

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

What is knowledge work?

Any vocational education and training (VET) worker can be a knowledge worker. Knowledge work is not a specific category of work in an organisational sense. It's more about the approach used to work with knowledge and the mindset that underpins it. The essence of knowledge work is in how knowledge is generated, accessed, manipulated, transformed and shared so that it has meaning, relevance, currency and viability in specific local contexts.

Knowledge work is more organic than mechanical. It is not a predictable, linear or certain process. The outcomes from knowledge work are emergent and involve making connections and building relationships through which knowledge flows. This leads to spontaneity and new activities in the workplace.

Knowledge work establishes the presence of the **knower** in the knowledge and moves away from the notion of pre-packaged knowledge to an engagement with the activity of **knowing**. It represents a shift from thinking about knowledge work in terms of borrowed knowledge to an emphasis on generated knowledge within a context.

Active knowing requires knowledge workers to be self-motivated and flexible in their learning, to seek out a variety of opportunities and to establish relationships through professional and collegial networks.

Knowledge work is a shared responsibility. Organisations need systems to enable knowledge workers to work creatively with knowledge and which are flexible enough to adapt to the demands of this contemporary way of working and learning. Organisational enablers allow individuals with the will, motivation and drive to be effective knowledge workers.

In knowledge work, **how** you know and **who** you know is just as important as **what** you know! The foundation of knowledge work is flexible thinking and flexible work practices.

Knowledge work is an active and dynamic approach and recognises that knowledge is much more than storing and retrieving information. It is putting knowledge to work.

VET in the knowledge era

Increasingly in the VET sector, the value of knowledge working is being realised as organisations face greater competitive pressure from new approaches to education and training, changes in client profiles and client demands and the realities of increasing costs and reduced budgets. VET organisations are adapting to the demands of the knowledge era and are making significant changes in the way they do business, in the nature of their work and in the relationships they foster. There is growing awareness that organisations and individuals need new capabilities to stay current and viable as the pace and complexity of change increases.

Professional development strategies that support organisations and individuals to develop these knowledge work capabilities also need to be current and match contemporary work practice.

Working and learning in VET in the knowledge era

VET is a knowledge-based industry and knowledge is its core business. The issues confronting VET are to do with the pace of new knowledge acquisition, how knowledge is accessed and exchanged and the contexts in which it is important.

Every industry faces change and VET is no exception. Knowledge is no longer stable and can become quickly dated. In the past knowledge mostly resided with experts and was confined to local or specific contexts. Today technology is increasingly enabling information to be accessed from many sources, and knowledge sharing is becoming global.

The knowledge era has shifted the emphasis on what is important in relation to professional work and learning.

These shifts include:

- increased importance and value being placed on knowledge in organisations
- increases in the discretion exercised by managers and knowledge workers
- demands for shorter response times in decision making to address client needs
- greater complexity in work relationships
- the ubiquitous nature of information and communication technologies (ICT) in the workplace and community.

Not only are these changes influencing the type of work being carried out, but they are also impacting on how that work is undertaken. These new roles and work relationships will require new skill sets which in turn will demand much more adaptive and relevant professional development processes and opportunities.

How knowledge work impacts on VET organisations

The impacts of these changes can be viewed under four broad headings.

1. The work environment

The work environment and organisational boundaries are challenged by the more open communication needs of knowledge workers. In the knowledge era individuals can communicate and have an impact well beyond the boundaries of their organisation.

Organisations now need to support the knowledge worker by addressing:

- a global knowledge economy where activities are influenced by and have an influence on events outside the organisation
- constant changes in types of knowledge
- emphasis on knowledge generated in and for a context
- uncertainty in both the nature of work and the information with which a knowledge worker has to engage
- closer links between knowledge and employability (rather than measurable skills or information).

2. The dynamics of relationships

The nature of relationships is also changing. The easier movement of people, information and ideas across workgroups, disciplines and sectors means that traditional roles and relationships are becoming blurred. Networks and communities of practice are now important sources of knowledge generation and professional learning. Increasingly, there is collaboration between people from different disciplines, with different skill sets and who work in a range of organisations. These broad spectrum learning opportunities encourage diversity of thinking and alternative perspectives. **How** people communicate and **who** they are communicating with is now becoming as important as **what** they communicate about.

Knowledge workers need to learn how to juggle the tensions between learning and work, and between various ways of organising learning activities. Rob Poell

Labels that describe the changing dynamics of relationships include:

- complexity
- interdependence
- higher order communication skills
- virtual and physical environments
- conversations rather than data flows as the new currency for knowledge exchange.

3. Leadership of knowledge work

Management and leadership of knowledge work and knowledge workers needs to accommodate and promote variety and enrichment, and accept intuitive knowing and improvisation as legitimate processes. It is essential to build organisational processes that can be enablers for both knowledge work and knowledge worker development.

Organisations must be able to manage the paradox of pursuing organisational goals whilst fostering the self-directed nature of knowledge work.

4. Information and Communication Technologies (ICT)

The uptake of ICT in the VET work environment has enabled an unprecedented combination of flexibility and task performance, of coordinated decision-making and decentralised implementation. ICT is now an everyday tool of trade for the knowledge worker. They are integral to how knowledge workers do business, communicate, transact, access information and to how they learn.

Capabilities for thriving in the knowledge era

These changes demand an expanded repertoire of skill sets for both organisations and individuals. They also position professional development explicitly on the agendas of organisations and their individual workers. Professional development is a shared responsibility for creating and maintaining a dynamic approach to knowledge work.

Leadership in a knowledge organisation is a balancing act between giving experts creative freedom without letting the organisation become dependent on them . Karl-Erik Sveiby

Knowledge workers are more at home with disorder than most people and they engage with it by organising, dis-organising and re-organising their knowledge and interpretive frameworks. Robert Woog

Organisational capabilities

Organisations will need the capacity to discern trends in the education and training landscape and adjust the work patterns of knowledge workers accordingly. They will need to provide leadership through forward thinking policies and adaptive management structures. These will need to support a professional development framework that is capable of matching the skills of knowledge workers with the needs of clients. The management of knowledge work and knowledge workers is a crucial business skill and a pivotal driver for enabling high quality professional development initiatives.

The challenge for management will be to create an organisation that is able to accommodate contradictions and paradox within a management culture that is not risk averse. Risks do have to be properly assessed and managed, yet one of those risks is excessive conservatism in response to external pressures.

Organisations must be able to create and sustain a climate that:

- matches staff learning with the needs of their customers, particularly their students
- locates expertise, as required, from within and without the organisation
- adjusts job opportunities to accommodate individual worker aspirations within the goals of the organisation
- contributes to the development and support of self-motivation to learn.

Key capabilities to build and sustain this environment include:

- capacity to foster sharing and nurturing
- capacity to support groups
- immediate applicability of professional development processes and opportunities
- flexible and responsive leadership
- clear corporate goals.

Individual capabilities

Knowledge work is non-linear and non-routine, more intuitive, opportunistic and networked, and less driven by allegiance to a pre-planned critical path mindset, and therefore more innovative. Knowledge workers bring into being something that did not exist before for the benefit of clients, the team and the organisation. They can be thought of as being like designers.

Knowledge workers in VET need to be able to tolerate higher levels of ambiguity, complexity and potential conflict. They also need to cope with information overload and constantly changing skill requirements.

They need the capacity to:

- balance work, learning and knowing
- undertake research using well-developed analytic skills
- rapidly acquire new skills
- apply existing skills and knowledge to new problems, based on high pattern recognition skills
- problem-solve and make sense in new contexts
- maintain a balance between productivity and creativity
- collaborate in both face-to-face and virtual environments.

Knowledge workers need to develop their own learning 'language' to be able to reflect on their experiences with a coach or another person providing them with learning-process guidance. Rob Poell

How knowledge workers learn

The ways that knowledge workers learn challenge current thinking about the ways in which skills and knowledge are acquired. Knowledge workers build their knowledge by learning as they work: the integration of working, learning and knowing.

Therefore professional development needs to be thought of in a much broader context in the knowledge era. The most effective professional development opportunities will be those which define learning as the art of acquiring and utilising knowledge. What each VET staff member knows and shares will become increasingly central to their work, and their ongoing learning.

To achieve this, professional development activities need to expand on and refine many of the multiple strategies already common to the VET sector. The following are professional development approaches which involve seeking exposure to new ideas from a wide variety of sources, embracing intense learning opportunities, and using relationships to increase knowledge.

1. Conversations

Conversations are a tool for establishing shared meaning and developing understanding. They allow for successive approximations of shared understandings and develop the important social side of learning. Conversations are at three levels: talking about what we are working on, seeking clarity of shared understanding and identifying and testing assumptions about what is taken for granted.

2. Self-motivated learning

The capacity for self-motivated learning is a fundamental characteristic of knowledge workers and is a key capability upon which other capabilities are developed. Knowledge workers are self-motivated hunters and gatherers of knowledge. They have an intrinsic motivation to learn and develop; this drives them to seek out and respond to challenging opportunities.

3. Learning by doing

Formal education is a necessary condition for ongoing learning and development, but it does not replace first-hand experience with the knowledge worker's discipline or knowledge area. The integration of both is a powerful partnership for knowledge currency in the knowledge era.

4. Challenge

Exposure to disruptive or uncomfortable experiences is necessary to ensure that learning experiences are fully tested. Knowledge workers are constantly operating at the edge of conventional experience and their professional development should mirror their day-to-day experiences. This also mirrors the way that the knowledge era often involves high risk/high return scenarios.

5. Consolidation of learning

Knowledge workers need opportunities to consolidate their new learning. They need time to absorb the information and integrate it into existing mental models during a period of 'immersion'. They also need to allow time for regular reflection, both in terms of what is happening at work and what the knowledge worker is working on, and to reflect on personal development and interpersonal processes. Formal education is needed to introduce new ideas and perspectives relevant to professional practice in ways that allow for enrichment and expansion of existing mental models and perspectives and consolidation of tacit knowledge.

Generated knowledge as we describe it is 'constructed' either from directly modifying or adapting existing borrowed knowledge or from indirect novel insight or conceptualisation.
Robert Woog

By investigating and experimenting with different types of such learning environments, organisations can offer new and worthwhile contexts in which knowledge workers can broaden both their learning and working repertoires. Rob Poell

A knowledge worker is capable of generating and setting into motion a number of ideas. It is in this way that they create the conditions in which self-organising patterns of action begin to occur, leading to emergent outcomes. Robert Woog

Enablers of professional development in the knowledge era

By describing the VET sector and the capabilities required, the Project identifies eight key enablers that will promote 'knowing' and thus embed a new style of professional development within VET.

Enabler 1. Socio-technical systems

Integrate information and communication technology into socio-technical systems.

Integration of technology-based communication with the other work-based social practices of knowledge workers will promote the development of information rich work environments. The emphasis is on the constructive interplay between e-learning and working, and the other forms through which collegial groups of knowledge workers learn and work together.

Enabler 2. Networks and relationships

Foster greater understanding of the organisation from within.

Transformative organisational change will occur through the development of knowledge workers. The culture of the organisation can be revealed by examining the dynamics of a part (eg a work unit) while noting how these are influenced by wider organisational relationships. Professional development activities can act as interventions in the settled normality of the old and established way of doing things. Managers, acting in collaboration with knowledge workers, can diminish the force of negative relationships and enhance the influence of positive ones.

Enabler 3. Organisational identity

Connect staff to the organisation's fundamental identity.

Developing heightened levels of organisational self-knowledge is a crucial enabler of professional development. Staff members need to be aware of what the organisation needs to know in order to move in the direction aspired to. New knowledge needs are identified and new connections are then made to generate this new knowledge. This approach promotes organisational self-awareness and increases the potential for utilising the workforce's potential.

Enabler 4. Work outcomes and career paths

Connect to the work and career trajectories of workers.

The aim is to connect professional development resources to the work trajectories of knowledge workers. Relevance of professional development can only really be achieved when control of the diagnostic and design processes are handed over to the knowledge workers themselves. This needs to be supported by careful consideration of how to match resources to the enhancement of work outcomes and the careers of staff.

Enabler 5. Emergent professional development

Establish structures that integrate the use of professional development resources with knowledge work.

Knowledge work and its underpinning professional development inputs requires a framework that is meaningful to the organisation. Knowledge work that is project based for example, is more readily understood and imagined, organisationally, than is knowledge work that is more diffuse and free wheeling. The 'extreme team' or 'radical team' can be used to create relationships in which it is safer to take risks, explore divergent views, and turn breakdowns into new insights and breakthroughs.

Enabler 6. Worker as designer

Provide workers with the autonomy to design their own professional development activities.

As with the design of the work itself, knowledge workers must be given autonomy during the design process of their professional development activities. Knowledge workers will develop as the work evolves if they are able to design their own professional development, and do so in ways that may not be readily predictable at the beginning of the work. Human Resource personnel and managers need to establish relationships with knowledge workers that enable them to respond to the advice received from the workers.

Enabler 7. Working and learning as an iterative process

Build professional development into the iterative nature of knowledge work.

Research supports the structuring of professional learning through iterative approaches where the needs of the knowledge worker's professional development becomes a driver of both the learning needed to generate the work and the work that generates new insights and new knowledge.

Enabler 8. Organisational environment

Create organisational contexts that value intuitive thinking and working.

A work environment that promotes intuitive thinking, creative propositions, the testing of assumptions and risk taking will better support the professional development of knowledge workers. Attention needs to be given to the social dimensions of knowledge worker teams, to the organisational accountability, and compliance frameworks VET staff work under.

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The full report, *Working and Learning in Vocational Education and Training in the Knowledge Era*, written by John Henry with contributions from Kate Andrews and the Professional Development Network research team, can be found at <http://flexiblelearning.net.au/projects/pdfuture.htm>

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