

Working and Learning in Vocational Education and Training in the Knowledge Era

*Final Report
of the Professional Development for the Future Project*

February 2004

Final Report: Working and Learning in Vocational Education and Training in the Knowledge Era, Professional Development for the Future Project

By John Henry, with contributions from Kate Andrews and the Professional Development Network research team members.

© 2004 Australian National Training Authority

This work has been produced with the assistance of funding provided by the Commonwealth Government through the Australian National Training Authority. Copyright for this document vests in ANTA. ANTA will allow free use of the material so long as ANTA's interest is acknowledged and the use is not for profit.

ISBN 1 920906 54 1 web edition

Part of the Australian Flexible Learning Framework

Managed by the Professional Development Program area of the Flexible Learning Advisory Group on behalf of the Commonwealth, all States and Territories in conjunction with ANTA



CONTENTS

Acknowledgements.....	i
Abstract	2
1. Introduction.....	5
2. Project Methodology	7
3. Insights for the Professional Development of Knowledge Workers.....	10
3.1 Literature survey and knowledge worker interviews	10
3.2 Contemporary theories and thinking: implications of the thought pieces	17
3.3 Focus Groups : Responses from professionals in the VET industry.....	25
4. Working and Learning in VET in the Knowledge Era: Enabling effective professional development.....	31
5. Conclusion: What does this research mean for the VET sector of Australia?	44
References.....	46
Contributors to the Project	47

Attachments

- A [A review of selected knowledge focussed literature](#)
- B [Discussion Paper 1: Capabilities for the knowledge era](#)
- C [Discussion Paper 2: Contemporary models for professional development in the knowledge era](#)

Contemporary theories and thinking: thought pieces

- D [New approaches to professional development](#) by Robert Poell
- E [Organising for effective knowledge work](#) by Karl-Erik Sveiby
- F [The knowing of knowledge](#) by Robert Woog

Acknowledgements

Project Manager:

Robby Weatherley, Professional Development Network, NSW Department of Education and Training, and Australian Flexible Learning Framework Professional Development Program Leader.

Principal researchers:

Dr. Kate Andrews, BDO Kendalls, Brisbane
Associate Professor John Henry, Deakin University, Geelong.

Research team, in addition to the principal researchers:

Dr. Leanne Whicker, BDO Kendalls
Dr. Peter Smith Deakin University
Robby Weatherley, Professional Development Program Leader of the Australian Flexible Learning Framework
Maret Staron, Professional Development Network, NSW Department of Education and Training
Janet Burstall, Professional Development Network, NSW Department of Education and Training
Gaele Adamson, Professional Development Network, NSW Department of Education and Training.

Members of the Australian Flexible Learning Framework Professional Development Program Management Group (PDPMG) provided advice and critical reading of documents produced throughout the Project:

Graeme Dobbs, Professional Development Management Group Chair, NSW Flexible Learning Advisory Group representative, NSW Department of Education and Training

Ian Gribble, Senior Project Manager, Office of Employment Training and Tertiary Education, Department of Education and Training, VIC

Jane Robinson, National President, Australian Institute of Training and Development, VIC

Marie Jasinski, Principal Lecturer, Douglas Mawson Institute of TAFE, SA

Mary McLean, Coordinator – National Liaison, Flexible Learning Advisory Group Secretariat, Office of Training and Tertiary Education, Department of Education and Training, VIC

Murray Judd, Director, Training Reform Section, Vocational Education and Training Group, Commonwealth Department of Education, Science and Training, ACT

Paula Johnston, Acting Principal Project Officer, Australian National Training Authority, QLD

Peter Le Cornu, Dean of Faculty, Business and Information Technology, Canberra Institute of Technology, ACT

Maret Staron, Leader, Professional Development Network, NSW Department of Education and Training

Susan Young, National Project Director, Reframing the Future, Regency TAFE, SA

Abstract

This Report summarises the outcomes of the phases of the Professional Development for the Future Project and presents the implications of this research for professional development of staff in Vocational Education and Training (VET), as they become knowledge workers.

These shifts are occurring within the **knowledge era**. Distinguishing features of this era are summarised into four broad areas:

- ? the importance and value placed on knowledge in organisations
- ? the time span of discretion
- ? the complexity of relationships, and
- ? the ubiquitous nature of information and communication technology.

It is within this context that work is currently performed, and understanding this context provides the foundation for considering new capabilities required in the knowledge era.

Key capabilities required of knowledge workers to work effectively in the knowledge era were drawn together from an analysis of the theoretical literature and the results of interviews with knowledge workers. The core capabilities identified include:

- ? adaptive problem solving – becoming designers as well as problem-solvers
- ? rapid knowledge gathering and sharing with others
- ? discriminating between relevant and irrelevant information, and
- ? understanding and working effectively with the organisation's culture.

Knowledge era characteristics and knowledge worker capabilities have been mapped to each other illustrating conceptual linkages between these two areas.

Professional development themes drawn from interviews with knowledge workers are presented. While global trends in knowledge work have been well documented, the impact of these trends on the capabilities of workers, and the ways in which knowledge workers develop these capabilities is less well understood. Their learning methods challenge our current thinking in relation to the ways in which workers acquire skills and knowledge. Some of the professional development methods include seeking exposure to new ideas from a wide variety of sources, embracing intense learning opportunities, and using relationships to increase knowledge.

'Thought pieces' (see p17 ff) commissioned for this Project, as well as subsequent interviews with the authors, provided further insights into the

professional development of knowledge workers. The implications of these insights are an extension of earlier themes and emphasise:

- ? the emergent nature of knowledge work
- ? the importance of relationships that facilitate knowledge sharing
- ? coherent conversations and dialogue
- ? collaborative work and generosity.

A key insight is the shift from thinking about knowledge work in terms of *borrowed* knowledge to an emphasis on *generated* knowledge within a context.

Data from focus groups of the Project provide further insights for knowledge worker professional development. These augment the perspectives of the earlier data analysis but also add greater emphasis to:

- ? the clear and direct relationship between professional development and work and career aspirations of knowledge workers,
- ? the relationship of professional development to the organisational mission, and
- ? the issues of managing and leading knowledge workers and their development.

As part of this analysis the defining features of organisational life in VET were reviewed in relation to effective professional development of knowledge workers.

The final section of the Report revisits the **core dimensions** of the Project. Concise commentaries on working and learning in the knowledge era, professional development in the knowledge era, and leadership and management in the knowledge era are presented.

The Report concludes with a discussion of the **enablers** of professional development for knowledge workers in VET. This discussion is introduced by a re-statement of the VET sector's positioning in the knowledge era and the consequences of this for VET managers and staff in terms of complexity, uncertainty and diminished prospects for accurate predictiveness. The enablers comprised:

- ? integration of information technology into socio -technical systems
- ? greater understanding of the organisation from within
- ? connecting staff to the organisation's fundamental identity
- ? connecting to the work and career trajectories of workers
- ? establishing work structures which integrate the use of professional development resources with knowledge work
- ? providing workers with the autonomy to design their own professional development activities

- ? building professional development into the iterative nature of knowledge work, and
- ? creating organisational contexts that value intuitive thinking and working.

Professional development needs to be thought of in a much broader context in the knowledge era. What each VET staff member knows and shares will become increasingly central to their work, and in that sense all VET workers require capabilities for knowledge work. This report accurately describes the VET context, the capabilities required, and the organisational enablers that will promote 'knowing' and thus embed a new style of professional development within VET.

1 Introduction

The *Professional Development for the Future Project* was a project undertaken within the Australian Flexible Learning Framework Professional Development Program. The Professional Development Program Management Group oversaw the project over the period August 2003 to January 2004.

The focus of the project was to research and investigate professional development for the future, taking into account the way people maintain and upgrade their professional skills within a knowledge economy. In pursuing this focus, individual and team processes of knowledge workers were investigated along with ways in which these processes can be informed by contemporary theories on learning networks, chaos and complexity, knowledge management and systems thinking. It was originally intended that models and processes would be developed, but the course of the research led to the concept of enablers for input into the planning and future national policy directions for professional development for the vocational education and training (VET) sector.

The scope of this research is the professional development needs of all staff in VET in the context of the knowledge era. The knowledge era requires *all* VET workers to have capabilities for knowledge work, not just a specialised group of designated knowledge professionals.

As stated in the Australian Flexible Learning Framework publication, *Your future, your choice: Flexible learning futures* (2003), VET is about helping people get a job or get ahead, helping Australian businesses become more competitive, and helping communities become more successful. To achieve these outcomes VET needs to find and invent better ways to provide high quality training and learning opportunities for people in the workforce or those who are keen to join it (ANTA, 2003 p2). The challenge for ANTA and the providers of vocational education and training is to expand staff engagement in the innovative processes required to create improved training and learning experiences for VET customers – trainees, employees, businesses and communities. This challenge must be met through new approaches to professional development of VET staff building on the insights gained from the national professional development programs implemented by ANTA from the late 1990s through to the present.

These new approaches to professional development also need to align the VET sector more closely with the growing demands of the global knowledge economy of which Australia is rapidly becoming a member¹. The VET sector must consider new approaches to teaching and learning that prepare people for work in knowledge organisations and for the demands to upgrade their skills and knowledge continuously throughout their working lives. Development of these

¹ Attachment A. *A review of selected knowledge-focused literature*, pp9-13.

new approaches to teaching and learning within the VET sector requires VET staff to be knowledge workers².

A report on the review of product research and development within TAFE NSW (2002) identified the VET sector as a knowledge -based industry within which large amounts of knowledge reside with individuals, teams and organisations. *Trends in innovation in teaching and learning in VET*, a report by Mitchell et al (2002) noted that the drivers for innovation in teaching and learning in VET include the following – rising complexity and uncertainty, changing structures of work, and the growing economic and commercial value of knowledge.

The implications are that improved capability of VET staff, in terms of being able to provide high quality training and learning for current and future employees within Australia's knowledge organisations, will be achieved by these same staff becoming adept at turning data and information relevant to their professional practice as trainers into meaningful knowledge that can be made productive by themselves and their colleagues. This implies that the process of knowledge meaning-making will require VET staff to share insights and practice-related applications based on new knowledge through mutual interaction and collaboration.

The aptitudes necessary for participation in these relationships are qualities of knowledge workers. A discussion paper developed for this project described the capabilities of knowledge workers to include a participative mode of involvement that draws on the knowledge sets of others, and the ability to interact with others in order to share knowledge in ways that are readily understood by others. Knowledge workers require job specific abilities as well as generic or higher - order skills. These latter skills include the ability to understand and interact with others, as well as the ability to be effective within the culture of the organisation. A key capacity is the speed with which knowledge and skills are acquired and deployed³.

A VET workforce comprising knowledge workers would be capable of the continuous individual and organisational improvement necessary for Australia to remain competitive in a global knowledge economy. The outcomes of this project will assist VET providers plan and implement continuous improvement strategies, including professional development strategies, that will improve VET staff capabilities as knowledge workers.

² Attachment A: *Review of Selected Knowledge-Focused Literature*, pp19-20.

³ Attachment B *Discussion Paper 1: Capabilities for the knowledge era* , pp6-8.

2 Project Methodology

The project had six research phases.

- Phase 1: Research – Defining the Knowledge Era
- Phase 2: Discussion Paper 1: Capabilities for the Knowledge Era
- Phase 3: Contemporary theories and thinking: Implications of thought pieces
- Phase 4: Discussion Paper 2: Contemporary Models for professional development in the Knowledge Era
- Phase 5: Focus Groups: Responses from professionals in the VET industry
- Phase 6: Final Report: Working and Learning in VET in the Knowledge Era

Phase 1: Research - Defining the Knowledge Era

The background research consisted of a literature review, and of interviews with knowledge workers.

Literature Review

The literature review focused on the key concepts relevant to the knowledge economy, knowledge work and knowledge organisations. The review took a 'high level' perspective on national and international trends in the knowledge economy. The review concluded with questions and future directions for the next phase of the project – interviews with knowledge workers. The outcome of this first phase of the project is *A review of selected knowledge-focused literature*. (Attachment A)

Interviews with Knowledge Workers

Seven knowledge workers were interviewed from the perspective of knowledge work developed from the literature review. Profiles of these knowledge workers are included on page 47 of this report.

Phase 2: Discussion Paper 1: Capabilities for the Knowledge Era

Discussion Paper 1 includes:

- ? a summary of key themes emerging from the review of selected literature which identify distinguishing features of the knowledge era
- ? the influence of defining features of the knowledge era on capability requirements;

- ? the identification of worker capabilities for the knowledge era based on a thematic summary of interviews with knowledge workers
- ? a description of the professional development methods currently used by knowledge workers in the interview sample, which provided an opportunity to consider the ways in which knowledge workers currently develop required capabilities, as well as insight into practices that will be increasingly important in the future; and
- ? key questions arising from this analysis and directions for subsequent project phases (specifically, 'thought pieces' by experts).

Phase 3: *Contemporary theories and thinking: Implications of thought pieces*

The project involved four external theorists in the knowledge work/knowledge management field at this phase. These theorists were Ranulph Glanville, Robert Poell, Karl-Erik Sveiby and Robert Woog. Profiles of these theorists are included on page 48 of this report.

Poell, Sveiby and Woog were each invited to write a thought piece (Attachments D, E, F) describing groundbreaking approaches to professional development in the knowledge era. The authors were asked to read the *Review of Selected Knowledge Focused Literature*, and *Discussion Paper 1: Capabilities for the Knowledge Era* and then consider the issues raised from the perspective of their discipline and area of expertise. Glanville participated in the project by responding to the three thought pieces and the project's literature review and discussion paper through an interview with the project team. After receiving the papers from the three theorists, follow-up interviews were undertaken by the project team members.

Phase 4: *Discussion Paper 2: Contemporary Models for Professional Development in the Knowledge Era*

In Discussion Paper 2, the preceding research work was drawn together with a focus on possibilities for approaches to the professional development of knowledge workers in the VET sector. From the introduction of these approaches, a number of models for professional development were proposed. This discussion paper moved from a conceptualisation of knowledge workers relevant to the VET sector of Australia to the proposing of approaches for professional development informed by this conceptualisation. Consequently the tenor of the paper became propositional, speculative and tentative. The paper was written to invite comment, advice, practical suggestions and feedback for further development of proposed approaches to professional development of knowledge workers in VET.

The paper begins with the conceptualisation of knowledge workers within VET, draws together the implications for the management of organisations before

considering the dynamics of becoming a knowledge worker. The paper then explores a number of approaches to professional development as possible components of future models of professional development for knowledge workers. These are then grouped into programmatic sequences to suggest models of professional development. The paper concludes with a discussion of the relationship between the development of knowledge workers and enhanced organisational performance.

Phase 5: *Focus Groups: Responses from professionals in the VET industry*

The purpose of this phase of the Project was to respond to the components of possible professional development models introduced in Discussion Paper 2. Three focus groups were conducted. The first was with the Australian Flexible Learning Framework Professional Development Program Management Group. This was then followed by two focus groups, one in Sydney, the other in Melbourne, comprising VET managers and professional association representatives involved in professional development coordination and program development. Participants and their organisational affiliations are included on page 49 of this report.

The key theme of these focus group discussions was that of integrating working/learning/knowing through the creation of a knowledge sharing culture within organisations. Given this theme, participants were asked to consider:

- ? what form(s) will professional development take to promote this outcome?
- ? what will the practice of professional development look like and how will it differ from the current orthodoxy?
- ? what will be the roles of managers in fostering these new forms of professional development?
- ? what are the differing professional development needs of developing knowledge workers in VET and of their managers?

Phase 6: *Final Report: Working and Learning in VET in the Knowledge Era*

The final phase of the project drew together the outcomes of the earlier phases. This involved particularly the outcomes from the focus groups in to a reworking of the professional development approaches for VET sector knowledge workers included in Discussion Paper 2, moving away from the concept of models to the concept of enablers of professional development. As well as this reworking of Discussion Paper 2, the final report contains summaries of the key insights to professional development from the earlier project papers.

3 Insights for the Professional Development of Knowledge Workers

3.1 Literature survey and knowledge worker interviews

Distinguishing Features of the Knowledge Era

The distinguishing features of the knowledge era may be summarised in terms of four key points:

- 1 *Knowledge is recognised as important to organisations and it is acknowledged as critical to organisational success :*
From the perspective of employees, there is a systemic relationship between knowledge and employability. Individuals with higher skills and greater capability, are in greater demand for the value that they can add to the organisation. A greater level of conceptual thinking is required to understand how work is related to the bigger picture and priorities of the organisation. With increased task complexity, the implication for core skills is that employees will be required to do more with fewer resources , and to use these limited resources in new ways.
- 2 *Time span of discretion:*
Speed has become the key to competitiveness, but paradoxically, people need to plan over a longer time span. The implication for capabilities is that there is a stronger need for greater efficiency and analytic thinking, particularly planning skills, and greater conceptual thinking (from a long - term perspective) for managers.
- 3 *Relationships amongst employees are more complex :*
New types of business-to-business relationships require everyone to develop skills that emphasise interdependence, communication, and the ability to build and maintain strong work relationships. Virtualisation has changed the ways that humans interact, and the need for physical contact has been reduced or in some cases eliminated. Organisations seek to forge closer relationships with external stakeholders in the value chain (eg customers and suppliers), and these relationships are more personalised.
- 4 *Information and communication technology is embedded in most human interactions and business transactions :*
People are more 'technologically savvy' than at any time in history.

Capabilities for the Knowledge Era

From the literature reviewed for this project, the characteristics of knowledge workers include, but are not limited to the possession of:

- ? high pattern recognition skills in order to apply existing skills and knowledge to new problems;
- ? flexibility and tolerance for ambiguity
- ? ability to learn and a strong sense of the importance of lifelong learning
- ? strong problem-solving and sense-making skills
- ? research and analytical skills
- ? ability to manage information overload
- ? ability to be productive and creative
- ? ability to rapidly acquire new skills

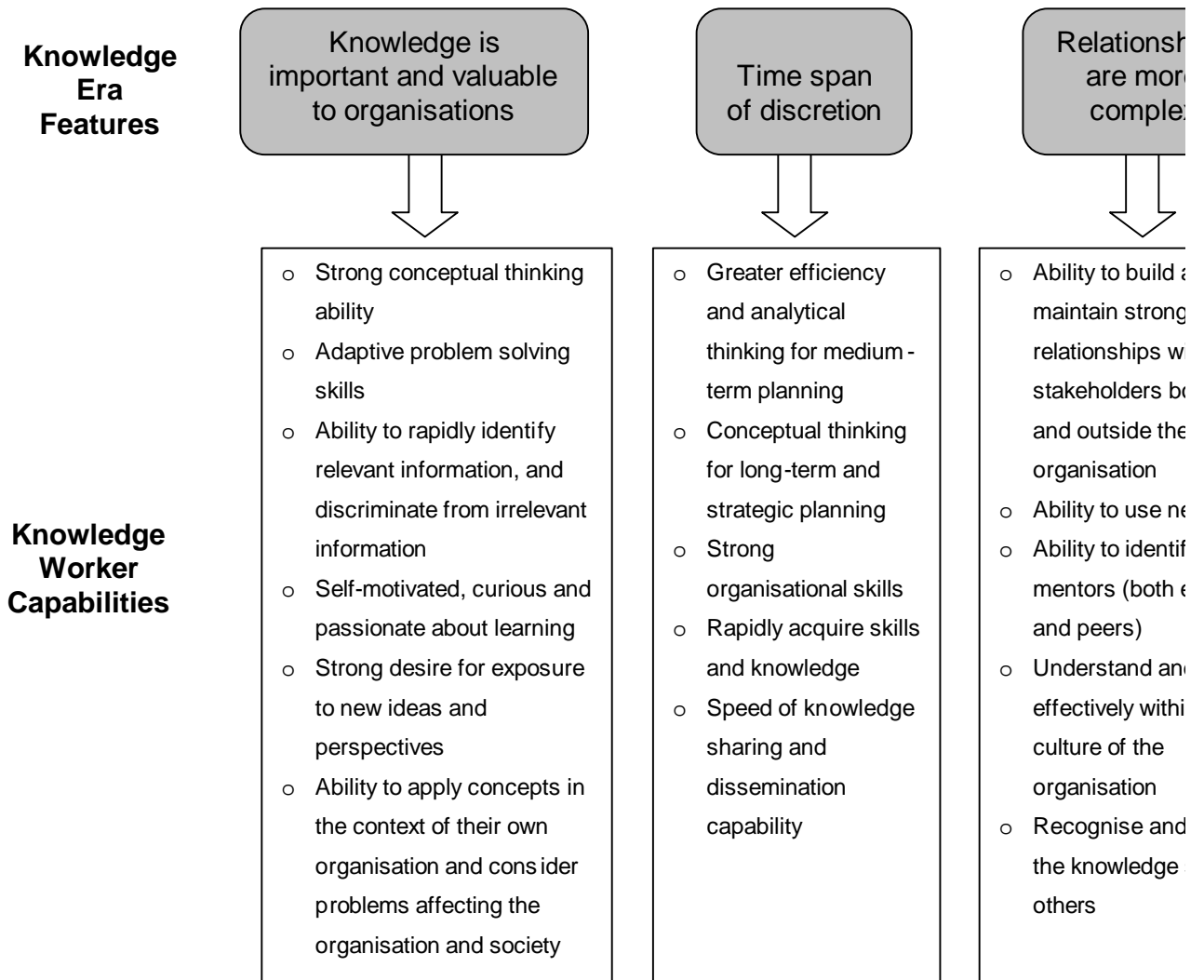
Knowledge workers may also possess technical skills and expertise, or may be educated within a particular discipline. However, discipline-related knowledge and skills become relatively less important than 'generic' skills and knowledge in the long term. Conventional professional know-how no longer suffices for knowledge workers; they must be creative, independent, resourceful, innovative, enterprising, co-operative and versatile persons who learn new things throughout their lives.

From the interviews with knowledge workers, the project identified the following capabilities of knowledge workers:

- ? think deeply about their organisation and its problems, within the broad context of its relationship with the outside world and society
- ? have strong conceptual thinking capabilities
- ? are self-motivated, curious and passionate about learning
- ? scavenge for development opportunities, taking advantage of serendipity and their interaction with others
- ? seek out exposure to non-confirming ideas and perspectives and opportunities to refresh their own thinking
- ? are interested in applying concepts to their own context
- ? value formal education opportunities, but see them as less important than their intrinsic desire to learn and develop
- ? test and refine their capabilities - seek catalysts for their own development - opportunities that force them to consolidate their thinking and move forward
- ? value relationship and collaboration skills
- ? recognise that passion drives learning
- ? are comfortable with ambiguity *and* clarity and recognise when each is appropriate

Figure 1 overleaf maps knowledge worker characteristics to the distinguishing features of the knowledge era. This analysis illustrates the conceptual fit between the two areas of focus.

Figure 1: Knowledge Era Features and Knowledge Worker Capabilities



The next section of the Report builds on Figure 1 by discussing themes from the Knowledge Worker Interview phase of the project.

Knowledge Worker Interviews: Key Professional Development Themes

1 Self-motivated learning

A fundamental theme noted by all knowledge workers interviewed was that their learning is self-motivated. Knowledge workers have an intrinsic motivation to learn and develop and this drives them to respond to challenging opportunities, to seek out new ideas and perspectives, and to be 'involved' in activities and events related to their knowledge area.

2 Exposure to new ideas

Knowledge workers interviewed actively sought out opportunities that brought them into contact with new ideas. Exposure to new ideas occurred through multiple methods including reading, interacting with academics and experts in the field, as well as interactions with peers and fellow practitioners. Importantly, the idea of spanning organisational and conceptual boundaries was identified; that is, gaining exposure to new ideas from both inside and outside one's own work group and organisation was as important as gaining new ideas and perspectives from both inside and outside one's primary knowledge area or discipline. In addition, interviewees noted the value of exposure occurring in an intense way, by 'immersion' in the knowledge area. Immersion, as a professional development strategy, was seen as promoting transformative learning that progressed knowing to a much higher level.

3 Learning by doing

The notion that learning and development is an active process, and the emphasis on 'learning by doing' was another theme. Action learning models are not particularly new. However, the recognition by knowledge workers that this is critical to their effectiveness, and is embedded in the idea of 'lifelong learning' is significant. Related to this is the concept that formal education is a necessary, but not sufficient, condition for ongoing learning and development. Formal education may provide a set of mental models and perspectives, but does not replace first-hand experience with the particular discipline or knowledge area.

4 Networking

Relationships with others are critical to successful professional development. The ability to develop relationships has been identified as a critical capability in the knowledge era as it is through these relationships that ongoing learning and development is facilitated. Professional development was seen as including the ability to interact with colleagues and others for exposure to new ideas, and also using networks inside and outside the organisation to speed up access to and dissemination of knowledge.

5 Challenge

Challenge as a theme refers to the importance of seeking out and embracing opportunities that may be 'disruptive' or uncomfortable. This theme seems to reflect the idea that 'high risk' experiences result in 'high return' learning.

6. Consolidation of learning

Knowledge workers identified the importance of having opportunities to consolidate their new learning. Three methods used to consolidate learning were identified. Firstly, time to absorb the information and integrate it into existing mental models during a period of 'immersion' was seen as important. This process may take several weeks or months. Secondly, the importance of having time for regular reflection, both in terms of what is happening at work and what the knowledge worker is working on, but also time to reflect on one's personal development and interpersonal processes. The third approach was using formal education to introduce new ideas and perspectives relevant to one's sphere of professional practice in ways that allow for enrichment and expansion of existing mental models and perspectives and consolidation of tacit knowledge.

Knowledge Worker Interviews: Implications for Professional Development for the Future

The notion of professional development of knowledge workers as a self - motivated process raises issues for the design and delivery of professional development programs for VET staff. There are also issues for the management of knowledge workers and their development within organisations. If authentic participation in professional development opportunities is ultimately a self - motivating process, what then are the respective responsibilities of the employers, industry sectors, government and society, and education and training institutions to provide professional development opportunities and resources? What are the responsibilities of individual employees to participate fully in the professional development opportunities made available to them within their workplaces? What are their responsibilities to seek out their own professional development opportunities? What organisational cultures will best support new methods of professional development?

The capacity for self-motivated learning, as a fundamental characteristic of knowledge workers, emerges from the research as a threshold capability beyond which the other capabilities of knowledge workers can be developed. It is difficult to conceive of knowledge workers who are not, in the first instance, self - motivated learners in the area of their own professional practice. This insight raises issues relevant to the development of people as knowledge workers within an organisation. To what extent is self - motivation to learn a quality that employers should seek in potential employees? To what extent is it a quality that workers can develop?

Exposure to new ideas and consolidation of learning involves both formal and informal approaches to professional development. There are implications here for the design and implementation of professional development programs for knowledge workers. How can formal education and informal approaches to professional development be incorporated into professional development models of the future? In what modes should formal education be delivered? When is an ideal time for exposure to formal education? A further consideration is the impact of these approaches to professional development on career development and career mobility over the course of a knowledge worker's lifespan.

These and similar questions were developed as *questions of interest* to which four external theorists in the knowledge worker/knowledge management field were asked to respond. The analysis of their responses is included in the following section.

3.2 Contemporary theories and thinking: implications of the thought pieces

This section analyses the theoretical perspectives provided by Robert Poell, Karl - Erik Sveiby, Robert Woog and Ranulph Glanville in Phase 3 of the project. Profiles of these theorists are on page 48. The thought pieces are Attachments D, E and F. Ranulph Glanville's contribution was verbal.

Robert Poell's perspective

It is important to consider developing professional development models that, while clearly applicable to the needs of knowledge workers, have more general application.

Taking the first idea in his theoretical paper ⁴, *Improving the knowledge worker's learning repertoire*, Poell elaborated as follows:

Workers in an organisation experience different types of learning as well as the tensions between these experiences. In order to gain a better understanding of these experiences workers -as-learners need a way of describing, discussing, analysing and interpreting these learning experiences. What is required for this is a *learning language*. A learning language for workers is developed by them (with support from human resource staff) as they engage in learning activities, reflect on the learning experiences afforded to them by the activities and then develop a shared language with colleagues that moves beyond what is their normal talk/conversations/ways of recounting learning events. This is not an abstracted, theoretical language removed from practice. The language enables workers to provide good practical descriptions of their learning experiences – a practical language of learning in which it is possible for learners to conceptualise in practical terms learning activities and the learning outcomes for themselves. This is important for the professional development of these workers as the learning language, so constructed, can then lead workers -as-learners into designing new learning activities as the next steps in their own professional development program. The language facilitates the development of *structured learning action* as learners recognise the elements of prior learning opportunities and activities that were conducive to their own learning and then build these into new learning activities.

The learning language of workers is essentially a language for designing learning activities at a level of detail required for implementation within the workplace.

⁴ Attachment D: Poell's paper, p7

The second idea from Poell's paper⁵, *Improving the knowledge worker's learning environment* then followed:

The focus must be on the development of an effective whole-of-organisation learning environment inclusive of most types of learning taking place across the organisation. Communities of practice, as groups of workers -as-learners, have the potential for diagnosing the learning needs of workers within an organisation. People can discuss the range of learning types available to them, the utility of these, suggest alternatives and then move into the design of more appropriate learning environments. Here it is important to balance the social side of learning activities with the technological dimension. It is necessary to couple these two dimensions in ways that promote worker engagement in the learning activities of the new learning environment of the organisation.

When organisations relied too heavily on 'detached knowledge' as a way of developing their employees the emphasis has shifted from knowledge management to information management. This occurs when knowledge as information is extracted from knowledge workers (and others) and stored in knowledge systems for retrieval by others to be taken up, used and then added to. Technology is relevant to contemporary learning environments but the decisions about what technology to use are second level decisions. The primary discussions need to be about what types of learning environments an organisation wants to establish and then a consideration of the technology most useful for these environments would follow.

Organisations require a structured approach to the development of learning environments that build from what currently exists. Communities of practice can provide a framework for this process if these groups of workers are given a diagnostic role and are encouraged and resourced to build on existing learning networks and the learning experiences. From this process, groups of workers can develop ways of describing the various ways learning is occurring in the organisation within different learning groups and how this can be improved. These descriptions allow for the spread of knowledge about these learning groups across the organisation, building awareness amongst workers of how others are engaging in their learning. This then assists people to recognise learning groups within their own learning environments and take up the learning opportunities available through these more explicitly. These descriptions of learning-in-action can lead to a *learning policy* for the organisation.

Both ideas (improving both the knowledge worker's learning repertoire and learning environment) have the intent of putting learning explicitly on the agendas of organisations and their individual workers.

⁵ Attachment D Poell's paper, pp7-8

Karl-Erik Sveiby's perspective

It is fundamental that the focus for knowledge worker professional development be broadened to include the organisation, and more specifically, to include those who manage knowledge workers. The management of knowledge and knowledge workers is a crucial business skill that managers need to acquire. The good news is that this skill is essentially generic.

A pivotal topic in the design of professional development programs for knowledge workers is the management of knowledge work. As knowledge workers themselves will probably be managers at some time in their careers, this topic is relevant to them also. Sveiby's observation is that generally organisations and individuals are very ill equipped for this management role.

The management of knowledge work is a broad topic that comprises many areas of focus. One area of focus is the development of knowledge strategy perspective. How do organisations manage not just the knowledge worker but also the knowledge worker's knowledge? Associated with this focus is the issue of putting a commercial value on a knowledge worker's knowledge for the organisation. How do we market and put a price on this knowledge? Further to this area of interest is the issue of how managers and knowledge workers account for knowledge as an asset of the organisation. Management theory on valuing intangibles would be relevant to considerations of this issue.

Another area that is poorly understood is the contribution that human resources should make in knowledge organisations. Of particular interest here is managing the professional's lifecycle. Every knowledge worker will recognise this issue and yet it is not understood or applied by human resources. The key human resources question should be: How can we bring the professional 15 year peak earlier by a few years?⁶

Finally, to develop knowledge workers we should also consider the physical space in which knowledge work occurs. Traditional offices are the monuments of another era. They are built to emphasise symbols of powers for managers. To facilitate knowledge creation and knowledge flows we will have to try to knock down walls – literally. We need to rid ourselves of the legacy buildings from the industrial era. We desperately need some improvement here. This need not be a high cost item. It is also a topic for research as well as education around how to best set up the physical space to promote knowledge flows.

⁶ Attachment E: Sveiby's paper, p8

Robert Woog's perspective

The domain of knowledge workers is a new way of knowing. With the advent of the knowledge economy organisations are seeing a transition from conceptualising knowledge as 'something being constructed' to knowledge as 'what emerges from the interaction of knowledge systems'. It is the interaction of knowledge systems that constitutes the knowledge economy.

The most important change to take place, as an outcome of professional development, is a change in the way of knowing amongst workers.

The big change is that outcomes in the workplace are emergent – you don't know what you are going to get. Results depend on the three 'i's': insight, intuition and improvisation. Insight can be built on and developed by teaching philosophic and metaphoric knowing; for example, by using outlandish propositions. Intuition is contextual and involves personal interpretation. The response that knowledge workers make to interpretation is really improvised action and this can be an expression of originality supported by contextual understanding.

Professional development activities need to support the ability to think and work in this way. For example, we need to be taught to accommodate variety. Variety in theory and circumstances improves both the production and outcome of interactive knowledge systems. Variety begets variety. It is important that managers and workers understand variety and accommodate and support it.

Knowledge workers have to be able to use variety to produce a valued outcome for their organisation. The skill in doing this is pattern analysis involving attractor interpretation and analysis. When this is done in interaction with knowledge systems knowledge workers rely on communicative understanding. If people can't communicate and get others to understand the identified patterns then projects are unlikely to progress.

The overarching skill in the whole process is relationships. This is critical in the whole area around complexity as the effectiveness of self -connecting activity systems is relationship-dependent. Relationships are the critical factor independent of whether professional development is approached from the standpoint of those teaching or of those learning.

In summary:

- ? Learning emerges from exposure to a large and pluralistic range of activities and opportunities (the variety factor). Both the strategies of learning and the learning outcomes are emergent. The key point for professional development designers is less traditional control of the learning experience and more design of a richer learning environment.
- ? Social processes are critical. However learning communities often have stricter boundaries than people would admit to. Knowledge workers will

benefit from exposure to incredibly broad approaches, plurality of theories and processes to stimulate and demand sense-making and communicative engagement.

- ? With the new way of knowing, in which knowledge is conceptualised as that which emerges from the interaction of knowledge systems, those developing as knowledge workers have to accept that results will emerge from the rich interaction involving a plurality of rich stimuli and processes followed by periods of communicative understanding amongst co-workers.

The challenge for professional development is to allow meaningful interaction of knowledge systems. Meaningful interaction involves the generation of potentially useful emergent outcomes together with the development of capabilities to identify outcomes thought worthy of actioning and then applying those so selected.

Woog distinguishes between two forms of knowledge – *borrowed* knowledge and *generated* knowledge⁷. *Borrowed* knowledge is characteristically held in libraries (or equivalent), in books or other media, via formulas calculations, texts and other recordings and is commonly brought into organisations by consultants, or via staff (agents) returning from conferences or from educational institutions.

Generated knowledge is only formed or created by the individual or work group and does not exist outside the boundary of the organisation. It is contextual and directly contributes to an organisation's ongoing evolution. Generated knowledge is 'constructed' either from directly modifying or adapting existing borrowed knowledge or from indirect novel insight or conceptualisation leading to innovation.

Woog's perspective on knowledge work leads to four propositions⁸ for knowledge worker professional development:

- 1 How we know and what we know are related
- 2 Intuitive knowing and improvisation are legitimate
 - ? Intuitive knowing becomes the process by which knowledge workers determine which events should attract priority for attention and action. Intuitive knowing is also the level of analysis, which proves useful when dealing with imprecision and change without end.
 - ? Improvisation is the type of intervention that would be expected to flow from intuitive knowing. Improvisation is action evoked through

⁷ Attachment F: Woog's paper, p7

⁸ Attachment F: Woog's paper, pp14-15

the bringing together of our way of knowing at a particular moment in time and in a particular context.

- ? Intuitive knowing and improvisation should be developed into paradigms of knowing and doing for and by knowledge workers.

3 Key skills are required

- ? Communicative connectedness⁹: people take on tasks, often doing what they do not normally do, they share tasks and learn from and coach other. The communication is not the traditional managed flow of information from source to receiver, but a form of synergistic emergent interaction between objects (issues or variables), observations (concepts and ideas) and observers (participants).
- ? Accommodation of a variety of ideas: in complex systems, diversity of agents (people and ideas) serves to enhance the adaptability and creativity of the system and is likely to contribute to improved function, competitive ability or fitness/viability. To operate in this way there is a need for knowledge workers to accept and accommodate a variety of, and at times, contradictory ideas.
- ? Attractor identification: the ability to observe and identify attractors¹⁰ in the functioning of complex systems, provides explanatory and predictive powers for an observer.

4 Relationships matter

- ? When interaction among knowledge workers is enhanced creativity, adaptability and capability are also enhanced. In social systems these interactions may be thought of as relationships. Relationships are generally built through and enhanced by coherent conversations¹¹. Relationship building and maintenance through coherent and communicative conversation is a requisite skill for knowledge workers.

Woog's final word is that organisations need to acknowledge and bring higher respect to insightful knowing amongst their workers.

Implications of Glanville's perspective for the professional development of knowledge workers

There is only 'knowing'. The challenge is that of establishing the presence of the knower in the knowledge. It is important to move away from the notion of packaged knowledge to a focus on the activity of knowing.

⁹ Attachment F: Woog's paper, p6

¹⁰ Attachment F: Woog's paper, pp9-10

¹¹ Attachment F: Woog's paper, p12

The critical point is that of developing understanding. Conversation is a way of establishing shared meanings, although this is always incomplete. Conversations allow for successive approximations of shared understanding between learners. Conversations also develop the important social side of learning. It is necessary to think about conversations involving three levels – the actual, the meta-level and the subsumed. At the first level we talk about what we are working on; at the meta-level we seek clarity of shared understanding about what we are doing correcting misunderstandings; and at the third level identify what we have taken for granted, our assumptions. These can then be criticised.

Knowledge workers have an initial willingness to share premised on an ethical situation of generosity and trust. Individuals need to possess a passion about their own knowledge, an ability to translate this into meaningful dialogue and curiosity. There are ethical requirements for sharing one's knowing with others. There are certain behaviours to be encouraged. These include taking responsibility for one's own learning, being generous in the sense of allowing others to say something different and the way in which this is received, establishing trust amongst the group so that generosity is not abused, and honesty.

It is arguable that it is behaviours and contexts that make the knowledge worker; it is not the possession of knowledge, it's the way they conduct themselves, especially in sharing knowledge.

With respect to the relationship between organisational management and knowledge work, management in the strict sense is impossible therefore we have to allow that the system has more variety. This can be positive, world enriching, and lead to creativity.

On the issue of complexity – how complex something is depends on how you look at it. For example, the world is quite a simple concept, but an assembly/array of atoms and particles is complex. For constructivists there are only 'wholes' that we come across and to which we relate. These 'wholes' are of our own making. Constructivism is an important possible way of developing an appreciation of patterns within our complex work environments.

Added to this insight is the possible usefulness of the *designer* metaphor for thinking about knowledge work. Humans think like designers rather than as problem solvers. When you look at the work of designers you find that they work with extreme complexity, conflict and imprecision. They share, do teamwork. Designers are always trying to produce something new. There is no point in making the same thing again. A lot of what designers do in practice is essentially facing 'problems' that are described as being the 'problems' confronting knowledge workers. The work of designers and knowledge workers may be analogous to a group of people going for a picnic in the countryside, where they wander off in search of their picnic spot not knowing what it will be like 'til they get

there. Once the group has had their picnic, they do know what it's like. Is designing and knowledge work similar to this? Is not knowledge work an act of designing as in 'to design'; that is, dealing with complexity, creating something new, acting to 'bring into being'?

Professional development approaches for knowledge workers needs to address the following commonalities of knowledge work:

- ? sharing
- ? multiplicity of description within the working environment
- ? knowing as an active process rather than knowledge as an object
- ? the importance of certain relationships between knowledge workers and ways of behaving
- ? the enormous value of 'ignorance' as in admitting to not knowing and being able to ask for help – everything of value and creative comes out of *not* knowing
- ? problematising the concept of the 'expert'.

Knowledge workers are driven by passion, not by expertise. They, like all, are caught within their own assumptions but moving beyond those of the present by being involved in learning as a social act.

3.3 Focus Groups: Responses from professionals in the VET industry

The input to the project from the three focus groups, in response to Discussion Paper 2¹², is summarised below.

Focus Group: Professional Development Management Group

The key concept is that of working and learning in VET in the knowledge era. There are problems with the concept of knowledge management as it has been taken up by some organisations with an implication that knowledge is static and/or accessible in a ready-made form. In distinction from data repositories or information systems, we should be concerned with knowledge and knowing as human and social.

The project must emphasise the central importance of 'knowing' in VET, of linking work, learning and knowing that balances individual learning with that occurring in groups. Learning occurs in relationships with others through work groups, networks and communities of practice. This insight leads to a consideration of the metaphor *the knowledge ecology of the organisation*. The professional development activities of an organisation need to be integrated with its knowledge ecology.

Organisational commitment to developing staff capabilities for working and learning in the knowledge era is a necessary pre-condition for sustainable professional development of knowledge workers. The intention should be to build knowledge within Registered Training Organisations (RTO), share this knowledge across an organisation and nurture new knowledge workers within an organisation. The significant processes underpinning this building, sharing and nurturing are those of knowledge generation, and processes linked to work through which the knowledge generated is applicable to the context within which it was created. The knowledge ecology of the organisation needs to be one that accommodates contradictions and paradoxes along with a management culture that shares the risk taking involved in these processes.

Appropriate professional development for VET staff and managers for working and learning in the knowledge era is that which focuses on creating groups of knowing workers where the effectiveness of the interactions amongst the group is greater than the contributions of each individual. This is a different concept of professional development, one that is not captured by notions of professional development being about attendance at external, one-off events or about just building up individuals' stocks of static knowledge.

¹² Attachment C: *Discussion Paper 2*

The key principle upon which professional development models for the knowledge era should be informed is that of the integration of working and learning. This leads to a consideration of the human experiential space¹³ within the sphere of working and learning for individuals and groups. Managers and workers alike must become more aware of the characteristics of this space and value those processes that build meaning and knowledge within the context of professional practice (praxis).

Appropriate approaches would include those that:

- ? encourage coherent and metaphoric conversations
- ? build collaborative climates within organisations
- ? engage staff learning with their *customers*, particularly their students
- ? locate expertise as required from within and without the organisation, and
- ? match individual worker aspirations with the goals of the organisation through job sculpturing.

Focus Group: Sydney

Issues raised in considering the professional development approaches outlined in Discussion Paper 2 included:

- ? Casualisation of the VET workforce has led to a culture of short term thinking with respect to professional development and this has implications for designing professional development activities for knowledge workers.
- ? Who is really responsible for professional development of workers in VET, including casual staff, and to what extent are individual employees responsible for their own development?
- ? Professional development activities need to have a high level of immediate applicability.
- ? Short term outcomes of professional development programs need to be blended with longer term goals for both individuals and the organisation.
- ? There is a need to identify, celebrate and champion people doing innovative things leading to the sharing of innovative knowledge to ensure that it goes beyond the 'few to the 'many'.
- ? Professional development models must be applicable across sectors.
- ? Identification of knowledge that is to be shared can be limited to current knowledge – it is essential that knowledge shared is 'quality', fresh, new and innovative.
- ? Professional development models must move beyond simply the identification of knowledge held by a work group to the matter of application of this knowledge.
- ? Knowledge workers in the VET sector includes all staff, not just the VET deliverer – no one can be in a silo.

¹³ Attachment F: Woog's paper, p7-8

- ? Outcomes of professional development should be relevant to the organisational goals (mission critical activities) and, ultimately, be of benefit to both staff and students as clients.
- ? What is the ICT literacy baseline for workers to be able to participate in quality professional development for knowledge workers?

The focus group identified the following as additional components for professional development programs for knowledge workers in VET:

- ? It is important to use ICT as a component, as a literacy, in that technology enables access to and management of information relevant to one's development.
- ? Induction and orientation of new staff into a community of learning: the idea of lifelong learning to be introduced to new staff in whatever form that might take in the organisation. This professional learning could lead to a credential offered by the RTO.
- ? Professional development activities need to be mission critical and project based. All professional development should have performance outcomes measurable against benefits for clients.
- ? Components of professional development programs could include visits across organisations to share knowledge with mutual benefit. These visits could be linked to the notion of practicums to enable a less skilled teacher to be matched with someone more skilled
- ? Mentoring models with an emphasis on low cost, mutual benefit and recognition for early innovators.
- ? Internal professional development activities across each organisation with an emphasis on sharing the experience of the learning with other people in the organisation.

Additional ideas canvassed by the focus group included:

- ? Extreme teams: this is a model of team -based project work in which everything team members do is underpinned by professional development. It is critical to the organisation that the team succeeds in reaching an outcome that addresses its needs even though the resolution may be new and unexpected. There is the combination of a project that is real with action learning, mentoring and training. It is extreme in the sense of risk taking. It puts pressure on people, but they respond well. It is very intense, fast and stressful. People get a thrill and there is an exhilaration about it. It is experimental with an emphasis on fast learning.

A core element of an extreme team is the mixing of skill sets; for example, mixing teachers and designers to get a dynamic sharing of knowledge. The team members are aware of what skills people have and what skills need to be shared. Sometimes people may be matched with people they don't know based on skill sets and what is required for the project. It is

important to balance the outcomes the organisation wants with the personal outcomes people get from participating.

- ? **Relevance:** professional development models need to be linked to action-based outcomes that have relevance. For example, the knowledge teachers seek is for their students. Teachers want to take what they have learnt and, as a team, develop teaching and learning materials and the possibility of building in other knowledge and skills. This is the only way professional development models would work – utilising the what's in it for me approach.

The professional development strategies need to have a common purpose and satisfy individual learning needs at the same time as group needs are met. This could lead to teachers being involved in projects that inform organisational direction. These projects could deliver organisational change as the managers listen to what the teachers are suggesting. There is reciprocity between professional development and strategic organisational change.

- ? **Challenge:** the idea of the knowledge worker as someone with the ability to find information and bring it into the work group relates to the community of practice idea and the empowering of people not to be dependent on experts. Having others out there who challenge is important. Professional development models need to encourage feedback from others, facilitation and the communities of learning.
- ? **Facilitation:** it is critical to have effective facilitators to provide direction.

Focus Group: Melbourne

Issues raised in considering the professional development approaches outlined in Discussion Paper 2 included:

- ? The term knowledge worker does not depict a category of work. It is about making connections with people, building relationships relating to information sharing. But it is also about discussing ideas and spontaneity leading to new activities taking over in the workplace. Boundaries of work become blurred or overlaid with other contexts, and knowledge workers are aware of those contexts, the differences between them and when these may be conflicting. Therefore it is useful to have the phrase, knowledge worker, to describe this change in the VET work environment. It assists in self-recognition of one's own development. Knowledge worker is not an elitist title equivalent to a badge, but can be anyone who works effectively with developing knowledge.
- ? The concept of knowledge worker is an ideal concept in organisational development. All workers can be expected to develop the characteristics

of knowledge workers as necessary for the development of the organisation and then to embody the concept.

- ? This is going beyond professional development as normally understood; it involves looking at the whole organisation and introducing catalysts for change through the way staff work and learn together. But there is a need to flesh out the underlying principles that will enable this new way of working to occur. This is a change of mindset involving a move away from 'where's the professional development program/activity to enrol in?' way of thinking.
- ? The catalyst could be a learning contract that is built into staff performance appraisal processes through which individual career aspirations are matched to an organisational focus. The learning contract needs to be underpinned by explicit organisational values and supported by networks and relationships in the workplace that enable work tasks and projects to be completed while keeping the responsibility for learning on the individual.
- ? It requires that a strong underlying framework be in place linked to processes of change management but there needs to be a balance between structure and freedom – lateral thinking and fluidity yet 'bounded' or focused.
- ? This will require managers adopting a leadership approach characterised by longer term vision and an emphasis on unleashing worker potential. This means managers will not be too tightly focused on what is needed by *this* worker for *this* job while supporting broader skill, knowledge and attitudinal developments amongst staff.
- ? It could build on the positive community of practice experiences of VET staff where, through action, collaboration and reflection, the outcomes have been passion, exploration and expanded ways of knowing.
- ? The work context is important in professional development. People need to have a practical outcome in mind as a reference for deciding which learning components are to be applied. The way people learn is through working so they develop the ability to access a range of information that then leads to behavioural changes.
- ? Knowledge work is not only about searching for information and sharing. It is also about the generation of new knowledge. But 'in the beginning is the job'. The creative stuff comes from what people have to do - what the task is and the ideas needed to get there. Knowledge generation is contextualised - it's not just 'let's share ideas'. There is a function, a job, a reason for doing it. It's not just developing aptitudes, but developing processes to doing things differently aligned to work.
- ? The issue is recognising that this approach to professional development is really about developing models in learning -to-learn that can then be situated, contextualised according to individual and organisational needs.
- ? While professional development projects are seen as special initiatives they stay on the periphery of the real work of the organisation. But when these are mainstreamed they lead towards organisational change.

The focus group identified the following as additional components for professional development programs for knowledge workers in VET:

- ? Mentoring and coaching roles: train staff into these roles and explore the mentoring relationship from other cultural perspectives. The example was given of drawing on the mentoring behaviours of the Wise Men (Nangeet) of the Indigenous culture of Victoria.
- ? Cross organisation collaborations.
- ? Trust building as a core principle throughout professional development but with activities that develop the trust. People need to understand that there is a sharing focus in the activities but then individuals need to be allowed to decide on the level of sharing. Getting people to get to know each other before sharing knowledge is important.
- ? Spheres of influence: individuals and groups identify their spheres of influence in their organisation then move out from this through advocacy. This may involve communities of practice within and without the organisation
- ? Mapping personal learning pathways: this activity develops an awareness of the type of knowers we are. It can be an iterative process.
- ? Lessons learned: this is a reflective process leading to an appreciation of the methods used by individuals for learning new things.
- ? Knowledge valuing: within the organisation individuals and groups need to feel that their ways of knowing and the knowledge they share is valued. This can be achieved through acknowledgement, appreciation and recognition by managers and colleagues of knowledge workers' efforts and contributions. Promotion of contributions made to the knowledge organisation may be an appropriate strategy.

Additional ideas canvassed by the focus group included:

- ? Leadership development must be a focus of professional development for the future. 'Who's directing this?'
- ? It may be better to refer to this conceptualisation of professional development in terms of development cycles for both individual knowledge workers and their employing organisations.
- ? Attention must be given to the development of 'processes' within the organisation that act as enablers for knowledge worker development. These processes relate to the building of trust, supporting risk taking and reflection, and balancing competition with cooperation.

4. Working and Learning in VET in the Knowledge Era: Enabling effective professional development

In this section of the Report the core dimensions of the Project are re-visited from the standpoint of the accumulation of data, analysis and understandings gained by the researchers throughout. Concise commentaries on working and learning in the knowledge era, professional development in the knowledge era and leadership in the knowledge era are presented, followed by a discussion of the enablers of professional development for knowledge workers in VET. This discussion should be read in the context of the VET sector's positioning in the knowledge era which means that VET managers and staff are faced with increased complexity, uncertainty and diminished prospects for accurate predictiveness.

The Essence of Working and Learning in the Knowledge Era

Knowledge work is a new way of knowing rather than a category of work in an organisational sense. Outcomes from knowledge work are emergent and are expressions of originality supported by contextual understandings with local application. Knowledge work involves making connections, building relationships through which knowledge flows leading to spontaneity and new activities in the workplace.

There is only knowing. Knowing can be shared under ethical circumstances constructed out of behaviours such as taking responsibility for one's own learning, being generous with the way one receives what others say, establishing trust within a team and honesty.

These behaviours build relationships necessary for communicative connectedness and coherent conversations, that is to say a strong context for knowing. Combined with the behaviours and contexts established by co-workers, this creates the environment for knowing.

Knowledge workers are akin to designers in that they are dealing with complexity, sharing knowing within teams under conditions of imprecision, ambiguity and potential conflict to bring into being something that did not exist before for each of the team members, their clients and their managers. As with designing, knowledge work is non-linear and non-routine. Knowledge workers engage in work that is driven by iterative, non-linear transformative processes towards work related outcomes unknown at the outset.

This is a different form of work that extends conventional notions of problem-solving to more innovative practices associated with design. Problem-solving can be more narrowly focussed, linear, and with a more defined end-point. This research seeks to free the knowledge worker from the straightjacket of the

sequential certainties often associated with linear models of problem solving: that is, if we complete step A, and then steps B, C & D, we will surely arrive at E. Knowledge work as a form of design-based working and learning is more uncertain than this. It is much more lateral, driven by new learning, insights, open to involving a wider range of expertise and connections. It is more intuitive, opportunistic and networked, and less driven by an allegiance to a pre-planned critical path mindset, and therefore more innovative.

A whole-of-organisation change may be necessary to accommodate knowledge work as design and to support the working and learning communities required for effective work of this type. Management needs to accommodate and promote variety and enrichment within the work and learning environment, including broader based, cross-specialist teams, needed for creativity. Managers need to accept intuitive knowing and improvisation as legitimate processes. Management of knowledge work is a new field that has implications for human resource personnel, as well as for the architecture of the work environment.

Organisational commitment in the VET sector would mean building knowledge generation capacity within RTOs, sharing this knowledge across the organisation and inducting staff into the learning community and the knowledge ecology of the organisation. The knowledge ecology of an organisation determines the character of human experiential space wherein staff work and learn together. Managers must be alert to the characteristics of this space. Where there is undue challenge to the viability of processes that build new knowledge through praxis, managers must act to ameliorate their effects. It is essential to develop organisational processes that can be enablers for both knowledge work and knowledge worker development.

The Essence of Professional Development in the Knowledge Era

The professional development of knowledge workers is multifaceted – drawing on all opportunities for communicative connectedness and understanding.

Knowledge workers:

- ? are self-motivated in their learning seeking out a variety of opportunities for exposure to new ideas
- ? appreciate active learning and
- ? establish relationships through professional and collegial networks that introduce them to new ways of knowing.

Challenge, risk-taking and undertaking working/learning tasks outside of one's comfort zone are characteristics of knowledge workers' approaches to professional development, as are periods of consolidation and reflection.

Knowledge workers embrace the integration of working and learning. This research shows that this integration is a definitional feature of knowledge work. Knowing is intimately connected to working and learning. It is expressed to others (and to the individual knowledge workers themselves) through the practices each

knowledge worker is capable of, together with the emergent outcomes produced. This insight shapes the relationship between professional development as an applied concept and knowledge workers' ongoing working and learning as praxis. Professional development, conceptualised as an additional resource offered by the employing organisation committed to the development of its staff as knowledge workers, should underpin and support the ongoing working and learning of these staff to facilitate new ways of knowing and innovative outcomes as new forms of activity in the workplace.

This form of *underpinning -but-integrated-with-working-and-learning professional development* could, in reality, consist of a considerable range of conventional professional development interventions. It is the directness of relationship of these interventions to the knowledge work being currently undertaken by the organisation's staff that determines the appropriateness and relevancy of these interventions.

Professional development interventions must contribute to:

- ? the variety in theory and circumstance available to knowledge workers
- ? the design of information -rich working and learning environments
- ? the multiplicity of descriptions possible within these, and
- ? relationship building amongst co-workers and other knowledge workers within the organisation and beyond.

Self-motivation must not be diminished by organisational requirements. Individual personal and professional aspirations need to be negotiated and balanced within the boundaries set by the developing needs of the organisation. The explicit expression of corporate values that are lived out in the way work is undertaken, progressed and completed can be both a positive and meaningful basis for employees' commitment to work within an organisation and a catalyst for these workers' intrinsic motivations for professional development. Meaningful knowledge work within a context of clear and accepted corporate values builds in self-motivation to learn.

An image of both a vehicle and a driver for knowledge worker professional development with meaning is that of an 'extreme team'. An extreme team is a project team (constituted by people with different skill sets and ways of knowing) designing an emergent but satisfactory outcome, in an area identified as vitally important to the accomplishment of an organisation's mission. Professional development is intrinsic to this 'extreme team' approach¹⁴ to focusing knowledge work in an organisation. This approach is returned to in the descriptions of enablers of professional development of knowledge workers in the VET sector

¹⁴ A focus group informant, Donna Hensley, Hunter Institute, NSW, introduced this approach to this research project. A relevant reference is J C Redding, (2000), *The Radical Team Handbook: Harnessing the Power of Team Learning for Breakthrough Results*, Jossey-Bass, San Francisco.

that begin on page 36 of this report. Professional development interventions can be readily integrated with the emerging learning needs of the knowledge workers in a timely fashion. The relevant management skills in relation to this view of professional development as a resource to project -based knowledge work are those that facilitate access of staff to the required professional development resources on a 'just-in-time' basis.

Finally, a core element of knowledge work and of knowledge worker professional development identified by this research project is 'conversations'. These are variously described and labelled. Poell introduced the idea of conversations amongst workers-as-learners to develop structured learning action. Woog detailed the characteristics of coherent and metaphoric conversations. Glanville introduced us to the idea of conversations that allow successive approximations of shared understandings between learners. The key is permissive and self-reflective dialogue amongst trusted, honest and generous group members through which ideas can be received, assumptions interrogated and understandings refined to build new insights and ways of knowing. Further to these accounts of conversations as central to the repertoire of knowledge workers' professional development is Redding's (2000) concept of dialogue. Through dialogue "team members take special care to balance advocacy (presenting one's own opinion) with inquiry (openly seeking to be influenced by others)" (p220). In these conversations team members strive to step away from their own assumptions while engaging in "a collaborative pursuit of new meaning" (p220).

Managing Working and Learning in the Knowledge Era

The drivers of innovation in the VET sector identified by Mitchell et al (2002) include rising complexity and uncertainty. This observation, coupled with Woog's complexity make-over of knowledge workers¹⁵, strengthens the view that managers of RTOs in the VET sector of Australia are struggling to find order in a system where traditional views about prediction and control are no longer applicable. The advice received through the research work of this project is compatible with this view. Informants to the focus groups were concerned to stress the changes required by VET managers to support, facilitate and promote the working and learning of VET staff as knowledge workers. Sveiby, in addition, identified the management of knowledge workers and of knowledge as a crucial skill of managers.

In summary, the views on appropriate management suggest a more flexible, responsive and holistic style of leadership in which a longer term view is adopted while supporting the potential of staff to find expression through their work, learning and knowing in the organisation. Reciprocity was conceptualised as

¹⁵ Attachment F: Woog's paper, pp6-7

expanding the sphere of staff as knowledge workers so they could influence the direction of their RTOs strategic organisational change.

Wheatley (1999) distinguishes between leaders and bosses, arguing for the former in “this chaotic world” (p131). She argues that the force that shapes behaviours in organisations arises from “the combination of simply expressed expectations of purpose, intent, and values, and the freedom of responsible individuals to make sense of these in their own way” (p129). Patterns of behaviour emerge over time amongst staff as the organisational values, embodied by its leaders, provide a secure sense of meaning to the enterprise and to the knowledge workers within.

Knowledge work without meaning is an oxymoron. Leadership in VET for knowledge work is about creating a strong sense of meaning for the working and learning of staff from which recurring patterns of behaviour associated with knowledge workers can be expected to emerge.

Professional development to support VET managers make the transition to leaders of knowledge organisations is a recommendation arising from this project.

Enabling the Professional Development of Knowledge Workers in VET

VET practitioners and managers are working in an environment that is increasingly complex and multi-layered. They are working in a sector that is continuing to undergo change at an increasing rate. There is a direct connection between the VET sector and Australia’s economy, and this economy is dependent on the fluctuations and uncertainties of the global economy. VET practitioners and their managers are working to provide vocational training in a relationship with the industry and business sectors of Australia, whose needs are inherently uncertain.

Survival and growth of systems in complex and uncertain circumstances demand access to flows of information and new ways of knowing that enable the identification of patterns, trends and nodes of innovation. RTOs as knowledge systems, and the work sections within these, remain active and growing if sustained by new information translated into new knowledge.

This nurturing of knowledge is more than the uptake of data -as-information available within the system and from external sources. It is knowledge continually regenerated through the interpretation of data, contexts and thoughtful action, through communication with others in shared contexts and through the freedom of uncertainty. This knowledge is active and embodied; it informs new ways of understanding oneself, one’s work and one’s organisation. The knowledge arising out of uncertain times is most likely to lack clarity, even be discomfoting to the RTO personnel. It may be characterised by the element of surprise.

RTOs need to develop the capacity amongst their staff and managers to process the potentially overwhelming amount of new information -as-data flowing through their organisations and the new ways of knowing generated by their knowledge workers from it. This capacity is a measure of the intelligence of the system, of the organisation, and involves the capacity to notice both new information and ways of knowing that are meaningful to the organisation's evolving mission and then to respond in ways that create organisationally sustaining but innovative outcomes. A form of order within an RTO, conceptualised as a knowledge system, can be arrived at with increasing levels of organisational intelligence.

Order in non-routine contexts is a form of order without predictability. Order emerges as elements of the system (in this case an RTO within the VET sector and/or work sections within an RTO) work together, discovering each other and together invent new capabilities (Wheatley, 1999, p111). This is self-organised order dependent on processing information flowing through the organisation and creating new information as knowledge, as new ways of knowing.

This research project informs the development of mechanisms and processes for sustainable professional development practices for VET practitioners and managers working and learning to create meaning out of the information flows impacting on their RTOs – national and international trends, initiatives and key e-learning developments – while generating contextually-defined outcomes as new knowledge unique to the relationships available. It is in this sense that this project informs the professional development of knowledge workers in VET.

Enablers of knowledge worker professional development

From the research undertaken for this project the following enablers of professional development of knowledge workers in VET have been identified.

1 Integration of information technology with the social milieu of the workplace

What is required here is more than management of borrowed knowledge in the sense of archiving. Information technology integration means supporting knowledge workers' communicative connectedness – capturing and sharing knowledge and, importantly, facilitating the generation of new ways of knowing. As start-up activities for the integration of technology with the relationships through which knowledge workers converse, professional development activities should be premised upon the participants being ICT literate. This enabler is not about basic ICT skill development but about the integration of technology-based communication with the other work-based social practices of knowledge workers. Integration of information technology into a socio-technical system for knowledge work within an RTO would promote the development of information rich work environments. A socio-technical system combines access to technical tools for

information storage and retrieval, one to one and group communication, with a culture among staff who effectively employ the technical capacity of the tools for all these purposes. Workers would be highly competent in the navigation of the electronic databases and interactive communication sites without being 'terminal bound'. This enabler focuses attention on the constructive interplay between e-learning/working and the other forms through which collegial groups of knowledge workers learn and work together.

2 Discovering the whole by going further into its parts

Knowledge worker development within a VET sector RTO can be facilitated or frustrated by the culture of the organisation as a whole. This second enabler of professional development recognises that if the whole is deeply antithetical to the freedom, flexibility, fluidity, intuitiveness and improvisation of knowledge work, then the probability of transformative organisational change through the development of knowledge workers amongst its staff is low.

As dense networks of relationships constitute organisations, the culture of the whole organisation can be revealed by seeking to understand the dynamics of a part (a work unit, for example) while simultaneously noting how these are influenced by the organisational relationships beyond it. This is not a form of reductionism where the sum of the parts is expected to equal the whole and a study of each part reveals, in summation, the nature of the whole. In contrast, the part in this new way of thinking is replete with the characteristics of the whole.

In organisational transformative moments, professional development becomes a strategy for change promotion. For RTOs intent on transforming themselves into knowledge organisations, professional development activities can act as interventions, as interrupters to the settled normality of the old and established system of being. Local changes that flow from staff participation in the new professional development can be thought of as disturbances within the established web of organisational relationships. By observing the effects of these local perturbations to the RTO as a system, the reality of the organisation as a whole is revealed. This is the reality that now needs to be analysed in order to understand those relationships that facilitate knowledge worker development along with those that act as blockers.

To enable professional development for significant change to be sustained, it is important that any professional development intervention be accompanied by an explicit analysis of the way the organisational relationships beyond it positively supported and contributed to its implementation. Relationships that acted as inhibitors to the advancement of the professional development intervention need to be also identified at this stage. Managers, acting in collaboration with knowledge workers, would then be expected to diminish the force of the identified negative relationships while enhancing the influence of positive ones in future

professional development activities integrated with working and learning in the organisation.

3 Connecting to the identity of the organisation

This enabler is an extension of Enabler 2 above. Developing heightened levels of organisational self-knowledge is a crucial enabler of professional development.

The first key to this is connecting all staff to the organisation's fundamental identity. The crucial 'connecting' processes are those that enable the RTO's personnel to contribute to the definition of the RTO's identity and, in so doing, align their own professional interests with those of their colleagues and, ultimately, with the identity of the organisation. From these dialogical processes staff and managers develop a sense of meaning, direction and aspiration in their work and learning together. A shared organisationally -oriented mindset is created.

Secondly, staff members need to be more aware of what the organisation needs to know in order to move in the direction aspired. New knowledge needs are identified and new connections are then made to generate this new knowledge. Importantly, the extent of these new connections is a measure of the freedom staff and managers have to form relational sets with anyone anywhere in the organisation in order to undertake, in the most appropriate way, the tasks associated with the identified knowledge work.

For an RTO, this enabler promotes organisational self-awareness in terms of what it is, how it is travelling with its clients and the degree to which its workforce's potential is being utilised. Professional development initiatives can then be designed and implemented in alignment with knowledge worker development referenced back to the RTO's true identity.

4 In the beginning was the job and what's in it for me

Connecting professional development resources to the work trajectories of knowledge workers is a key enabler. This enabler focuses attention on the relevance of the professional development activities to the individual knowledge worker, to the work group and to the organisation as a whole. The allocation of professional development resources by an RTO to its staff must be carefully considered in terms of the relationship of these resources to the enhancement of work outcomes and the careers of the participating staff.

Relevance of professional development, determined by its connectedness to the context of ongoing work and to knowledge workers' career pathways, can only really be achieved when control of the diagnostic and design processes are handed over to the knowledge workers themselves. The relevance of the resultant professional development activities, so determined and defined,

captures the important ingredient of knowledge worker professional development - self-motivation to learn.

Self-motivated learning was identified as a fundamental professional development theme by this research project. Centring professional development activities on addressing self-identified knowledge gaps experienced by knowledge workers as they grapple with emergent ways of knowing connects professional development securely to the 'job -at-hand' (or perhaps more accurately, the 'job -in-the mind') and to the energising force of intrinsic motivation.

5 Go radical but be mission-critical

This enabler of professional development of knowledge workers recognises that both knowledge work and its underpinning professional development inputs require a framework or a structure that is meaningful to the organisation within which these activities are occurring.

A familiar way of describing and imagining these organisationally embedded structures is to talk and think in terms of work projects and professional development programs. Knowledge work that is project based is more readily understood and imagined, organisationally, than is knowledge work that is more diffuse and free wheeling. Similarly, professional development can take on many forms, some serendipitously arrived at, others more formally organised.

When professional development activities are pre-planned and organised the result is referred to as a program of professional development. This program approach to professional development delivery presupposes that the professional development needs of the staff of the RTO are known in advance. But with knowledge work, even when structured through a project orientation, the professional development needs of the staff involved will be emergent along with the outcomes of the work itself. Under these circumstances the dichotomy between work project and professional development program collapses.

The working and learning associated with the unfolding knowledge work can be powerful and transformative professional development. Transformative professional development is more than the acquisition of 'borrowed knowledge' and new technical skills; it is new ways of understanding oneself, one's practice and one's work context. It is a new way of knowing.

A potential vehicle for the integration of professional development more seamlessly with knowledge work is the 'extreme team' or 'radical team' (Redding 2000) approach to structuring the activities of knowledge workers within an RTO. This approach is an extension of work-based learning structured by action learning. Possibly many recent work-based learning teams supported by their

RTOs and national VET sector professional development programs could be seen as extreme teams.

The development of extreme teams from more conventionally experienced action learning project teams occurs when team members:

- ? are open to varying a planned sequence of steps
- ? seek divergent views and conflict as stimulating to progress
- ? explore the differing assumptions held by team members
- ? question the way the project has been framed , and the prevailing culture of the RTO.

Extreme teams work on projects that are seeking resolution to issues identified as significant to the organisation. The projects are therefore 'mission -critical'. These teams acknowledge uncertainty and the need to learn. Learning is through action over reduced learning cycle times with attention to team learning. The approach creates relationships in which it is safer to take risks, explore divergent views, turn breakdowns into new insights and breakthroughs, and reframe the project to reflect deepening understandings, Further, extreme teams uncover connections, influence others in the organisation while challenging the organisational culture. Teams take responsibility for introducing change elsewhere in the organisation (Redding, 2000, p61). This account of the work of extreme teams within an organisation is highly compatible with the conceptualisation of knowledge workers in VET arising from this research project.

Extreme teams that are working on mission -critical matters requiring new ways of knowing provide an organisational structure that enables professional development of knowledge workers to be integrated.

6 Designing professional development from inside out

Knowledge workers have been equated with designers during the course of this research project. Designers draw on the knowledge and expertise of cross -disciplinary teams, they keep abreast of new developments, they combine intuition and creativity with scientific knowledge, and as each design is original, they constantly innovate and contextualise their work. This is a very generative concept for thinking about knowledge work and the resourcing of this work through the professional development of knowledge workers.

In the discussion of Enabler 4 above, the idea of knowledge workers designing their own professional development was introduced. This is now returned to as an enabler in its own right.

The argument has been put that while knowledge work is emergent, it is also iterative, non-linear and premised on uncertainty and learning. As a consequence, the mindset of knowledge workers, while concerned to resolve 'problems' arising throughout the course of their projects, is less like that of

workers engaged in routinised problem solving activities and more like that of designers. The linearity associated with pre-planned problem solving projects and the logic of enacting identified staged plans over specified timelines are reshaped within knowledge work-based projects. These elements are reshaped by a greater appreciation of the contribution intuition, improvisation, team learning and conversations can make to the resolution of critical matters in non-routine and uncertain times. This insight has led the research team to the view that knowledge working is more akin to designing than to problem solving per se.

This insight has ramifications for the professional development of knowledge workers. The linear, pre-planning logic associated with routine problem solving projects resonates with the logic underpinning individualised and performance-based professional development program planning familiar to staff development management in many organisations, including RTOs of the VET sector. The logic in both cases is premised on order and predictability. But the metaphor of the knowledge-worker-as-designer is premised on a form of order without predictability. Order emerges through the interactive relationships amongst the project team members but in ways that could not be predicted from the outset. Similarly, the professional development requirements of these knowledge workers will emerge as the work evolves and in ways that may not be readily predictable with specificity at the beginning of the work. The specifics of any professional development requirements will present as issues emerge from within the work itself - these will be prioritised by the knowledge workers themselves. The logic of pre-planning appropriate professional development for knowledge workers under these circumstances shifts to that associated with 'just-in-time' provision of services. 'Just-in-time' professional development provision can be also understood as a form of designing; in this case, the design of responsive provision of professional development.

Human Resource personnel and divisional managers within RTOs need to establish relationships with knowledge workers that enable them to respond to the advice received from the workers with respect to the professional development inputs required. As with the design of the work itself, knowledge workers must be given autonomy during the design process of their professional development activities.

7 Be iterative but don't get lost in circles

Professional development integrated with work issues through iterative approaches is well understood in the VET sector. Action learning is an example of this approach. This research supports the structuring of professional learning through iterative approaches as an enabler of knowledge worker professional development. Once again, there is a match between the working and learning practices of teams of knowledge workers and those associated with iterative approaches to professional development. It is crucial that these evolving cycles of activity become intimately connected.

If the iterative processes of working and learning, on the one hand, are not enmeshed with those of professional learning and development on the other, then professional development activities could seem optional in the minds of knowledge workers.

Iteration, as an enabler of knowledge worker professional development, must become a driver of both the learning needed to generate the work and the work that generates new insights and new knowledge. Professional development through iteration under these circumstances is within the praxis that energises the knowledge work, not in some other spirals of activity circling around the core business of the knowledge workers.

8 Intuition is good

The professional development of knowledge workers is enabled by a work environment that promotes intuitive thinking, creative propositions, the testing of assumptions and risk taking. Attention needs to be given to the social dimensions of knowledge worker teams and to the organisational regimes of accountability and compliance VET staff are working under. Leadership will be one focus of this attention as will the communicative 'health' of the RTO. Shifts in the way power relations are played out in an RTO, in the way ideas are received and the way work outcomes are assessed may be required to facilitate effective knowledge work and the professional development of knowledge workers. The behaviours of knowledge workers identified by this research project are more readily developed and then displayed in contexts that value knowledge sharing, coherent conversations and dialogue, collaborative work and generosity.

Implications for implementation

The enablers identified by this research will nourish a diversity of professional development approaches and activities informed by established professional development best practice and workers' requirements. But how are managers and staff going to create the circumstances within VET organisations under which the professional development enablers will emerge and survive, and from which a rich diversity of professional development programs will be designed?

Other questions now arise.

- ? What are the degrees of organisational transformation required by RTOs in order to accommodate the eight professional development enablers?
- ? Where are the entry points available to RTO managers and staff to begin a process of organisational transformation?

- ? What will be the relationships between the whole and the parts in this transformative process?
- ? What processes will RTO staff and managers put in place to handle the unfinished business of organisational change and the contradictions and paradoxes of the 'new'?
- ? How will a transforming RTO be able to manage its competitiveness during its transition?
- ? How will a transforming RTO manage its external accountability and compliance obligations defined by a national training system that may be, at its core, informed by ideas antithetical to knowledge organisations with knowledge workers within?

In order to realise the implications of this report, these questions and many other aspects of the VET system will have to be considered.

5 Conclusion: What does this research mean for the VET sector of Australia?

The research undertaken for this report *Working and learning in VET in the Knowledge Era* explored questions about effective professional development for the VET sector from the perspective of VET staff and managers working together in what is referred to as the knowledge era.

The research succinctly defined the characteristics of RTOs as knowledge organisations together with the capabilities of VET sector personnel as knowledge workers (refer to Figure 1, p15 of this report). This construction of the VET sector as inclusive of *all* staff as actual or potential knowledge workers enabled the researchers to conceptualise professional development in a future where the complexities and uncertainties of the present will continue to expand. This has been the case for the modern VET sector since its inception. By defining the VET professional as a knowledge worker, this project has been able to advance the argument for greater autonomy of VET professionals and for forms of professional development that contribute to and expand their knowing and skills repertoires. This research concludes that key capabilities of VET professionals as knowledge workers will be more readily developed and displayed in contexts that value knowledge sharing, coherent conversations and dialogue, collaborative work and generosity.

Enablers

The report ends with the identification of eight interactive 'enablers' through which the professional development of knowledge workers in VET organisations should be shaped. The research does not conclude with a model of professional development for the future. Instead, it recognises the value of what has been developed and implemented under the national professional development programs in the VET sector.

The researchers consider the variety of approaches now available to be resources upon which new approaches or combinations of approaches will emerge or be added to from elsewhere. The significant issues now for advancing professional development in the VET sector are not around the identification of new approaches as new sets of professional development activities as such.

Instead, the significant issues arising from this report direct attention to the ways RTOs can be supported while establishing the circumstances within which enablers for professional development for the future can be securely embedded. From this, the image of professional development for knowledge workers, identified by this project, will become a reality. This image encourages variety premised on need. The enablers identified by this research will nourish a diversity

of professional development approaches and activities informed by established professional development best practice and workers' requirements.

Other questions arise, as to what degrees of organisational transformation are required by RTOs in order to accommodate the eight professional development enablers, and what processes RTO staff and managers might put in place to handle this organisational change and the contradictions and paradoxes of compliance and knowledge work.

In order to realise the implications of this report, these questions and many other aspects of the VET system will have to be considered.

What is certain, however, is that the VET sector is now reliant on developing and retaining VET staff and managers that are professionals with the capabilities of knowledge workers as identified by this research project.

References

- ANTA (2003), *Your future, your choice: Flexible learning futures*, Australian Flexible Learning Framework
- Andrews, K. & Whicker, L, (2003) *Dissemination Project Report: NSW TAFE Professional Development Network*, BDO Kendalls, Brisbane
- Mitchell, J, Clayton, B, Hedberg, J & Paine, N, (2002), *Trends in innovation in teaching and learning in VET*, Draft discussion paper, (unpublished)
- TAFE NSW (2002), *The Next Generation: Report on the Review of Product Research and Development within TAFE NSW*
- Redding, J C, (2000), *The Radical Team Handbook: Harnessing the Power of Team Learning for Breakthrough Results*, Jossey-Bass, San Francisco
- Wheatley, M J, (1999), *Leadership and the New Science : Discovering Order in a Chaotic World*, Berrett-Koehler Publishers, San Francisco

Professional Development for the Future Project Papers:

- Andrews, K & Whicker, L, (2003), *A Review of Selected Knowledge-Focused Literature*
- Andrews, K & Whicker, L, (2003) *Discussion Paper 1: Capabilities for the Knowledge Era*
- Henry, J & Smith, P, (2003) *Discussion Paper 2: Contemporary Models for Professional Development in the Knowledge Era*
- Poell, R (2003) *New approaches to professional development*.
- Sveiby, K-E, (2003) *Organising for effective knowledge work*.
- Woog, R (2003) *The knowing of knowledge*.

Contributors to the Project

Knowledge Workers interviewed during Phase 1 of the Project

David Rymer

David is responsible for knowledge management at Minter Ellison (www.minterellison.com.au). He is a regular contributor to the Australian Financial Review and Boss magazine.

Tim Kannegieter

Tim is the General Manager – Knowledge Services for Fonterra, a multinational dairy group based in New Zealand, and the world's largest exporter of dairy products (www.fonterra.com).

James Dellow

James is the Online Program Manager – Asia, for Ernst & Young (www.ey.com.au).

Luke Naismith

Luke works in the Forward Strategy unit of the National Office for the Information Economy (NOIE). This unit examines 3 to 5 year trends, either technological or social, that may shape government policy. This role involves assisting the development and communication of the strategic framework for the knowledge economy (www.noie.gov.au).

Mark Bradley

Mark is the CEO of the Australian Technology Innovations, a world class technology commercialisation hub that supports start-up businesses in the biotechnology, ICT, and electronics sectors. He has over 18 years experience working in and managing research and development in both public and private sectors, focused on the biotechnology and biopharmaceutical sectors. (www.atp-innovations.com.au).

Karen Whittingham

Karen is Associate Director of the North Sydney Institute of TAFE. She is principally responsible for business development for the Institute including on-shore and off-shore marketing and sales. She has a team of seven reporting to her, and there are approximately 30 -40 staff in the division. (www.tafensw.edu.au)

Tracy Stanley

Tracy Stanley is based in France as worldwide knowledge manager for travel software multinational Amadeus (www.amadeus.com). She is responsible for identifying and transferring international best practice.

Theorists who contributed in Phase 3 of the Project

Dr Ranulph Glanville

Dr Glanville is an independent academic and researcher. Art Master, Tutor, Architect, Senior Lecturer and Senior Research Fellow are amongst the positions held. Dr Glanville travels extensively lecturing, attending conferences both as a speaker and an organiser and has written 190 publications and is on several editorial boards.

Dr Robert F Poell

Dr Poell is a Senior Lecturer at the Faculty of Social and Behaviour Sciences and Human Resources Sciences at Tilburg University, Netherlands. His area of expertise lies in Human Resource Development and includes learning, training, education, development and change in organisations and their employees.

Dr Karl-Erik Sveiby

Dr Sveiby is a Consultant and Professor in Knowledge Management and has been described as one of the “founding fathers of Knowledge Management”. He currently holds a chair in Knowledge Management, Hanken in Helsinki, is an Honorary Professor at Macquarie University Graduate School of Business in Sydney and at Griffith University in Brisbane. Dr Sveiby’s approach of measuring intangible assets was adopted by the Swedish Council of Service Industries as a standard in 1993.

Robert Woog

Dr Woog is a Senior Lecturer at the School of Social Ecology and Life Long Learning at the University of Western Sydney. He is interested in post-positivist inquiry as it relates to society and the environment and the role of ethics and aesthetics in guiding a technocentric society. Dr Woog’s research projects focus on participative approaches for conflict resolution sustainable development and empowerment of individuals and groups.

Focus Group Participants in Phase 5 of the Project

1 Professional Development Program Management Group Focus Group

Peter Le Cornu, Canberra Institute of Technology, ACT

Maret Staron, Professional Development Network, NSW TAFE

Marie Jasinski, Douglas Mawson Institute, SA

Mary McLean, Flexible Learning Advisory Group Secretariat, Department of Education and Training, VIC

Bill Luteria, Vocational Education and Training Group, DEST

2 Sydney Focus Group

Donna Hensley, Program Manager, Institute Teaching and Learning Innovation Centre, Hunter Institute, NSW

Robyn Jay, Director GECKO Education Services, NSW

Melissa Mills, Learning Consultant, New England Area Health Service, NSW

Grant Casey, Teacher Development Co-ordinator, Staff Training and Development, SW Sydney TAFE, NSW

Peter Ryan, Managing Director, Australian College of Applied Psychology & ACPET, NSW

John Smith, Head of the Flexible Learning Solutions Group, Canberra Institute of Technology, ACT

Francis Howes, Project Manager for Product Development, Cooloola Sunshine Institute of TAFE, Qld

Ellie Thompson, Industrial Relations and Training Division, The Pharmacy Guild of Australia, ACT

Adrian Morgan, CEO Australian Institute of Training and Development, NSW

3 Melbourne Focus group

Sally Denning, Manager, Professional and Organisational Development, Kangan Batman TAFE, Vic

Anne Deschepper, Manager Education Development Services, Chisholm TAFE, Vic

Clint Smith, Field Manager Professional Development, TAFEfrontiers, Vic

Jeanette John, Education and Training Manager, Geelong Adult Training and Education Inc (GATE), Vic

Cinthia Del Grosso, TDT Australia, Vic

Vicki Tuchtan, Education Manager for the Australian Institute of Fitness, ACPET Victoria Executive Committee

Marlene Manto, SA LearnScope Manager, Torrens Valley TAFE, SA

Peter Heilbuth, Manager Flexible Learning Projects, East Gippsland TAFE, Vic

Rita Bennink, Coordinator e-learning Professional Development, Adelaide Institute of TAFE, SA

For more information contact

Robby Weatherley
Professional Development Program Area
Tel: 02 9448 2304
Fax: 02 9448 2334
robby.weatherley@det.nsw.edu.au