
Researching Vocational Education and Training: where to from here?

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ABSTRACT Vocational education and training (VET) systems throughout the world have undergone unprecedented change over the last 15 years. The policies of new vocationalism together with the emergence of new economic times have transformed VET. As a result many traditional VET policies and practices have undergone major changes in terms of their organisation and purpose. These changes are often spoken of as one response to the changing nature of work brought on by the impact of new technologies and globalisation on national economies. More VET research has also occurred as a response to the changes in VET. However, given the unprecedented nature of VET change it is perhaps timely to consider whether VET research itself has responded sufficiently to the challenges presented by these changes. This article examines this issue using concepts drawn from organisational theory to investigate recent VET research undertaken in Australia.

Introduction

Vocational Education and Training (VET) systems have been the subject of reform in many countries around the world. One of the more remarkable features of these reforms over the last 15 years has been the similarity of the reforms.

A study conducted in 1994 by the Ministry of Education, Skills and Training (MEST), Province of British Columbia, Canada, for example, reported that VET systems in the United Kingdom, Scotland, Canada, Australia and New Zealand had introduced quite specific reform measures to achieve a more vocational focus in VET. These measures include:

- work competency standards development;
- competency-based education and training;

- the development of modularised curricula;
- increased quality assurance and accountability measures;
- reformed apprenticeships and credit transfer arrangements;
- increased industry involvement in VET;
- increased school to work transition programmes;
- increased focus on the quality of teachers and teaching. (MEST, 1995, p. 7)

Since that time similar reforms have also been occurring in other countries including Mexico, Thailand, Singapore, Vietnam, South Africa and China (Arguelles, 1996; Rongguang, 2000). The rationale for these developments was based on the perceived need for education and training systems to have closer and more explicit links with the contemporary requirements of the economy.

The development of closer links between education and the economy was also promulgated in OECD reports (OECD, 1988, 1989, 1991). These reports justified this connection on the grounds that contemporary economies of OECD countries were entering new and uncertain economic times. New times that were characterised by the increasing globalisation of national economies, rapidly changing markets, increased global competition for goods and labour, new technological innovations and the movement from mass production to flexible specialisation in the productive process.

The domination of these economic discourses in the educational policy formulation of governments was labelled the new vocationalism by a number of commentators (Pollard et al, 1988; Ball, 1994; Grubb, 1996). New vocationalism emphasises the need for all educational institutions to contribute to national economic imperatives and for the most part, are embedded in human capital theories of economic performance. These theories promote the idea that economic performance is intimately connected to the level of skill and ability of the workforce, and remain a common feature of the educational discourses of many governments worldwide (Papadopolous, 1996).

During this period of reform much more interest was also directed towards learning that occurs outside educational institutions. The discourses of 'Learning in the workplace' (Marsick & Watkins, 1990), 'learning organisations' (Senge, 1994), 'Work-based learning' (Boud & Solomon, 2001) and 'informal learning' (Garrick, 1998) all promote learning that takes place at and through work and learning unmediated by educational institutions or practitioners.

The rapid changes occurring in VET systems also brought with them an increased need for research and development in this area, and many governments increased funding to support VET research and development activities in the hope that these research outcomes would

assist in the implementation and management of the reforms to VET (McDonald et al, 1992).

However, today there is increasing evidence that many countries are experiencing unprecedented changes to work and the organisation of work (Marginson, 2000; Imel, 2001; Kerka, 2001) as a result of continuing economic changes brought about by a rapidly globalising economy. These together with quite profound social and cultural changes associated with these developments call into question many of the assumptions that once underpinned earlier VET reforms.

It is therefore perhaps timely to consider whether VET research and researchers have responded sufficiently to the challenges presented by the new conditions in which VET operates.

In this article, I examine this issue by analysing a number of VET research projects that have been conducted in Australia over the last 2 years. These projects were funded by the Australian National Training Authority (ANTA) on the basis that they focused on important national research priorities in terms of VET policy and practice. The analysis reported here utilises concepts developed in organisational theory that were developed to cast light on the workings of complex organisations.

However, I begin by providing a brief description of the Australian VET research environment.

No Small Change

In many respects Australian Vocational Education and Training (VET) as a major focus of research is relatively new. In 1992, a seminal report *No Small Change* (McDonald et al, 1992) recommended a substantial increase in funding for Australian research in VET. This report led for the first time to the establishment of a national research and development strategy for Australian VET.

The authors of the report noted the predominance of client-specific research and development projects in research funding for VET in Australia. At the same time they suggested that general issues-based research and fundamental research should also form part of the research landscape for VET and that 'there was a need for a full range of types of project to be undertaken' (1992, p. 8).

Today the Australian National Training Authority (ANTA) spends more than \$A3 million annually on VET research. Moreover after ten years of funding VET research and research infrastructure have moved forward. Today, there is a substantial body of quantitative and qualitative research in VET, and an increasing number of experienced VET researchers working throughout Australia (Chappell et al, 2002).

The Australian Vocational Education and Training Research Association (AVETRA) formed in 1997 is now an active national association of VET researchers and is made up of members who span the

whole VET community. This association includes university-based researchers, VET system and industry-based researchers, practitioner researchers and private consultants.

The Australian National Training Authority (ANTA) provides funding for research that focuses on national VET priorities set by governments. These research arrangements are meant to ensure that research effort focuses on addressing those issues that are seen by the Authority as immediately relevant to VET policy and practice.

The formulation of national priorities and an annual funding round is seen by ANTA as ensuring relatively fast responses to VET priorities. It would therefore be fair to say that the major funding for VET research in Australia is now firmly wedded to 'applied' research, which addresses immediate priorities and issues identified by governments and is aimed at directly improving current VET policies and practice.

How well this approach to VET research assists in the development of a VET system that can operate effectively in an increasingly complex social and economic environment is the central focus of this article.

Changing Times

Theories that posit the emergence of new economic times have already made a significant impact on contemporary socio-economic thinking. The rise of new knowledge-based, post-industrial forms of work caused by the globalising tendencies of capitalism, and the impact of new technological innovations particularly in information and communication technologies has been central to contemporary economic debates (Castells, 1993; Thurow, 1996; Marginson, 2000; Seddon, 2000).

These debates are also mirrored in sociological thinking that not only speaks of the emergence of new forms of work and work organisation, but also new attendant social, cultural and political formations. In short, new economic times appear to go hand in hand with new more complex social, cultural and economic configurations (du Gay, 1996).

As was outlined earlier, governments have responded to the challenges presented by these new configurations in a variety of ways, with the reform of education and training systems being given a high priority in policy debates.

In Australia, the policies of new vocationalism have resulted in all sectors of education, schools, TAFE colleges, universities, Adult and Community Education (ACE) colleges, industries and private providers becoming involved in delivering Vocational Education and Training programmes. Technical and Further Education (TAFE), once the near monopoly provider of VET is now only one of many. A new VET market has been created with many providers competing with each other to

supply vocational programmes and services in this newly-established market.

This transformation of VET has increased the organisational complexity of the VET system in Australia exponentially. Now VET programmes are delivered both on and off-the-job, by public, private and non-government providers, in workplaces and in classrooms, in schools, colleges and in-house, face-to-face, on-line and by distance, and by education and training practitioners with different qualifications and work experience, and to a wider variety of client groups and students.

My intention in this article is not to investigate the extent to which these changes in VET provision have impacted on VET policy, practice or practitioners. Many of these issues have been subject to a great deal of work in recent times. Rather I want to suggest that if the argument pursued so far is in any way persuasive it suggests that Australian VET is now a highly complex system that operates in an increasingly complex socio-economic environment. Moreover, this complexity is likely to confront VET researchers and the bodies that fund them with new challenges that require new thinking in terms of the possibilities for VET research.

In order to move forward I turn to some recent concepts borrowed from organisational theory that may help get a handle on the contemporary VET environment and then outline what this might mean for VET research.

VET and Organisational Complexity

Writing in 1996, Maglen defined VET as encompassing:

all educational and instructional experiences be they formal or informal, pre-employment or employment related, off-the-job or on-the-job that are designed to directly enhance the skills, knowledge, competencies and capabilities of individuals, required in undertaking gainful employment, and irrespective of whether these experiences are designed and provided by schools, TAFE or higher education institutions, by private training providers or by employers in industry and commerce. (1996, p. 3)

This redefinition of VET greatly expanded its institutional reach and was, in some senses, the product of a whole raft of education and training reforms that began in the late 1980s (Dawkins, 1989).

Since that time, efforts have been made to integrate all forms of work-related learning (public and private, formal and informal, structured and unstructured) into a coherent and unified VET system. Competency-based training, recognition of prior learning, the extension of public accreditation and other regulatory processes to industry, enterprises and non-government providers, the development of a qualifications

framework and the production of training packages have all been measures designed to facilitate this integration. Moreover, these developments are not simply based on a renewed national recognition of the importance of VET, but reflect an increased international focus on the economic importance of education and training provision (MEST, 1995).

One of the outcomes of all this activity has been the emergence of a VET system that is much more complex in terms of its organisation. VET policies and practices are now cross-sectionally influencing:

- educational institutions including schools, TAFE colleges, Adult and Community Education (ACE) and universities;
- public, private and non-government providers of education and training;
- industry, in-house and organisation-specific training;
- small business and private training consultants.

These groups have, in many ways, constructed themselves as different from each other in a variety of ways, including having different purposes, values, outcomes, organisational norms and cultures, client groups and accountability mechanisms. Consequently, VET researchers are now confronted with researching a highly diverse system that not only incorporates new players with quite different views concerning their contribution to VET, but in some cases even fail to recognise that they are connected to, indeed form part of this new VET system.

The new organisational complexity of VET is also mirrored in the contemporary socio-economic environment in which VET also finds itself.

VET and Socio-economic Complexity

Many contemporary commentators have initiated discussions concerning the emergence of new economic times. They suggest that among other things these new times have come about because of:

- an increasingly globalised competitive market for both goods and labour (Thurow, 1996, pp. 115-119);
- the dependence of increased productivity on the speedy application of science and technology, particularly in the area of microtechnology, biotechnology and microelectronics (Levett & Lankshear, 1994, p. 31);
- the importance of information technology in the processes of production, distribution, consumption and exchange, and the speedy creation and application of new knowledge (Castells, 1993, pp. 15-16);
- the crucial role of 'symbolic analysts' in post-industrial economies that are moving away from material production to information processing and cultural production (Reich, 1993);

- the replacement of mass production principles with flexible specialisation and niche marketing (Cope & Kalantzis, 1997, pp. 53-55).

This economic transformation is often also characterised as initiating a labour market transformation that requires new workers having the knowledge, skills and dispositions needed by new forms of work.

This new work is often described as indeterminate and ephemeral, based on rapidly changing technologies and undertaken by a fragmented workforce consisting of a core of highly skilled, mobile and functionally flexible workers and a peripheral population of more lowly skilled, numerically flexible workers subject to periods of unemployment (Hetrick & Boje, 1992, pp. 48-58; McNabb & Ryan, 1990; Marginson, 2000).

Other commentators suggest that the factors that have initiated new economic times have also initiated new social, political and cultural times. They point to the numerical decline of the manual working class, and the contingent and changing nature of much contemporary work. They highlight the proliferation of new cultural and social forms that move beyond traditional notions of class, family, gender and ethnicity. They point to the increased importance of choice and consumption in creating social identities. They highlight the ways in which new communication technologies and the globalisation of national economies make traditional ideas of national sovereignty problematic. They point to the marginalisation of mainstream political parties, and the increased political sophistication of different social groupings at both the local and transnational level (Perryman, 1994).

These new conditions have problematised many of the taken-for-granted social, political and cultural ideas that once provided normative explanations of contemporary social life. Now social identities are constructed as much through patterns of consumption as through patterns of production. Individuals' work histories are increasingly multi-faceted, rather than linear. New employment relationships and work patterns have emerged in the labour market. The role of government is less certain. Different forms of social inclusion and exclusion have developed. In short, these commentaries suggest that the socio-economic conditions of late capitalist societies are more diverse, contingent and complex than those they have replaced.

VET Research and Complex Systems

Many contemporary commentators make much of the idea that the world is getting more complex with some using the logic of systems theory to produce models that illustrate how various types of complexity interact in particular complex systems. It is not my intention here to investigate the veracity or logic of systems theory; indeed, I am no expert in this area.

However, researchers in organisational theory have used some of the ideas from systems theory productively when attempting to map and make sense of the problems of complex organisations. Berdish (2001), for example, when investigating the Ford Motor Company uses ideas from systems theory to describe the types of problems that are produced in the operations of global companies such as Ford.

I suggest that we can fruitfully borrow this concept to explore what the possibilities are in terms of researching a contemporary VET environment that is now organisationally highly complex and which operates in an increasingly complex socio-economic environment.

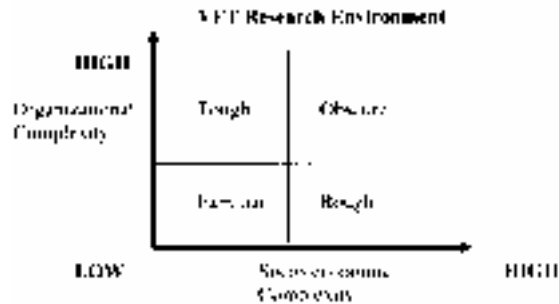


Figure 1.

In this quad box model (adapted from Berdish) increasing organisational complexity and socio-economic complexity are conceptualised as creating four problem domains that are all open to investigation. Familiar problems are those that emerge in situations of relatively low organisational and socio-economic complexity. Tough problems are those where there is a high degree of organisational complexity, but relatively low socio-economic complexity. Rough problems emerge where there is a relatively low degree of organisational complexity, but a high degree of socio-economic complexity. Finally, obscure problems are those where there is a high degree of both organisational and socio-economic complexity associated with the problem.

This model suggests therefore that VET research can take place in all four domains. In other words VET researchers may investigate specific problems at particular VET sites (familiar) or the same problems across different sites (tough) or more complex socio-economic problems at specific sites (rough) or complex socio-economic problems across many VET sites (obscure).

Organisational theorists, such as Berdish, have argued that, commonly, much attention is fixed on investigating familiar problems with less attention given to investigating tough or rough problems. Indeed, where highly complex organisational and socio-economic factors

intersect generally the problems generated are often barely understood or even recognised. They remain obscure problems beyond our capacity to resolve them. However, in order to meet the challenges of complex organisational systems, researchers now need to focus more on the intersection between high organisational complexity and high socio-economic complexity.

To test Berdish's thesis in the area of VET research a preliminary analysis of 50 ANTA funded projects over the last 2 years, which involved original fieldwork indicates that these research projects, to a degree, reflect a similar pattern to that proposed by Berdish.

For the purposes of this article the criterion to determine the level of organisational complexity recognised in the research projects was based on the number of different VET sites investigated by the project. These could have included schools, colleges, universities, adult and community colleges, private and non-government providers of VET programmes, as well as TAFE colleges.

Socio-economic complexity criteria were based on either the target(s) of the research, the breadth of factors explored or a combination of both.

I should emphasise that care needs to be taken when interpreting these findings. Future work in this area would need to develop more sophisticated criteria to judge organisational and socio-economic complexity in VET research. This work would also need to analyse VET research that did not use original fieldwork, but utilised existing data and previous research output. It would also need to investigate all research being undertaken in this area.

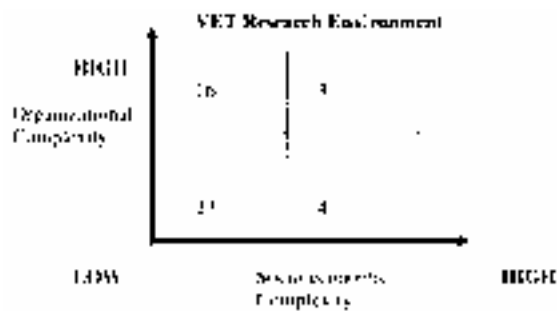


Figure 2.

Nevertheless, this first attempt at analysis produces results that indicate that VET researchers are doing rather well in terms of covering VET research problems. They show, for example, that VET research has clearly accepted diversification in terms of VET provision and looks to investigating this new organisational complexity. In some cases, projects have also focused on rather complex socio-economic issues as part of

their research trajectory, although this is less common in the 50 projects examined, while the majority of projects are located in the familiar domain.

This study also indicates that much less research effort appears to go into problems that are both organisationally and socio-economically complex. There are a number of possible explanations for this other than the one proposed by Berdish.

Problems in the obscure domain may rely on conceptual work more than empirical work. They may require a meta-analysis of the results of different research projects. They may demand much greater resourcing than is generally available to VET research. They may require longer research time frames than is common in VET research. They may not have the appearance of immediate relevance. They may be more politically sensitive. Indeed, all of these possibilities may hinder investigation of these types of problems in VET.

Nevertheless, if this complex systems view has any merit it suggests that VET research, researchers and funding agencies may well need to take into account more obscure research problems that arise out of the emergence of new VET in new times.

This does not mean that researchers should withdraw from investigating important familiar, rough or tough problems in VET. However, it does suggest that VET research policy needs to recognise the extent to which a highly diversified VET system that now operates in a highly complex socio-economic environment creates new (obscure) research problems. Problems that are of a different order than those that have been the primary focus of much VET research.

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