work in understanding the kinds of knowledge used in various vocations. Cornford (1996) argues that skilled needs are multidimensional and that this has implications for instructional purposes. Cornford and Beven (1999) argue that novices need to learn over extended time periods, with deliberate practice and feedback, and more experienced learners need to develop their knowledge further. Evidence has been found that most skilled work requires procedural, dispositional and propositional knowledge, in that order (Billett 1993), with most workers (especially non-trade skilled and unskilled) found to be acquiring their knowledge on the job and most skilled work requiring key competencies and the capacity to adapt. Billett (1997) has also found that hairdresser knowledge is underpinned by dispositions prevailing in different workplaces.

Considerable work has been undertaken in developing understanding of the knowledge used by electricians (Evans & Butler 1993), welders (Evans 1994), first aiders (Stevenson & McKavanagh 1997), hairdressers (Billett 1997), plumbers (Falk 1995), staff in reception areas in the tourism and hospitality industry (Stevenson 1996a), and staff at customer service counters in airlines (Beven 1997); and in literacy (Searle, Smith & Cochrane 1996). English language proficiency has been found to be a good predictor of success for non-English-speaking background (NESB) students in TAFE courses (Kellett & Cummings 1995). Kaye (1996) outlines how communication competence can also be understood in terms of the management of that communication.

Learning

Research on learning has examined the relationship between situated knowledge and the concept of generic competencies, the nature of transfer and strategies for learning for transfer, and reductions of cognitive load through instructional design.

Situated learning

Knowledge has been shown, by a team of researchers, in two large-scale projects, to be highly situated, even for the key competencies (Stevenson
1996a; Beven 1997). In a further study, literacy was seen to consist in highly specific vocational and social practices, which must be contextualised and taught as an integral part of training programs (Searle et. al 1996). Dispositions underlying vocational knowledge have also been shown to be highly contextualised (Billett 1993, 1997, 1998).

**Learning for transfer**

Early theorising has indicated that transfer of vocational knowledge from a learning situation to a new situation can be considered in terms of the use of higher order cognitive procedures, under the control of conceptual understanding (Stevenson 1986a, 1991, 1994a). That is, transfer relies on conceptual understanding of the nature of the problematic new situation, and the use of higher order procedures to tackle and solve the problems inherent in it. According to Billett (1998), transfer may involve a process of dis-embedding and transforming knowledge. From various research studies reported in the journal, evidence has been found that such transfer may be assisted by:

- connecting knowledge with its use in the real world and making explicit forms and utilities of knowledge that may otherwise go unobserved and unlearned (Gott 1995)
- ensuring good feedback during learning (Evans 1994; Evans & Butler 1993)
- developing deep conceptual understanding and higher order procedural knowledge, providing guidance, opportunities for knowledge application and transfer, pressing for abstraction of principles and providing access to authentic application of knowledge (Billett 1998)
- ensuring that problems in mastering specific procedures are overcome (Stevenson & McKavanagh 1997)

**Split attention and redundancy in instructional design**

From research reported elsewhere, it has been argued that learning efficiency can be understood in terms of working memory limitations, and that split attention and redundancy can reduce the amount of
memory available for processing during learning (Sweller & Chandler 1994). Pillay (1995) has found that instruction in engineering graphics, CNC programming and learning to use equipment from manuals can be improved by removing split attention and redundancy effects.

Interfaces: On and off-job training, school-industry vocational education links

Evans (1994) argues that there are different learning processes in formal and informal settings and various drawbacks. In workplaces, he argues, the emphasis on task completion can be at the expense of knowledge and self-efficacy, and workplaces provide poor conditions for intentional learning and analytic knowledge. He suggests that one needs to find ways of combining transferable knowledge and intentional learning from formal context with social support and situation-specific learning of work context. From views of apprentices, employers and TAFE teachers about the effectiveness of on and off-job sites as learning environments, we now have evidence that both on and off-job sites make contributions to the confidence, competence and independence of apprentices, but that the contributions are different and, in some ways, complementary (Harris & Simons 1999). Harris and Simons found that on-job experiences are seen as more life-like, developing procedural knowledge and off job as more theoretical, more concerned with why things are done as they are, broader and more deliberate but less up-to-date.

Considerable variation has been found among Australian co-operative school-industry vocational education projects (Athanasou 1996). Improvements are advocated in quality assurance processes, post-program monitoring and issues of long-term funding.

Summary

A great deal of work has been reported in these 16 articles on conceptualising the nature of vocational knowledge in practice, largely based on cognitive and socio-cultural theories. In addition, the kinds of
knowledge used in seven different occupational areas, as well as in literacy and communication, have been examined in practice. These theoretical and practical studies have also been applied to such contemporary problems as the idea of generic skills, situated learning, transfer of knowledge, learning in institutional and workplace settings, and instructional design. This work calls into question the transferability of knowledge conceptualised in contemporary vocational education policy either as immediate pre-specifiable observable performance or as generic skills.

The reported work draws upon and informs related work in other countries aimed at understanding a variety of related phenomena. These latter studies include such examination of related phenomena which are the subject of publication elsewhere, conceptualised as everyday cognition (e.g. see Hutchins 1995; Lave & Wenger 1991; Tobach et. al 1997), learning in the workplace (e.g. see Berryman 1993), learning for real world tasks (e.g. see Gott 1989, 1995), non-verbalisable knowing and learning (e.g. see Bloch 1998), learning to use tools (e.g. see Keller & Dixon Keller 1996), learning in activity systems (e.g. see Engström 1999, Wertsch 1981), and the development of expertise from experience (e.g. see Boshuizen et. al 1995).

To consolidate work to date, further studies are needed in additional occupational areas and on other kinds of knowledge, to validate the kinds of conclusions drawn in existing studies. In addition, the growing connections among cognitive and anthropological theories and methods could be advanced with further practical studies of cognition in action, as well as studies evaluating the effectiveness of different approaches to instruction and learning. More work of this kind would continue to contribute theoretically, and to informing vocational education policy and instruction in institutional and workplace settings.

Assessment

In articles on assessment, authors have examined the role of judgement in undertaking assessment, the kinds of evidence that are needed for assessment, the relationship between difficulty and levels of qualifications, and desirable attributes for assessment.
Assessment as judgement on the basis of evidence

As in legal decisions, assessment (even in CBT) can be seen to consist in judgement, which involves making holistic decisions based on evidence (Bailey 1995). It is argued that competence should be inferred from a broad range of evidence (Toohey et. al 1995) and should recognise various levels of competence.

Many studies have been concerned with what constitutes evidence of the capacity to perform (or the underlying knowledge) and how to make the required judgements. It is argued that task difficulty relates to time taken for task completion, task features, task complexity, task newness, understanding of the task, and willingness to do the task (Peddie 1997). It is also argued that levels of competence/qualifications are consensual rather than absolute and may not correspond with levels of difficulty, which themselves may be temporary (Peddie 1997). It has been shown how latent trait theory may be applied to the problem of measuring levels of competence (Griffin 1995).

Desirable attributes for assessment

Hayton and Wagner (1998) argued that the following six attributes are important in assessment of performance: it should be realistic, consist in workplace activity, be multi-dimensional, recognise both product- and process-assessment, span the simple and complex, be open-ended, and recognise the role of human judgement in scoring.

According to Hager (1998), assessment should recognise the differences in the kinds of competence that can be acquired and assessed on and off job, and in simulated situations. Murray (1994, 1995) argues for three criteria in assessing communications competence: multidimensionality of assessment, integrative role and how it is evaluative of person perception and three elements: interactants, content and context.

Summary

These eight articles begin to flesh out the complexity and desirable attributes of assessment in vocational education, a relatively neglected
area for research in vocational education over the past decade. The studies reported in the journal are largely conceptual, establishing the importance of judgement, evidence, difficulty, and consensus in assessment; as well as its multidimensionality. These studies need to be supplemented with more practical work, demonstrating the characteristics of different kinds of assessment in practice, and investigations into the effectiveness of adopting different kinds of approaches in the processes of assessment. More work is also needed on the relationships among assessment in vocational education and assessment in other spheres of education, such as in schools and universities. Together, the reported studies and additional work have and will continue to have important implications for such aspects of policy and practice as setting standards for workplace assessment and training teachers for assessment.

Training in industry

Articles on industry training have examined participation of managers in training, the chances of workers in small firms having access to training, ways in which employers might be encouraged to invest more in training and the place and role of industry trainers.

Participation in industry training

Formal accredited farm manager education and attendance at training events have been found to have positive relationships with farm business profit (Kilpatrick 1997). Yet the planning of training in small and medium sized regional firms often depends on the judgements of individual managers, only limited use is made of TAFE or other external providers, and smaller firms tend to take a short term perspective on training (Noble 1995). Workers in small firms have been found to have a 21 to 30 per cent chance of participating in in-house training as workers in large firms. The overall lower levels of structured formal training in small firms was found to be due to the relatively larger concentration of jobs with low skill requirements in small firms. Differences between small and large firms for other kinds of training were not found to be significant (Wooden 1996).
Investment in training

Encouragement is needed for employers to invest more in training and development. A national perspective, continuing role for industry bodies, avoidance of 'jiggling', development of a learning culture and streamlining of the institutional framework, may assist in this (Noble 1996).

Industry trainers

It is remarkable that the formal learning experiences required of tennis coaches are more demanding than for industry trainers (Cornford & Beven 1999). This is despite the greater complexity of the role of a development specialist in organisations where the various dimensions of the role include communication, employee relations, development, change agent and budget management (Dennis 1997).

Organisational training realities have been found to be at variance with organisational principles. For example, training programs have been found to be ad hoc, trainers to have low status in the organisation, with limited collaboration or involvement in decision-making, and industrial disputation to be problematic (Owen 1995).

Despite the contemporary context of vocational education and industry training, Rhodes (1996) argues that, to achieve organisational and social improvement in a postmodern era, human resource developers should allow people to create their own opportunities, gain knowledge, recognise differences, remove inequalities and give space to marginalised voices. In this way, he argues, they can seek to overcome the pre-modern and modernistic oppression that stultifies real development.

Summary

Several articles on training in industry have focussed on examining statistical data on the participation of managers and workers in training, the differences between kinds of firms in training and the profit which can be attributed to training. These studies have been supplemented by
arguments for more investment in training, more recognition of the complexity of industry training, greater adoption of theoretical principles in organisational training and a less top-down oppressive approach to human resource development.

These eight studies, which examine available statistical data and which argue positions on the levels and kinds of training available in industry, need considerable augmentation. More studies of practice are needed, to inform the vocational education community further about the nature of practice as it exists in various settings. More work is also needed, which relates studies of practice to similar practice in other industrialised societies. A wider range of theoretical perspectives is also needed in such studies so that debates are informed by findings which come from a variety of perspectives such as learning theory, economic theory, anthropological theory and management theory. Such additional studies would also serve to inform the growing vocational education policy emphasis on industry training.

Off-job vocational teachers

Research in this area has focussed on teachers in (technical and) further education ([TAFE]FE) institutions. From this work, a great deal more is now known about the transitions facing those coming into teacher preparation courses, the effectiveness of those courses and the effects of systemic change on vocational educators and administrators.

Teacher induction and training

The transition problems of beginning TAFE teachers moving from industry to TAFE have been found to include high teaching-related workloads together with higher education studies, job uncertainty, inadequate induction and basic teaching skills, and poor promotion opportunities (Snewin 1995). In university study, students were found to take on the rules and responsibilities of the university as their own responsibility as they passed through various 'rites of initiation' (Carnell & Funnell 1998). Coping with everyday situations has been found to sap teachers' energies for acquiring conceptual understanding and engaging
in the problem solving needed for action research, as part of beginning teacher education (Jennings 1993).

Improvements were needed in developing critical thinking skills of students enrolled in the particular university teacher education course, which was the subject of the study, with levels at or below that of other professional non-teaching samples; and with no differences between those with a previous university degree and others (Pithers 1998). Those with predominantly practical/conventional interests scored higher than those with creative/social interests.

Coping with change

Chappell (1996) argues that various contesting paradigms, such as modernism, have shaped and are continuing to shape VET. In order to negotiate changes that confront them, he argues, teachers need to identify not only paradigmatic assumptions in their area of work, but also the assumptions underlying their own theories in use. He advocates more direct engagement with such issues to overcome direct borrowing of theories from other sectors of education.

Despite funding reductions, English FE colleges delivered substantially more instruction in the new system that followed the 1992 Further and Higher Education Act, which incorporated colleges and established funding councils (Bailey 1999). Manager responses to these changes were found to include learning quickly, taking immediate charge, and satisfying needs for data—all leading to greater centralisation of decision-making. Experiences of teachers included increasing workloads and more non-teaching duties—with a feeling of being squeezed and losing control over their work with students, but more accountability.

Summary

Most of the relatively low numbers of studies (6) on off-job vocational teachers have examined practice. Aspects of the nature and impact of the difficulties faced by individuals making the transition to vocational teaching have been delineated for three settings, and in one case the
ways in which teachers and administrators have accommodated imposed change have been studied. In one article, an important aspect of the capacities of graduating teachers (critical thinking skills) has also been examined and compared with the same capacity for other graduates. The remaining article has sought to develop an approach to assisting teachers in dealing with competing paradigms in their work.

Our understanding of the training needs of teachers in vocational education institutions could be further enhanced by studies in further settings and studies of additional characteristics of graduates of teacher preparation courses. There is also scope for studies of needs outside of those associated with initial training, for example needs for in-service and professional development. The study of paradigmatic shifts and the study on how teachers and managers have dealt with change could also be supplemented. This additional work could be undertaken with further studies of the nature of different kinds of changes affecting the working lives of vocational teachers, the effects of those changes, the needs of teachers in responding to those changes and the effects on student learning. Such additional studies would be helpful in influencing ideas about the knowledge needed for vocational teaching practice and the ways in which such knowledge might be acquired. Such research findings could be applied to industrial standards for training and assessment, and would assist in evaluating the preparation of vocational teachers.

**Curriculum decision-making**

In this area of research, there have been studies on the role and influence of interests and underpinning values in the processes of curriculum change, ways in which such influences might be made more explicit, the importance of theoretical ethics, and the processes and effects of curriculum dissemination.

**Interests in and influences on curriculum decision-making**

Curriculum decision-making in post-compulsory education and training is subject to the influence of many interests, which flow from various value positions (Stevenson 1994b). These interests can be recognised and
their effects made explicit and examined. From such analyses, it is argued, curriculum decision-making can become more open and effective. Mulcahy (1996) argues that once practitioners understand what is happening, they re-appropriate formal resources and maintain their own resources. The various processes of accommodation and resistance appear to have potential for reconciliation.

Values and ethics

Jarvis (1996) argues that education and training both reflect the moral values of society, that neither is ‘wrong’ and that there has been a shift in values. He argues that there is potentiality for experiencing universal moral value, but this is not knowledge-based; rather, person-orientated, a we-experience when individuals forego their own freedom for the sake of others.

It has been argued that it is important for the centrality of values to be made explicit in frameworks for curriculum development in VET (Laird & Stevenson 1993). As an instance of ethical concerns, Blunden (1999) argues that one can conceptualise three worlds of value: a world of physical objects and states, a world of states of consciousness and a world of objective contents of thought. He argues that theoretical ethics may help move beyond the subjectivity of our world of experience, and, at the individual and collective levels, might help in dealing with the real world problems of vocational education practice.

Dissemination

McBeath (1997) argues that curriculum dissemination can involve both ‘bottom-up’ (teacher collaboration) and ‘top-down’ (educational management) processes. She found that current curriculum change in VET is technological, top-down, authority-based and prescriptive, overlooking important determinants of change that rely on those who are involved in bringing about implementation. While curriculum change is seldom easy, she found that distress was apparent in TAFE colleges, and argues that there is a need for more research in order to evaluate different kinds of change processes.
Contemporary issues and approaches to their resolution

Major contemporary issues in VET have been delineated, the polarisations that result from viewing these issues from different perspectives have been examined, and approaches to their resolution have been suggested (Stevenson 1998). It is argued that a convergence is needed among alternative educational perspectives, and a reconciling lens has been proposed for appraising various imperatives. This lens highlights the relative emphases on the individual, society and the individual in relationship to society. Such an approach is comparable with the work of John Dewey.

Against the background of reforms in education in the United Kingdom, an 'educative model' of a learning society has been synthesised from perceived weaknesses in three alternative models. This model requires a reconceptualisation of the form of specialisation, the nature of qualifications, relations between learning and production, and the concept of learning itself (Young 1995).

Summary

Published articles on curriculum decision-making have been largely theoretical. They have identified the range of interests in, and influences upon, vocational education curriculum decision-making, as well as the ethical and moral consequences; and have suggested ways in which to reconcile different goals and overcome contemporary problems. In addition, one article has examined the problematic nature of curriculum dissemination in vocational education. The kind of work represented in these articles has important implications for vocational education practice because of the tendency, otherwise, to rely on curriculum thinking derived from practice applicable to schools and younger age groups.

These eight articles challenge thinking about curriculum for vocational education in an era when the emphasis has been on industrial outcomes of learning, with less concern for such curriculum processes as design and support of instruction, and learning experiences. Our knowledge
about curriculum decision-making in vocational education would be furthered by additional studies of curriculum decision-making in practice, from the identification and pre-specification of competencies (industrial standards) through to the learning of students and their assessment. Such studies could appraise practice against the kinds of theoretical insights advanced in the set of articles already published in the journal.

Political, organisational and structural change

Research on political, organisational and structural change in VET has examined policy rhetoric and tools, policy change and organisational and structural change.

Policy rhetoric and tools

Ryan (1999) adduces evidence that rhetoric has been used as a policy tool in effecting control over Australia’s TAFE institutions. He argues that it was used for widening debates, rather than for persuasion, in order to establish a widespread belief that TAFE institutions had become unresponsive to the needs of industry. Ryan argues that Dawkins was setting a policy agenda derived from corporatist and managerialist values, and that there is considerable evidence, which is counter to the kinds of beliefs that were systematically developed by Dawkins’ rhetoric in the late 1980s (Ryan 1999). This educational corporatism mirrors economic production with student transferred to ‘worker’, where, according to Wexler (1994), students struggle to establish identity in a society that devalues humanism.

Policy change

According to White (1995), eight elements of educational policy were forged during crises in three depression decades in Australia. These were: intense public scrutiny; tightened bureaucratic and political controls; vocationalisation of the secondary curriculum; emergence of
traditional values; extensions to compulsory education; reform; and restructuring of technical and higher education; and similar concerns for disadvantaged groups. The relationship of crises to such elements of change are also the subject of Stevenson’s (1996b) work, published elsewhere.

Organisational and structural change

Organisational and structural changes in TAFE from the early 1800s have included the schools of Mines and Working Men’s College; technical schools, apprenticeships, institutes and colleges; responses to war; impacts of the Martin and Kangan reports in the 1960s and 1970s and the rise of colleges of advanced education; and changes in government policy since the late 1970s (Abbott & Doucouliagos 1999; Anderson 1998). Because of systemic growth and organisational flux, the capacity of TAFE to change may be just as important in the future, as it has been in the past (Anderson 1998).

Recent Victorian TAFE multi-campus institutional amalgamations may not have been driven essentially by cost considerations, with reductions in student average costs more attributable to increased student numbers (Abbott & Doucouliagos 1999). Abbott and Doucouliagos argue that the scope for further economies is limited, with service implications.

Summary

The five articles published on political, organisational and structural change are complemented by the 21 articles published on one pervasive change, CBT, reviewed in the following section. The articles reviewed in the present section have contributed to our understanding of the history of TAFE as a sector, the changes imposed on its development, its conversion into a VET sector, the policy tools and strategies used to achieve these changes, and the effects on students of the corporatist aspects of these recent changes. The work has identified important themes in organisational and structural change in vocational education over the past century, and the reduced scope for further use of such managerial devices as amalgamations of institutions. As reviewed in the
following section, a great deal more work has been undertaken on the major contemporary policy change in vocational education. More work, however, is still needed on historical aspects of the development of vocational education in Australia and New Zealand and its relationships to vocational education in other countries. More work is also needed on the educative consequences of the various changes, changes in the relationships across different kinds of education, and effects on society as a whole.

**Competency-based training (CBT)**

Research on CBT has analysed the paradigms and dichotomies that underlie the movement, the processes of reform, the relationship between conceptualisations of competence and knowledge, and perceptions of CBT from the points of view of employers, (TA)FE staff and policy analysts in Australia and overseas. There have also been suggestions about how to use CBT in advancing certain agendas, despite its limitations.

**Paradigms and dichotomies**

Frameworks have been synthesised against which to analyse (unmask) differences in values underpinning different beliefs and practice in VET (Stevenson 1997). It has been argued that CBT can be fitted into an empiric-analytic vs. situational-interpretive and critical paradigms (Winning 1993), and characteristics of the movement can be seen to be out of kilter with the nature of a postmodern world (Bagnall 1995). CBT can be seen as managerialism, concerned with administrative rather than educational reform, with a replacement of social purposes and social vision with the logic of the market and social relations of private market creation (Jackson 1993). Yet, ironically, economic assumptions underlying competency-based training, and used to give it legitimacy, can be shown to be flawed (Stevenson 1993).

Training reform debates have ignored principles of educational practice, citizenship and democracy, and setting private in opposition to public control is a false dichotomy (Gleeson 1995). Moreover, economic
discourse can be shown to dis-empower those outside the rhetoric and empower those within (Stevenson 1993).

According to Blunden (1997), belief in the "real world" presses toward a transmission mode of teaching, and there are tensions among ethics, learning theory and vocational education pedagogic practice.

Processes of ‘reform’

Gleeson (1995) argues that it is ironic that privatised market-led reform has come to rely on greater centralised control. A more consultative approach, less exclusion of views, goals that are more communitarian and more consideration of the views of those working in the sector are advocated for making policy decisions about such matters as basic frameworks for qualifications, recognition, training packages, registration, assessment, new apprenticeships, funding arrangements and the training ‘market’ (Hawke & Cornford 1998).

It is argued that public sector micro-economic reform of TAFE before and since 1988 have affected older staff (cardigan set) and newer staff, as each has responded to the stresses of corporatist reforms (Funnell 1993).

Knowledge and competence

According to Field (1998), educational processes are a complex interactive system with many components that need to be integrated, and with a need for conceptual learning. Field differentiates learning from training, where training privileges structure and planning, while learning is concerned with internal processes. He found that learning varied across small business sites in terms of the sources of knowledge, the processes through which learning is acquired and the factors affecting whether knowledge was shared.

It has been argued that attributes (knowledge, attitudes, values, and skills) underlie competent action (Hager & Gonczi 1993). According to Blunden (1995), the conceptualisation of competence as discrete behavioural skills ignores the complex interwoven attributes and
capacities of individuals. Biggs (1994) argues that both qualitative and quantitative learning are important, and that dangers arise from CBT’s stronger link to the quantitative.

Industry, educator and policy-maker/critic perceptions

Employer perceptions

According to Mulcahy and James (1999) (and Stevenson 1986, 1991, published elsewhere), adaptive expertise is needed in contemporary workplaces. Mulcahy and James found that company managers have progressed from a product-driven strategy to a market-driven strategy, in their views of what counts as knowledge in CBT. However, they need to move further to a process-driven strategy, where most tasks are recognised as having a new knowledge dimension.

Employer perceptions of the importance of key competencies have been analysed into two factors: management skills (communicating ideas and information, planning and organising activities, working with others and in teams and solving problems; and technical skills (collecting, analysing and organising information, using mathematical ideas and techniques, and using technology). Aptitudes and interests have been found to be largely independent of competencies (Athanasou et. el 1995).

Teacher and educational administrator perceptions

In 1993, most teachers and administrators in TAFE colleges and industrial training institutions in four Australian States were found to believe that the introduction of CBT had led to better quality in training outcomes. However, there still appeared to be a need for clear, unambiguous, useful competency standards for course developers, provision for integration of workplace assessment and staff development for teachers (Watson 1993). The concerns of New South Wales teachers were found to include effectiveness of the implementation of CBT, inadequacies in processes of implementation, dis-aggregation of knowledge, inadequate skill practice in skill development, low levels of student expertise through lack of conceptual development and inconsistency in standards (Cornford 1997).
Policy-maker/critic perceptions

A decade after the 'Action Plan', Scottish CBT developments were regarded as achieving more learner-centred teaching, learning and assessment; better access to vocational qualifications; and enhanced flexibility, progression and credit transfer (Gunning 1993). However, in the United Kingdom, Stanton (1993) argues that unitisation of qualifications across the academic/vocational divide, consisting in the division of qualifications into units of attainment, would require debate about defining attainment, volume of learning, and type of outcomes across the academic/vocational divide.

Using CBT to advance agendas

Winning and Dungan (1993) argue that post-compulsory education and training may provide openings for transformative opportunities arising from closer relationship between education and work, curriculum development possibilities, and enhanced dialogue across sectors. Moreover, Gonczi (1997) argues that vocational education may not be incompatible with general education if one takes a 'relational' conception of competence that combines general attributes of a practitioner with the context in which the attributes are to be used.

Summary

Slightly fewer than one in four articles in the journal have been concerned with analysing CBT, the pervasive policy imperative for VET over the past decade. These articles have identified and characterised the singularity of the societal goals and concerns of the economic rationalist perspective that underlies the movement, and its mismatch with contemporary and emerging societal and economic realities. Authors have argued for more consultative and inclusive processes of educational change and for more attention to the human and societal aspects of implementing such change. Various authors have argued that, in identifying the knowledge needed for competent action, there is a need to consider the needs in relation to the outcome and process demands of not only immediate work, but also the future work and non-work
activities of the learners involved. Some authors have argued for the potential of CBT to bring educational sectors together. Together, the articles represent theoretical analyses of the basis and effects of the policy as well as providing data on the views and concerns of those involved.

More work is now needed on the policies in practice. That is, more work is needed in investigating the claims for this (and other) approached to education—for example the kinds of knowledge now developed in institutional and workplace settings where the policy has been fully implemented for a number of years; the kinds of knowledge taken from different kinds of training settings into workplaces; and the effectiveness of 'competent' practitioners in adapting to change, over time, in various work areas. More work is also needed on consequent changes in the relationships among educational sectors, e.g. the effectiveness of broadening the vocational education and training system to include private provision; the effectiveness of award recognition of competence achieved on the job; and the effects on subsequent studies of credit transfer, based on competency-based credentials.

**Improving research**

Studies in this area have focussed on expenditure on research, building a research culture and improving evaluative studies. Butterworth (1995) found that in 1994, only 0.2 per cent of total VET expenditure was on research and VET developments were taking place in a research vacuum. While it would be true that a great deal more has been spent on VET research since that time, it would be important to evaluate the quality and impact of that research on our understanding of VET, the relationship between VET and other educational practices, and on policy and practice.

More is also known about how to build a research culture. In New Zealand polytechnics, it was found to be important to provide leadership, role modelling, a supportive environment, collaboration, motivation, adequate resources, and good timing (Sylvester 1997).

There are lessons to learn in evaluative studies. In an evaluative study of CBT workshops the main lessons were to overcome separation of development and delivery, provide sufficient time for implementation.
and evaluation, better target audiences, use a mix of evaluative methods and gain ownership (Harris 1993).

With only three articles on improving research and evaluation in VET, there is considerable scope for further work. Given that most approaches to research and the tools that are used have been derived from work in other educational settings, there is a need for an evaluation of the advantages and disadvantages of direct adoption of these approaches and tools. Some of this needed synthesis has already occurred, for example in the case of learning theory (Stevenson 1994a). Yet, even in this area, there is scope for still further work with indications from socio-cultural studies of everyday activities, that some cognitivist assumptions, such as the importance of verifiable knowledge, may not hold up in vocational education and training (e.g. see Bloch 1998; Stevenson 1997; Tobach et. al 1997).

It is also important to retain a critical perspective on the nature of research itself to ensure its continued improvement.

**Conclusions**

The studies reported in the journal have been predominantly concerned with knowledge, learning and instruction in the various settings of VET, and have included examinations of a wide range of such issues, including the students themselves, the teachers and trainers, the knowledge developed, its assessment, curriculum decision-making and the industrial context. These studies have been complemented by studies of the policy context with 30 per cent of total studies in this latter area. Relatively few studies have been undertaken on improving research itself. In all areas of work, there is scope for augmentation and consolidation as discussed below. In the following paragraphs, the major contributions in each area of study are summarised and the needs for further research outlined.

To begin with, readers of the journal are now able to better understand the current vocational education reform movement. It can be viewed as a contemporary expression of a recurring cycle of reforms in response to social and economic crises. As in other crises, the research findings
reported in the journal indicate that such reforms can be characterised by increased public scrutiny, bureaucratic and political control, vocationalisation of the secondary curriculum, emergence of various values, extension of compulsory education, and 'reform' of technical education and higher education. The research reported in the journal indicates how these same themes are echoed in contemporary discourses of the reform movement. There is evidence also, from the studies reported in the journal, that the reform has been driven more by rhetoric than some objective analysis of previous deficiencies.

The various articles in the journal have contributed considerably in unmasking the paradigms, managerial and corporatist purposes and discourses of CBT; in showing how the economic legitimation of the movement has been flawed; in highlighting the learning consequences and challenges; and in showing how the movement has overlooked important social and economic challenges of the late 20th and early 21st centuries. More work is now needed on the policies in practice: for example their effects on learners, industry and society and their consequences for relationships among educational sectors.

Studies of industry training have identified considerable challenges for businesses seeking to be internationally productive in a knowledge-led society. Despite the role of training in business productivity, businesses (especially small ones) have been found to take a short-term perspective; many workers have been found to be dis-empowered and to miss out on training opportunities, and trainers have been found to have low status and poor training themselves. Accordingly, there appears to be an urgent need to improve and raise the status of industry trainers, improve the quality of industry training, and afford more centrality to training in business, if industry is to address the changing nature of work, successfully and over the longer term. More studies are needed on the nature of training practice in industrial settings in Australia and other countries. A range of theoretical perspectives is also needed to inform findings in a more plural way.

From the small number of studies in the journal, there is evidence that the formal preparation of vocational educators by universities needs further attention in developing critical thinking skills, easing the transition into higher education and teaching. The studies indicate that
the workload of beginning teachers and the continuous changes to their culture can be overwhelming, with consequences for the quality of vocational education. However, despite the stress of continuing reform, those vocational teachers and administrators studied have been found to have coped well with imposed economic rationalism, but with the cost of feeling squeezed and losing control over student learning. The capacity of public vocational education institutions to accommodate imposed change, however, may have been more possible in the era of systemic growth and organisational flux, than may be the case in the future. More research is needed to test these findings in a wider variety of settings and to explore additional initial and ongoing needs of teachers and administrators.

There has been a substantial contribution by the journal in advancing understanding of the nature of vocational knowledge in general and in the case of some particular occupational areas. The kinds of cognitive structures needed for near and far transfer are now well researched. More is known about the relationships among conceptual understanding, specific skills, higher order problem solving and dispositions. The role of the following in the development of vocational knowledge is also better understood: authentic situated learning; plural diverse experiences; guidance; feedback; press for abstraction of principles; and effects of split attention and redundancy (see also work published elsewhere: Collins et. al 1989; Stevenson 1994a; Sweller & Chandler 1994). The contributions that can be made separately and in combination by on and off-job learning, and formal and informal learning, schools and industry are also better delineated. This kind of research is important in maintaining a focus on vocational learners, vocational knowledge and ways of acquiring vocational knowledge in a time of top-down, technological, managerialising, imposed approaches to vocational curriculum development. The research findings could be consolidated with more studies of practice in different vocational areas and from syntheses that accommodate the growing set of new findings from anthropological research.

The characteristics, needs and problems of learners in vocational education are now better understood. The research assists instruction by reporting findings on the academic approaches to learning of Asian students, the training needs of professional and managerial women, the
problems faced by mature-aged learners, successful learning experiences for long-term unemployed students and the metacognitive skill needs of learners (including those with disabilities) in accessing flexible delivery. It appears that more needs to be done in the development of metacognitive skills of vocational learners, in catering to the different learning styles of various students, improving student amenities, especially for disadvantaged learners, and overcoming access and equity problems in participation. In all, the studies confirm the need for more student-centredness in vocational education. However, most of the areas of study are represented by only a single investigation. These studies need validation and supplementation with further studies of other characteristics of vocational learners.

The nature and complexities of student assessment in vocational education have been examined, with clarification of the ways in which such assessment consists in consensual judgement, based on various kinds of evidence. It is clear from the work to date that checklists of overt performances are inadequate for the complexity of vocational assessment. Linked with our developing understanding of the nature of vocational knowledge is a developing understanding of the factors involved in valid and reliable vocational assessment. The relative contributions of different kinds of assessment settings have also been delineated. Nevertheless, there is considerable scope for more research in this area, especially in examining assessment in practice.

Curriculum decision-making has been the subject of few, mainly theoretical studies in the journal. Despite the number of studies, important considerations for curriculum decision-making in vocational education have been synthesised, which help to reduce the need to rely on models and frameworks derived for other settings and age groups. However, there is a need for further practical studies to augment this work.

Thus, while in need of more work in most areas, the research reported in the journal provides a substantial basis for achieving improvement in vocational education. It reinforces the need to redress the top-down, technological, short-term focus of vocational curriculum development, re-elevate the needs of vocational learners, redress problems in vocational knowledge development and assessment, and overcome
stresses in the vocational education system caused by the nature and implementations strategies of the corporatist reform movement. This work is important both for practice and for informing policy.

Approaches that can be taken in all of these areas have also been examined in the journal. Perhaps a good place to start would be to adopt approaches that are available for the reconciliation of interests, values and perspectives in the processes of curriculum development and the reconciliation of vocational education with other forms of education.

References


Beven, F (ed.) 1997, Learning in the workplace: Airline customer service, Centre for Learning and Work Research, Brisbane.
Cameron, H 1999, ‘University access and first year performance or “there’s more to a good party than sending out the invitations”’, Australian and New Zealand Journal of Vocational Education Research, vol.7, no.2, pp.1-24.
Chappell C 1996, Post-compulsory education and training—a modernist


Field, L 1998, 'Shifting the focus from "training" to "learning": The case of Australian small business', Australian and New Zealand Journal of Vocational Education Research, vol.6, no.1, pp.49–68.


— (ed) 1996a, Learning in the workplace: Tourism and hospitality, A report on an initial exploratory examination of critical aspects of small businesses in the tourism and hospitality industry, Centre for Skill Formation Research and Development, Griffith University, Brisbane.


Sweller, J & Chandler, P 1994, 'Why some material is difficult to learn', Cognition and Instruction, vol.12, 185–233.


White, M 1995, 'Youth, employment and post-compulsory education: Crisis policy making in three depression decades in Australia—the 1890s, the 1930s and the 1980s', *Australian and New Zealand Journal of Vocational Education Research*, vol.3, no.1, pp.110–140.


# Topics of articles in ANZJVER

(Vols 1-7) (1993-1999)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Title</th>
<th>Authors</th>
<th>Vol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>Three criteria for the competency-based assessment of communication skills in vocational education and training</td>
<td>Murray, L</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>Competency assessment, evidence and the discourse of judgement</td>
<td>Bailey, M</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Competency assessment: Avoiding the pitfalls of the past</td>
<td>Griffin, P</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>A model for the competency based assessment of communication skills</td>
<td>Murray, L</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Assessing competency-based education and training: a literature review</td>
<td>Toohey, S, Ryan, G,</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Performance assessment in vocational education</td>
<td>Hayton, G &amp; Wagner, Z</td>
<td>6.1</td>
</tr>
<tr>
<td></td>
<td>On-the-job and off-the-job assessment: Choosing a balance</td>
<td>Hager, P</td>
<td>6.2</td>
</tr>
<tr>
<td>Competency-based training</td>
<td>Cardigans to corporatism: A state of play analysis of TAFE as an example of micro-economic reform and public sector restructuring</td>
<td>Funnell, R</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Attributes and competence</td>
<td>Hager, P &amp; Gonczi, A</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>If competence is the answer, What is the question?</td>
<td>Jackson, L</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Competency-based training in Australia: an analysis of assumptions</td>
<td>Stevenson, J</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Vocational education and training curriculum policy: A discussion of its philosophical assumptions</td>
<td>Winning, A</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Lessons learned in Scottish competence-based systems</td>
<td>Gunning, D</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>The unitisation of qualifications across the academic/vocational divide: Implications for curriculum design and the measurement of quality</td>
<td>Stanton, G</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>Competency-based vocational education and training in Australia: Some unresolved issues</td>
<td>Watson, A</td>
<td>1.2</td>
</tr>
<tr>
<td>Topic</td>
<td>Title</td>
<td>Authors</td>
<td>Vol.</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td>Recent reforms in post-compulsory education and training: Every cloud has a silver lining</td>
<td>Winning, A &amp; Dungan, J</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Learning outcomes: competence or expertise?</td>
<td>Biggs, J</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>The role of generic competencies in the description and classification of Australian occupations—some preliminary data from the Australian Standard Classification of Occupations</td>
<td>Athanasou, J, Pithers, R &amp; Cornford, I</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Pluralizing continuing education and training in a postmodern world: Whither competence?</td>
<td>Bagnall, R</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Open for business? Knowledge, rhetoric and reality in further education and training reform</td>
<td>Gleeson, D</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Practical intelligence and the metaphysics of competence</td>
<td>Blunden, R</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>The interdependence of pedagogy, learning theory, morality and metaphysics</td>
<td>Blunden, R</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>Future directions for vocational education in Australian secondary schools</td>
<td>Gonczi, A</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>Competency-based training: An analysis of its strengths and weaknesses by NSW vocational teachers</td>
<td>Cornford, I</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>Legitimate learning</td>
<td>Stevenson, J</td>
<td>5.2</td>
</tr>
<tr>
<td></td>
<td>Shifting the focus from 'training' to 'learning': The case of Australian small business</td>
<td>Field, L</td>
<td>6.1</td>
</tr>
<tr>
<td></td>
<td>Australian vocational education policy change: But will the revolution improve the quality of training?</td>
<td>Hawke, G &amp; Cornford, I</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>Knowledge-making at work: The contribution of competency-based training</td>
<td>Mulcahy, D &amp; James, P</td>
<td>7.2</td>
</tr>
<tr>
<td>Curriculum decision-making</td>
<td>A curriculum development framework for vocational education</td>
<td>Laird, D &amp; Stevenson, J</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Interests in post-compulsory education and training: Vested or community-based</td>
<td>Stevenson, J</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>Post compulsory education for a learning society</td>
<td>Young, M</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Performing competencies: Of training protocols and vocational education practices</td>
<td>Mulcahy, D</td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td>Education and training in a late modern society: A question of ethics</td>
<td>Jarvis, P</td>
<td>4.2</td>
</tr>
<tr>
<td>Topic</td>
<td>Title</td>
<td>Authors</td>
<td>Vol.</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Curriculum dissemination: A</td>
<td>A problematic issue in educational change</td>
<td>McBeath, C</td>
<td>5.2</td>
</tr>
<tr>
<td>problematic issue in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>educational change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finding a basis for</td>
<td>Reconciling perspectives on vocational education and training</td>
<td>Stevenson, J</td>
<td>6.2</td>
</tr>
<tr>
<td>VET policy and practice</td>
<td></td>
<td>Blunden, R</td>
<td>7.1</td>
</tr>
<tr>
<td>Evaluation for program</td>
<td>Improvement and accountability: A case study</td>
<td>Harris, R</td>
<td>1.2</td>
</tr>
<tr>
<td>VET research in Australia: A</td>
<td>Long way to go</td>
<td>Butterworth, P</td>
<td>2.1</td>
</tr>
<tr>
<td>vocational education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing research in</td>
<td>New Zealand polytechnics: A sector in change</td>
<td>Sylvester, G</td>
<td>5.1</td>
</tr>
<tr>
<td>vocational education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Off-job vocational teachers</td>
<td>Coping vs solving: An action research case study in vocational teacher</td>
<td>Jennings, L</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The move from industry to</td>
<td>TAFE: Some results of a study into the transition problems</td>
<td>Snewin, D</td>
<td>2.2</td>
</tr>
<tr>
<td>TAFE: Some results of a study</td>
<td>encountered by beginning vocational education teachers (TAFE) in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>into the transition</td>
<td>South Australia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>problems encountered by</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>beginning vocational</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>education teachers (TAFE) in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Australia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-compulsory education</td>
<td>Education—and training—a modernist project</td>
<td>Chappell, C</td>
<td>4.1</td>
</tr>
<tr>
<td>and training—a modernist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ritual, career and identity</td>
<td>Change: A study of the first semester of a teacher preparation</td>
<td>Carnell, D &amp; Funnell, R</td>
<td>6.1</td>
</tr>
<tr>
<td>change: A study of the first</td>
<td>degree in adult and vocational teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>semester of a teacher</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>preparation degree in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adult and vocational</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vocational teaching</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocational teacher's critical</td>
<td>Thinking skills</td>
<td>Pithers, R</td>
<td>6.1</td>
</tr>
<tr>
<td>thinking skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff experiences of 'reform'</td>
<td>of English further education</td>
<td>Bailey, W</td>
<td>7.1</td>
</tr>
<tr>
<td>of English further education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poltical, organisational</td>
<td>Educational corporatism and its counterposes</td>
<td>Wexler, P</td>
<td>2.1</td>
</tr>
<tr>
<td>and structural change</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youth, employment and</td>
<td>Crisis policy making in three depression decades</td>
<td>White, M</td>
<td>3.1</td>
</tr>
<tr>
<td>post-compulsory education</td>
<td>in Australia—the 1890s, the 1930s and the 1980s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chameleon or phoenix: The</td>
<td>Metamorphosis of TAFE</td>
<td>Anderson, D</td>
<td>6.2</td>
</tr>
<tr>
<td>metamorphosis of TAFE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economies of scale and the</td>
<td>Amalgamation of technical and further education</td>
<td>Abbott, M &amp; Doucoulagos, C</td>
<td>7.1</td>
</tr>
<tr>
<td>amalgamation of technical and</td>
<td>institutions in Victoria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>further education institutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How TAFE became 'unresponsive':</td>
<td>Study of rhetoric as a tool of educational policy</td>
<td>Ryan, R</td>
<td>7.2</td>
</tr>
<tr>
<td>Student characteristics and</td>
<td>Professional and managerial women's perceptions of schooling and</td>
<td>Poole, M, Nielsen, S &amp;</td>
<td>2.1</td>
</tr>
<tr>
<td>needs</td>
<td>current and future training needs</td>
<td>Langan-Fox, J</td>
<td></td>
</tr>
</tbody>
</table>

Appendix 131
<table>
<thead>
<tr>
<th>Topic</th>
<th>Title</th>
<th>Authors</th>
<th>Vol.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian learners through western eyes: An astigmatic paradox</td>
<td>Biggs, J</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Measuring student job and educational aspirations</td>
<td>Waugh, R</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>National participation targets for vocational education and training: some issues</td>
<td>Butterworth, P</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>Some features of school industry programs in Australia: A study of cooperative vocational education projects</td>
<td>Athanasou, J</td>
<td>4.1</td>
<td></td>
</tr>
<tr>
<td>Participation and access in TAFE: Social service or economic utility?</td>
<td>Powles, M &amp; Anderson, D</td>
<td>4.1</td>
<td></td>
</tr>
<tr>
<td>The effect of psychosocial training climate on mental health outcomes for long-term unemployed individuals</td>
<td>Creed, P, Hicks, R &amp; Machin, T</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Individual differences in the patterns of leisure pursuits of technical and further education students in Australia</td>
<td>Athanasou, J &amp; Kircaldy, B</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Learning to learn in vocational education and training: Are students and teachers ready for it?</td>
<td>Boote, J</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Student services and amenities in TAFE</td>
<td>Anderson, D</td>
<td>7.1</td>
<td></td>
</tr>
<tr>
<td>Judgements of interest in vocational education subjects</td>
<td>Athanasou, J</td>
<td>7.1</td>
<td></td>
</tr>
<tr>
<td>Approaches to learning of TAFE and university students</td>
<td>Fuller, R &amp; Chambers, D</td>
<td>7.1</td>
<td></td>
</tr>
<tr>
<td>University access and first-year performance or 'There's more to a good party than sending out the invitations'</td>
<td>Cameron, H</td>
<td>7.2</td>
<td></td>
</tr>
<tr>
<td>Training in industry</td>
<td>The management of industry training programs: A regional study</td>
<td>Noble, C</td>
<td>2.2</td>
</tr>
<tr>
<td>Not drowning, just waving, workplace trainers' views on perceptions of training and learning at work</td>
<td>Owen, C</td>
<td>3.1</td>
<td></td>
</tr>
<tr>
<td>A comparative analysis of strategies to increase the role of employers in training and development</td>
<td>Noble, C</td>
<td>4.1</td>
<td></td>
</tr>
<tr>
<td>Postmodernism and the practice of human resource development in organisations</td>
<td>Rhodes, C</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Firm size and the provision of employee training: An analysis of the 1993 survey of training and education</td>
<td>Wooden, M</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Articulating the role of the development specialist in large organisational settings</td>
<td>Dennis, D</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Education and training: Impacts on profitability in agriculture</td>
<td>Kilpatrick, S</td>
<td>5.2</td>
<td></td>
</tr>
<tr>
<td>Topic</td>
<td>Title</td>
<td>Authors</td>
<td>Vol.</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>Vocational knowledge, learning &amp; instruction</td>
<td>Workplace learning: Differential learning needs of novice and more experienced workers</td>
<td>Cornford, I and Beven, F</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>Authenticity and a culture practice within modes of skill development</td>
<td>Billett, S</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Use of a trade practice model in teaching electrical installation: Procedures to apprentices</td>
<td>Evans, G &amp; Butler, J</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td>Institutions: Formal or informal learning?</td>
<td>Evans, G</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>Critical theory and practice in adult education: Towards implementation of critical education</td>
<td>Falk, I</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Rediscovering learning: Acquiring expertise in real world problem-solving tasks</td>
<td>Gott, S</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>The influence of English language proficiency on the success of non-English speaking background students in a tafe vocational course</td>
<td>Kellet, M &amp; Cumming, J</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Restructuring instructional material in vocational education to enhance learning</td>
<td>Pillay, H</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>Integrating the development of literacy and numeracy competence into vocational curricula</td>
<td>Searle, J, Smith, A &amp; Cochrane, L</td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td>The defining attributes of 'skill' and 'skilled performance': Some implications for training, learning and program development</td>
<td>Cornford, I</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>Communication competence in vocational education and training: A communication management perspective</td>
<td>Kaye, M</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td>Dispositions, vocational knowledge and development: sources and consequences</td>
<td>Billett, S</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>The role of cognitive structures in the transfer of first-aid knowledge acquired in distance education</td>
<td>Stevenson, J &amp; McKavanagh, C</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>Transfer and social practice</td>
<td>Billett, S</td>
<td>6.1</td>
</tr>
<tr>
<td></td>
<td>Workplace learning: Differential learning needs of novice and more experienced workers</td>
<td>Cornford, I and Beven, F</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>Views through three windows: A study of the purposes and usefulness of on and off-job training</td>
<td>Harris, R &amp; Simons, M</td>
<td>7.2</td>
</tr>
</tbody>
</table>

Appendix 133