

INTERNATIONAL JOURNAL OF LEARNING

Volume 11

Article: LC04-0150-2004

School Studies as a Part of Lifelong Learning

Is Vocational Education and Training in Secondary Schools Making a Contribution?

Don Adams, Lecturer in Education, School of Education, Faculty of Education and Arts, University of Newcastle, University Drive, Australia

Jeanne Boote, Teacher/Consultant, Physical Disabilities, Newcastle Campus,
TAFENSW Hunter Institute, Australia



Learning Today: Communication, Technology, Environment, Society
Proceedings of the Learning Conference 2004

International Journal of Learning

Volume 11



www.LearningConference.com



C O M M O N
G R O U N D

www.theLearner.com

This journal and individual papers published at www.Learning-Journal.com
a series imprint of the [University Press](http://theUniversityPress.com)

First published in Australia in 2004/2005 by Common Ground Publishing Pty Ltd at
www.Learning-Journal.com

Selection and editorial matter copyright © Common Ground 2004/2005
Individual papers copyright © individual contributors 2004/2005

All rights reserved. Apart from fair dealing for the purposes of study, research, criticism or review as permitted under the Copyright Act, no part of this book may be reproduced by any process without written permission from the publisher.

ISSN 1447-9494 (Print)
ISSN 1447-9540 (Online)

The International Journal of Learning is a peer-refereed journal published annually. Full papers submitted for publication are refereed by the Associate Editors through an anonymous referee process.

Papers presented at the Eleventh International Literacy and Education Research Network Conference on Learning, Cojimar Pedagogical Convention Centre Havana, Cuba, 27-30 June 2004

Editors

Mary Kalantzis, Innovation Professor, RMIT University, Melbourne, Australia.

Bill Cope, Common Ground and Visiting Fellow, Globalism Institute, RMIT University, Australia.

Editorial Advisory Board of the International Journal of Learning

Michael Apple, University of Wisconsin-Madison, USA.

David Barton, Lancaster University, UK.

James Paul Gee, University of Wisconsin-Madison, USA.

Brian Street, King's College, University of London, UK.

Kris Gutierrez, University of California, Los Angeles, USA.

Scott Poynting, University of Western Sydney, Australia.

Gunther Kress, Institute of Education, University of London.

Ruth Finnegan, Open University, UK.

Roz Ivanic, Lancaster University, UK.

Colin Lankshear, James Cook University, Australia, and McGill University, Canada.

Michele Knobel, Montclair State University, New Jersey, USA.

Nicola Yelland, RMIT University, Australia.

Sarah Michaels, Clark University, Massachusetts, USA.

Paul James, RMIT University, Melbourne, Australia.

Michel Singh, University of Western Sydney, Australia.

Peter Kell, University of Wollongong, Australia.

Gella Varnava-Skoura, National and Kapodistrian University of Athens, Greece.

Andreas Kazamias, University of Wisconsin, Madison, USA

Ambigapathy Pandian, Universiti Sains Malaysia, Penang, Malaysia.

Carey Jewitt, Institute of Education, University of London, UK.

Denise Newfield, University of Witwatersrand, South Africa.

Pippa Stein, University of Witwatersrand, South Africa.

Zhou Zuoyu, School of Education, Beijing Normal University, China.

Wang Yingjie, School of Education, Beijing Normal University, China.

Olga Lidia Miranda, Researcher, Institute of Philosophy, Central Institute of Pedagogical Sciences, Cuba.

Mario Bello, University of Science, Technology and Environment, Cuba.

Miguel A. Pereyra, University of Granada, Spain.

Daniel Madrid Fernandez, University of Granada, Spain.

School Studies as a Part of Lifelong Learning

Is Vocational Education and Training in Secondary Schools Making a Contribution?

Don Adams, Lecturer in Education, School of Education, Faculty of Education and Arts, University of Newcastle, University Drive, Australia

Jeanne Boote, Teacher/Consultant, Physical Disabilities, Newcastle Campus, TAFENSW Hunter Institute, Australia

Abstract

The need for lifelong learning has long been highlighted by the changing social, technological and global contexts. This learning occurs in many structured and unstructured forms, for example, formal education and workplace learning. Much of the rhetoric surrounding lifelong learning has focused on the higher education and post secondary vocational education sectors. Within this structure, little attention has been given to students in secondary schools who participate in Vocational Education and Training (VET) oriented courses. Similarly, research into the influence of these types of learning experiences on the individual students, in preparation for a lifetime of learning has been limited. This paper outlines research undertaken, that has been based on VET teacher perceptions in public school settings. These perceptions relate to the ability and extent of how quality VET programs in secondary schools inform dimensions of lifelong learning. The findings of this small collaborative study provide a framework for ongoing discussion and debate within VET in schools programs.

Keywords: Vocational Education and Training, Lifelong Learning, VET in Schools

There are many facets of just what occurs in Schools during vocational education programs, in relation to learning, especially from the perspective of lifelong learning. The following review of the literature will consider some of these areas.

VET in Schools

Vocational Education and Training (VET) in Schools has grown in recent decades (Malley, 1998), to the point where it has been described as “one of the most significant educational changes in secondary education in the last ten to twenty years” (House of Representatives, 2004).

As well as participation rates increasing, the direction and emphasis of VET in Schools have also undertaken some changes. In its earlier implementation, VET in Schools was seen as a way of addressing increasing “drop out” numbers and a pathway to employment. Thus developed the earlier stereotyping that VET in Schools was an alternative for those who could not reach the academic standards required of mainstream school programs.

VET in Schools has also been influenced in a direct way by industry, and the requirements of employers (Lewis, 2001). This consideration was in response to the alerted need for increasingly trained workers with an ability to adapt and move to different and higher-level jobs as the need arose within businesses. There was an overlying economic influence. It was recognised by Malley,

Keating, Robinson & Hawke (2001) that academic and vocational studies, secondary and post-secondary education, and education and work needed to be integrated.

More recently, it has been acknowledged that the different pedagogical approach that VET in Schools offers has advantages to a broader range of students. In fact, some argue the whole school population can benefit from the learning options available (Ryan, 2004). This “management of diversity” potential is one of the main benefits of this approach (Polesel et al, 2004, p. 39). Within this consideration of VET in Schools, there has been a growing appreciation of the role of VET in Schools studies towards University articulation. The relationship of VET to all sectors of education, and the need to strategically develop seamless pathways is identified (Noonan, 2003).

This complexity of purposes of VET in Schools, being a combination of all or any of the preceding functions, is now being recognised and considered (Malley, et al, 2001); with researchers seeing the need for it to be student focused (Polesel et al, 2004). Individually, these rationale for VET in Schools have been indicators of its growth. Conversely, it can be argued that the opportunities presented for increased retention successes, the availability of alternative learning methodologies, and the acquisition of work skills – themselves - have, in fact, contributed to the on-going growth in



VET in Schools participation (House of Representatives, 2004).

Overall, though, VET in Schools teachers see their programs as an “invaluable learning experience”. They recognise the role of work placement in increasing the personal development of these students. At the same time, they provide opportunities for VET in Schools students to gain information of other options in education and employment, relevant to students at all levels of academic ability. (Polesel, 2004, p. 46).

Notwithstanding any of the policy influences on the implementation of VET in Schools, VET in Schools students themselves value highly the opportunity to undertake vocational education and work experience during these formative years (Ryan, 1998). Students identify that they gain work skills; they prefer this practical approach and its classroom atmosphere and variety (Anderson, 2000).

VET in Schools Statistics

Since the introduction of VET in Schools in 1996, growth in participation of VET in Schools courses has been substantial and consistent. During 1996, 60,000 students were enrolled into VET programs, and this has grown threefold to 185,520 in 2002. Figure 1 shows the growth over the period of seven years.

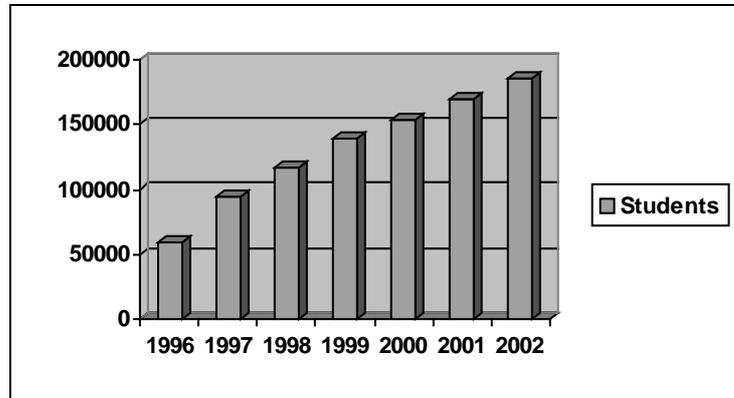


Figure 1

Growth in VET in Schools 1996-2002, *Source: (MCEETYA, 2003:5)*

Lifelong Learning

Ralph (2000) defined lifelong learning as “a cradle-to-grave process” which involves the continuous development, acquisition and application of knowledge, skills, values and wisdom across the lifespan”. He proposed the need to develop a love for learning - which is particularly relevant to this consideration of VET in Schools students. McKenzie (2000) identified that the current debate on lifelong learning has focused on young learners, in contrast with earlier approaches to recurrent learning which concentrated more on adult learners.

The National Report on Schooling in Australia 2002 produced by MCEETYA (2003 n.p.) presents the following most recently available statistics:

- In 2002, a total of 185,520 students were enrolled in VET in Schools programs. This represented 44 per cent of all students enrolled in year 11 and/or 12 programs.
- 95 per cent of all schools offering senior secondary programs offered VET in Schools programs.
- The most popular industry areas were Tourism and Hospitality, Business and Clerical, and Computing. Together these areas accounted for more than 50 per cent of all enrolments.
- 37.4 million hours of training were delivered representing an average of 201 hours per student across Australia. This average varied in States and Territories, ranging from 111 to 341 hours per student.
- 113,473 students spent a total of 7.4 million hours in workplace learning, an average of 65 hours per student.
- In December 2002, States and Territories reported that 7,639 School-based New Apprenticeships were commenced during 2002. More than 80 per cent of these apprenticeships were in the areas of Sales and Personal Services, Tourism and Hospitality, Business and Clerical, Primary Industry, and Automotive.

The need for lifelong learning has long been highlighted by the changing social, technological and global contexts; even though the definition of lifelong learning is “hopelessly vague” (Green, 2002). This learning occurs in many structured and unstructured forms, for example in formal education and workplace learning. In the past lifelong learning has been wide and all-encompassing, while in more recent times it has tended to concentrate on skills acquisition, and upgrading for employability (Cowan, 2002). A consistent focus within the definition of lifelong learning, though, is on the *potential* for learning (Vorhaus, 2002).

Much of the rhetoric surrounding lifelong learning has been focused on the higher education and the post-secondary vocational education sectors – acknowledging that VET has been synonymous with adult learning, with its related pedagogies. Within the vocational education and training (VET) structure, little attention has been given to students in secondary schools who participate in VET-oriented courses. This, despite the fact that there has been a significant increase in the number of school students undertaking VET as part of their secondary studies. This increase is in recognition of the importance of these programs in improving employment outcomes for school leavers because of their hands-on and workplace focus. VET in Schools has a significant role in lifelong learning in that it prepares students “not only for the first job but also for succeeding jobs” (Cowan, 2002, p. 33). Research into the influence of these types of learning experiences on these younger students, in preparation for a lifetime of learning, has been limited.

Self-directed learning is recognised as an integral part of lifelong learning, with Selby-Smith (2002) acknowledging that Australian lifelong learning has an emphasis on self-directed learning. The concept of learning self-direction is complex and confusing, however a common aspect throughout the literature is the importance of learners assuming responsibility for their own actions in their learning endeavours (Boote, 1999). It is well recognised that most learning in adults is self-directed and informal (Foley, 1995; Long, 1990). Learning to learn, or metacognitive skills form a basis for this self-direction and subsequently for lifelong learning. But it is unclear to what degree self-direction forms a part of a learning approach for secondary-school students who are undertaking VET studies. Nor is there any understanding of the place metacognitive skills will play for these younger learners.

Selby-Smith’s survey (2002) supports the view of Dryden (2003, p.27) that “there is as yet no coherent picture of what teaching and learning in VET might be”. VET research is leading the way towards a potential new pedagogical understanding. It is currently being argued whether VET is a distinct field, or merely part of a lifelong learning continuum (Brookfield, 2000). It will be essential that VET in Schools – with its younger learners – are well represented in research towards this end.

Bolhuis (2003) outlines his multidimensional perspective towards a teaching approach for self-directed lifelong learning. He identifies the components of process-oriented teaching, i.e. with a focus on the processes involved in learning. His model is centred within a social context of learning, and incorporates the components which reflect the

executive skills required for self-directed learning. With some similar themes, Boote (1999) also recognised the environment; the learner’s ability; and their preparedness in undertaking study, as the components which will determine how much personal responsibility they will take for their learning. Norman & Hyland (2003) argued that situational, institutional and, as well, dispositional barriers need to be understood, particularly in relation to younger learners. Gonczi (2002) suggested that the apprenticeship model has applications for all VET learning; and Choy & Delahaye (2002) found that young learners want a more teacher-directed approach, and teachers cannot assume that they are the same as adult VET learners. These models inform different planes of teaching and learning in VET, with potential application to VET in Schools situations.

Chappell & Hawke (2003) argued that institutions need to “change their pedagogical practices in order to construct the new worker-learner”. If we accept that VET in Schools is attempting to do just that, “construct the new worker-learner”, then various perspectives need to be understood. Winch & Clarke (2003) argued that VET as part of the lifelong learning continuum needs to be well structured. VET in Schools – whether ultimately it is found to be inclusive within VET pedagogy or distinctive from it – needs to be well-structured if it is to contribute to learners’ outcomes. Dryden (2003) suggests that within lifelong learning, various approaches to learning will be used at different times. Barry (2004) suggests that learning theories and educational “delivery of VET to young people of school age is challenged”.

Australian VET Framework

The Australian National Training Framework is supported by the Australian Qualifications Framework (AQF) and the Australian Quality Training Framework (AQTF). The AQF consists of certificate and diploma level qualifications. These qualifications are packaged together in Industry-based Training Packages.

Each Training package consists of a range of qualifications and units of competency; and the system provides a range of nationally-accredited qualifications. An outline of the qualifications structure and type of associated training providers is provided in Figure 1. The AQTF provides the standards that a Training Organisation must comply with to allow registration. The Registered Training Organisations [RTO] provide accredited training. Universities do not normally offer accredited training based on National Training Packages.

School RTOs	RTOs	Universities
		Doctoral Degree
		Masters Degree
		Graduate Diploma
		Bachelor Degree
	Adv. Diploma	Adv. Diploma
	Diploma	Diploma
	Certificate IV	
	Certificate III	
Certificate II	Certificate II	
Certificate I	Certificate I	
Senior Secondary Certificate of Education		

Figure 2

Australian educational institutions and course offerings

Learning Skills

Watson (2003, p. 3) noted that “Australian researchers define the personal characteristics necessary for lifelong learning in the following terms: The individuals most likely to participate in learning, either formally or informally throughout their lives, (have) acquired:

- The necessary skills and attitudes for learning, especially literacy and numeracy skills
- The confidence to learn, including a sense of engagement with the education and training system; and
- Willingness and motivation to learn
- (National Board of Employment, Education and Training 1996:3)”.

It is recognised that acquisition of generic or employability skills may a more appropriate learning approach for young people who are preparing for work – and for lifelong learning – than emphasis on the specific industry skills (House of Representatives, 2004). Within these generic competencies, “learning skills” are identified as what “contribute to ongoing improvement and expansion in employee and company operations and outcomes” (NCVER, 2003, p. 5).

Myer (1992) identified a set of generic skills or competencies that are considered to be essential for people to participate effectively in the workforce. Learning, itself, was not identified within that grouping.

These key competencies, which are now embedded into Training Packages, are

- Collecting, analysing and organising information
- Communicating ideas and information
- Planning and organising activities
- Working with others and in teams
- Using mathematical ideas and techniques
- Solving problems
- Using technology

It is important in the current debate to note that VET in Schools students are more likely “to report that they had learnt key competencies, such as organising themselves better, meeting deadlines and working under pressure”, than non-VET students (Polesel et al, 2004, p. 18). These authors also note that VET in Schools students are more likely to participate in education post-compulsory schooling. In fact, they identify that “improving learning was seen as a major benefit of VET” as it improved their confidence, attitudes, motivation, morale, and enjoyment of learning (p. 23-24).

The Mayer key competencies have had an influence on VET in Schools; however, employers “also value attitudinal and personal skills” (Ryan, 1998). Sweet (1993) suggested more than a decade ago that research on work-based learning demonstrated that general understanding, problem solving, abstract thought and symbolic interpretation were part of this practical approach to learning. Towards the future, Praetz (2001) identified the increasing recognition “that education must equip

people to handle rapid technological and structural changes and to benefit from new forms of work organisation”.

In researching learning by school students in workplaces, Smith and Wilson (2002) considered paid and unpaid work and vocational placements. They found that “generic skills were mentioned more often in relation to paid work, while technical skills were mentioned more often about work experience”. As well, this study found that students “did not report a great deal of transfer of learning from school to work experience ... [and] slightly less reported transfer from work experience back to school”. Interestingly, those students who have been involved in both work experience and paid work were the ones to report some transfer both ways (Smith & Wilson, 2003). Experience of both appear to be important, because of the different emphases each has.

Methodology

Eight High Schools in the Newcastle geographical area consented to allow staff to participate in the study, representing a total of 55 VET in Schools Teachers. The questionnaires were circulated to the teachers through the Principal and VET coordinators. Twenty-seven teachers of VET responded to the questionnaire, representing a response rate of 49 percent.

An empirical survey employing structured questionnaires was selected as the method for this study. A purpose-designed questionnaire was developed to measure how the VET in schools courses inform the dimensions of lifelong learning as posited by Bolhuis (2003). The framework of Bolhuis is represented in Figure 3. The questionnaire sought responses for the highest, lowest and average achieving VET students, in an attempt to determine and validate the typical VET student rates in terms of skills and knowledge for lifelong learning.

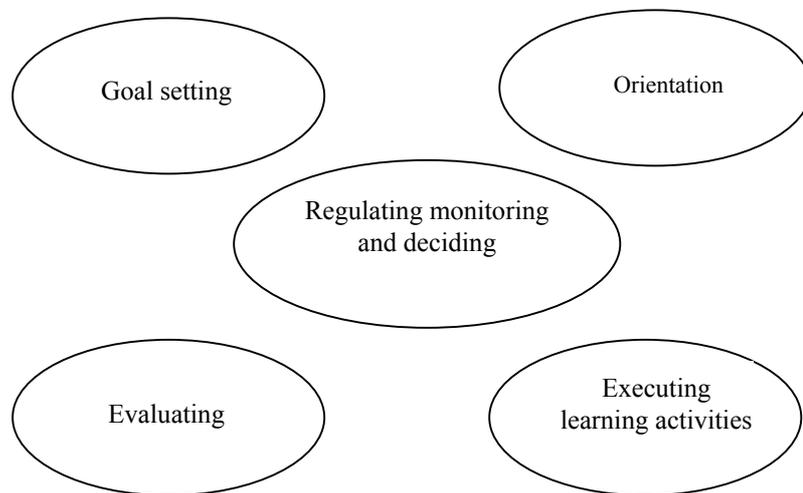


Figure 3
Bolhuis's (2003) dimensions of lifelong learning

Four questions were developed to measure each of the dimensions of the model in Figure 3. For the purpose of data analysis, the mean of the questions was calculated, to represent an overall score for each dimension. The details of the questions in each dimension are as follows:

- Setting goals: life goals and learning goals
 - He/ she sets personal life goals
 - He/ she sets personal learning goals
 - He/she takes responsibility for establishing life goals
 - He/she sets learning goals that are realistically aligned to life goals
- B. Orientation: mobilising and preparing for learning
 - He/she is able to critically investigate his/her prior knowledge/ skills
 - He/she is able to investigate and question the skills and knowledge required to achieve his/ her learning goals
 - He/she is able to investigate and question the skills and knowledge required to achieve his/her life goals
 - He/she can identify possible strategies to achieve learning and life goals
- C. Executing learning activities
 - He/she utilises social interaction when undertaking learning

- activities (for example asking, discussing with others)?
 - He/she is able to process verbal information
 - He/she is able to process symbolic information
 - He/she undertakes direct and real world experience in his/her learning
- D. Evaluating process and results
 - He/she can identify the criteria for an evaluation of life goals
 - He/she continually evaluates progress toward the life goal
 - He /she uses evaluation as a diagnostic tool
 - He/she uses evaluations to inform changes of the learning activities or life goals
- E. Regulating: monitoring and decision making
 - He/ she can identify problems/obstacles to the learning process
 - He/she can overcome problems/obstacles when they present
 - He/ she actively pursues learning activities
 - He/ she is able to change focus between setting goals, orientation, executing and evaluation, (i.e. A, B, C & D above)

Each question was allocated Likert Scale response categories of Strongly Disagree, Disagree, Slightly

Disagree, Slightly Agree, Agree, Strongly Agree. The responses were scored from 1-6 respectively; that is, a score of 3 indicates slightly disagree and a score of 4 indicates slightly agree.

Results

The results of the study are shown in Figure 4 and Table 1. To add to the validity of the responses, the mean of the highest-achieving and lowest-achieving responses of each dimension were analysed and compared to the average-achieving result of the respective dimensions, using a paired samples t-test. Additionally, an overall mean of all scores in the highest-achieving and lowest-achieving responses was calculated then compared to the mean of all the average-achieving responses. The results of the t-test showed no significant differences in the means of the highest-/lowest-achieving and the average-achieving students across all dimensions; with the exception of the setting goals dimension, where the mean of the highest-/lowest-achieving ($M = 3.65$, $SD .73$) and the average-achieving ($M = 4.05$, $SD 1.13$), $t(26) = 2.636$, $p < .0154$, was significantly different. An inspection of the means of the setting goals dimension, shows that the average scores were possibly rated higher than they should have been.

Using the average scores, the results clearly show that the most effective dimension of lifelong learning in VET students is *executing learning activities*. VET in Schools teachers clearly perceive that their students utilise social interaction, process verbal and symbolic information and use both direct and real world experiences in their learning.

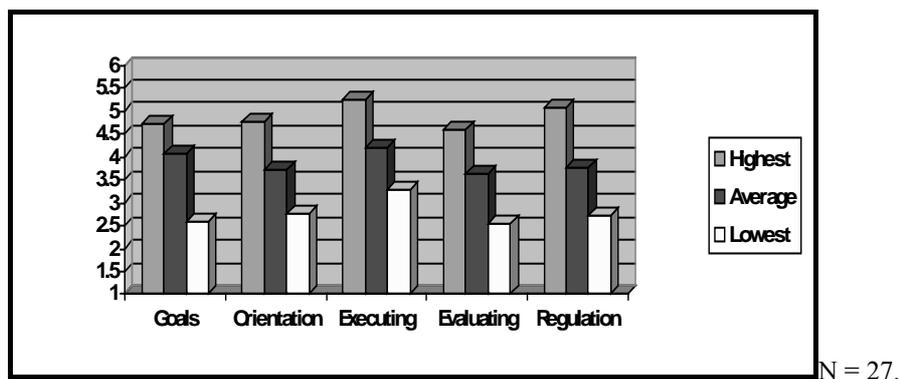


Figure 4
Mean of results across each lifelong learning dimension

Table 1

Minimum, Maximum, Mean, and Standard Deviation across Leadership Dimensions

	Minimum	Maximum	Mean	Std. Deviation
Highest achieving				
Setting goals: life goals and learning goals	2.00	6.00	4.72	1.10
Orientation: mobilising and preparing for learning	4.00	6.00	4.75	0.62
Executing learning activities	4.50	5.75	5.25	1.10
Evaluating process and results	2.00	6.00	4.57	1.03
Regulating: monitoring and decision making	4.25	6.00	5.05	0.58
Average achieving				
Setting goals: life goals and learning goals	2.00	6.00	4.05	1.13
Orientation: mobilising and preparing for learning	2.00	5.00	3.72	0.94
Executing learning activities	2.00	5.25	4.19	1.07
Evaluating process and results	2.00	5.00	3.61	0.84
Regulating: monitoring and decision making	2.00	5.00	3.77	0.81
Lowest achieving				
Setting goals: life goals and learning goals	1.00	4.75	2.58	1.10
Orientation: mobilising and preparing for learning	1.00	5.00	2.77	1.30
Executing learning activities	2.00	5.00	3.30	0.98
Evaluating process and results	1.00	4.00	2.55	1.16
Regulating: monitoring and decision making	1.50	5.00	2.72	1.07

N = 27

Disregarding the score of the average-achieving student in *setting goals: life and learning goals*, and using the mean of the highest- and lowest-achieving VET student ($M = 3.65$) as the indicator, the remaining four dimensions rate with similar scores. The data indicates that in each of these dimensions, the teachers agree that the VET in Schools students are performing, but the performance should be improved.

Directions for VET in Schools and Lifelong Learning

The transition from school to work is becoming longer and less direct (McKenzie, 2000). Most individuals will follow “zigzag, rather than linear, trajectories that are characterised by frequent interruptions and changes in direction” in their VET study (Anderson, 2003, p. 2). The approach taken needs to ensure that what and how school students learn (i.e., both the content and process of learning) can be carried forward with them into their lifelong learning.

Strategies for the advancement of generic skills includes “greater promotion to teachers *and learners* of the value of generic skills (our italics) (Callan, 2003, p. 29). This must include a direct approach to

the acquisition of learning skills, and the transfer of these to all facets of lifelong learning. The future focus of VET in Schools must be on quality improvement in teaching and *learning* (House of Representatives, 2004).

While acknowledging what has been researched and achieved so far in VET in Schools, the House of Representatives (2004) recognised the need for an emphasis on quality improvement in teaching and learning. They issued the challenge that “the priorities for the next period of vocation education in schools should be to ensure the sustainability of vocational education with a focus on improving the quality of teaching and learning for all students” (p xxiii). The Committee also recommended that “employability skills be made a higher priority and developed through a range of strategies across the curriculum in addition to the VET in Schools pathway, to maximise the effectiveness of vocational education in preparing students for post-school options” (p 185).

It has long been recognised that VET in Schools “can enhance academic skills of all students if given clear and sustained attention” subject to “sustained efforts” (Copa & Bentley, 1992, cited in Ryan, 2004). Malley et al (2001) argue a conceptual model for VET in Schools which is reliant on a

structure which integrates VET and traditional school academic studies, post-secondary study, and work.

The initial role for VET in Schools is obvious, as a milestone – if not the jump-off point – for lifelong learning.

Recommendations

The following recommendations are made based on the results of this study:

- Research into other Key Learning Areas of the school systems be undertaken
- Investigation into the validity of the Bolhuis model in the Australian school context
- Investigation across school curriculum to determine the extent of integration of lifelong learning skills

Conclusion

MCEETYA (1999) endorsed the agenda that school leavers should. Have employment related skills and an understanding of the work environment, career options and pathways as a foundation for, and

positive attitudes towards, vocational education and training, further education, employment and life-long learning.

Having an understanding of the elements of lifelong learning – both formal and informal – is going to be important for people as they leave school and attempt to enter further or higher education, or work. Being able to recognise how they learn, teaching styles, being able to monitor and evaluate their own learning, being able to terminate learning appropriately – all will be important not only while students are still at school, but for the next and all future stages of their learning.

VET in Schools needs to be understood from both a teaching and from a *learning* perspective. Much work is required to overcome the lack of information available within the literature. This initial, exploratory study attempted to capture understanding and inform directions of teaching VET in Schools, particularly in relation to where VET in Schools fits within teaching for lifelong learning.

Bibliography

- Anderson, Damon (2003), “Individual learners, choice and lifelong learning”, paper presented at CEET Conference, Strategic directions for VET, Monash University, 15 September, 2003
<http://www.education.monash.edu.au/centres/ceet/conferencepapers.html> (accessed 21/5/04).
- Anderson, Tony (2000), *Learning and Teaching in Initial Vocational Education and Training*, NCVER, Leabrook, SA
- Barry, Cathy (2003), “What is some of the emerging thinking about VET pedagogy?”, in TAFE Educational Services, Profession Development Network *News*, December-January 2004
- Bolhuis, S. (2003). "Towards process-oriented teaching for self-directed lifelong learning: a multidimensional perspective". *Learning and Instruction*, 13, 327-347.
- Boote, Jeanne (1999). *Learning During Vocational Retraining: An interpretive case study of injured workers in the Hunter Valley*, doctoral thesis, Macquarie University.
- Brookfield, S (2000), “Overcoming alienation as the practice of adult education: The contribution of Erich Fromm to a critical theory of adult learning and education”, *Adult Education Quarterly*, 52, 2, Feb 2002, pp 96-111.
- Callan, Victor (2003), *Generic Skills: Understanding Vocational Education and Training teacher and student attitudes*, NCVER, Leabrook, SA.
- Chappell, C & Hawke, G (2003), “An industry-led system: Issues for policy, practice and practitioners. Report 7 – Integrating Report”, *OVAL Research Working Paper 03-07*, UTS, Sydney
- Choy, S & Delahaye, B (2002), “Andragogy in Vocational Education and Training: Learners’ perspective”, paper presented at 5th Annual Conference of the Australian VET Research Association, 20-22 March 2002.
- Cowan, P. (2002). *The Australian federal government and vocational training and lifelong learning* (Australia Centre Series Volume 5). Adelaide: NCVER.
- Dryden, R (2003), “VET Pedagogy- A review of the literature 2000-2003” in *Case Studies of Innovative and Excellent Practices and Ideas in Vocational Education and Training Teaching and Learning*, Hunter Institute, Newcastle
- Edwards, Richard & Nicoll, Katherine (2001), “Researching the rhetoric of lifelong learning” in *Journal of Education Policy*, 2001, Vol 16, No 2, pp 103-112.
- Foley, G. (1995), “Conclusion: Coming to grips with complexity”, in G Foley (Ed), *Understanding Adult Education and Training*, Allen & Unwin, St Leonards.
- Goncz, Andrew (2002), “Teaching and Learning of the Key Competencies”, paper presented to DeSeCo Symposium, Geneva, 11-13 February 2002
- Green, Andy (2002), “The many faces of lifelong learning: recent education policy trends in Europe”, in *Journal of Education Policy*, Vol 17, No 6, pp 611-626.
- House of Representatives, Standing Committee on Education and Training (2004), *Learning to Work: Report on the inquiry into vocational education in schools*, House of Representatives Publishing Unit, Canberra

- Lewis, Andre (2001), *Linking Economics and Learning: VET for Innovation*, paper presented at Leading Edge Skills & Innovations – the Role of VET Conference, CEET, October 2001
<http://www.education.monash.edu.au/centres/ceet/conferencepapers.html> (accessed 21/5/04).
- Long, D G (1990), *Learner Managed Learning – the key to lifelong learning and development*, Kogan Page, London.
- McKenzie, Phillip (2000), “Youth pathways to Promote Lifelong Learning”, paper presented at CEET Conference *Mobilising Resources for Lifelong learning*, Monash University, October 2000
<http://www.education.monash.edu.au/centres/ceet/conferencepapers.html> (accessed 21/5/04).
- Malley, Jeff (1998), “Responding to social and economic change: the take up of VET by schools”, paper presented at CEET Conference *Rapid Economic Change and Lifelong Learning*, 1998
<http://www.education.monash.edu.au/centres/ceet/conferencepapers.html> (accessed 21/5/04).
- Malley, Jeff; Keating, Jack; Robinson, Lyn; and Hawke, Geof (2001), *The Quest for a Working Blueprint: Vocational education and training in Australian secondary schools*, NCVER,
<http://www.ncver.edu.au/students/publications/705.html> (accessed 24/5/04).
- MCEETYA. (1999), *National Goals for Australian Schooling in the Twenty-First Century*, Melbourne, MCEETYA
- MCEETYA. (2003). *National Data on VET in Schools: Programs and school based new apprenticeships for the 2002 school year*. Melbourne: MCEETYA
- Myer, E. (1992). *Putting General Education to Work: The Key Competencies report*. Australian Education Council, Melbourne
- NCVER (National Centre for Vocational Education Research) (2003), *Defining Generic Skills – At a glance*, NCVER, Adelaide
- Noonan, Peter (2003), *Rethinking VET: Some major policy implications*, Paper presented at Strategic Directions for VET Conference, Monash University, September 2003
- Norman, Marie & Hyland, Terry (2003), “The Role of Confidence in Lifelong Learning”, in *Journal of Educational Studies*, Vol 29, No 2/3, 2003, pp 261-272.
- Polesel, John; Helme, Sue; Davies, Merryn; Teese, Richard; Nicholas, Tanya; and Vickers, Margaret (2004), *VET in Schools: A post-compulsory education perspective*, NCVER, Adelaide
- Praetz, Helen (2001), “Linking Learning and Work”, paper presented at CEET National Conference, *Linking Economics and Learning: VET for Innovation* (October 2001),
<http://www.education.monash.edu.au/centres/ceet/conferencepapers.html> (accessed 21/5/04).
- Ralph, Denis (2000), “Galvanising Commitment to Lifelong Learning Through Strategic Partnerships”, paper presented to CEET Conference *Mobilising Resources for Lifelong Learning, 2000*.
<http://www.ncver.edu.au/publications/839.html> (accessed 24/5/04)
- Ryan, Robin (1998), “Vocational education in schools”, Chapter 7 of Chris Robinson & Peter Thomson (Eds), *Readings in Australian Vocational Education and Training Research*, NCVER, Kensington Park, SA.
- Selby-Smith, Chris (2002), “Lifelong Learning and the World of Work: CEET’s Survey for the OECD”, paper prepared for the NCVER Research Conference, Brisbane, 10-12 July 2002
- Smith, Erica, and Wilson, Lou (2002), *School Students’ Views on their Working and Learning in the Workplace*, NCVER, <http://www.ncver.edu.au/publications/839.html> (accessed 24/5/04)
- Smith, Erica, and Wilson, Lou (2003), *Learning and Training in School-based New Apprenticeships*, NCVER, <http://www.ncver.edu.au/publications/908.html> (accessed 24/5/04)
- Vorhaus, John (2002), “Lifelong Learning and the New Education Order? A review article”, in *Journal of Philosophy of Education*, Vol 36, No 1, 2002, pp 119-129
- Watson, Louise (2003), *Lifelong Learning in Australia* Department of Education, Science and Training, Canberra
- Winch, Christopher & Clarke, Linda (2003), “‘Front-loaded’ Vocational Education versus Lifelong Learning. A Critique of Current UK Government Policy”, in *Oxford Review of Education*, Vol 29, No 2, 2003, pp 239-252.

About the Authors

Dr Don Adams has worked in the Vocational Education and Training (VET) sector for 13 years before taking an appointment at the University of Newcastle. He has had extensive experience in VET teacher education at both the school and post school levels His PhD (Leadership in VET) has currently been submitted for examination. His research interests are VET in Schools, Lifelong Learning and VET leadership.

Dr Jeanne Boote has worked in the vocational education and training sector for over 15 years. She is currently a Teacher-Consultant for Students with Physical Disabilities in TAFE-NSW. Jeanne completed her PhD in 2000 at Macquarie University, with her thesis titled "Learning During Vocational Retraining: an interpretive case study of injured workers in the Hunter Valley". She has many publications on the topics of learning to learn, personal responsibility for learning, and flexible learning for students with disabilities.