Key concepts for designing professional development for the knowledge era:

Designing Professional Development in VET
A research project by TAFE NSW International Centre for VET Teaching and Learning (ICVET) and Commonwealth Department of Education, Science and Training (DEST)

Knowledge era – the environment

No one element of the knowledge era is the driving force. It’s the complexity and combination that’s distinctive.

Every era has its distinctive characteristics and signature or preferred way of organising itself. The signature for organising in the Nomadic Era was small groups; for the Agricultural Era it was hierarchies; bureaucracies for the Industrial Era and for the Information Era it was networks. The 21st century is the era of knowledge and its signature is ecologies.

SIGNATURES OF NOMADIC TO KNOWLEDGE ERA

The knowledge era is characterised by impermanence, turbulence, multiple and competing agendas and priorities, diversity in ideologies, ambiguity, multiple roles, irritations, uncertainty and contradictions and a great amount of energy and creativity. It is also the ‘intangible era’ where instead of goods and services the growing economic commodity is knowledge itself.

Distinguishing features
The distinguishing features of the knowledge era have been summarized into four key elements:

1. knowledge is recognised as important to organisations and is acknowledged as critical to organisational success
2. time span of discretion, where there is increasingly a greater need for efficiency and analytical thinking, however there is also the need for greater conceptual thinking long-term by managers
3. relationships between employees are more complex

Adapted from Cooperrider, 2004

1 Working and Learning in Vocational Education and Training in the Knowledge Era: Final Report p10
4. information and communication technology is embedded in most human interactions and business transactions.

Others prefer to view the knowledge era as comprising a ‘new vortex’ of:

![New Vortex Diagram]

**THE ‘NEW VORTEX’ OF THE KNOWLEDGE ERA**

The knowledge era is an era of rapid movement. There is so much going on that we need contemporary and meaningful ways to make sense of how to best work, learn and live effectively in these complex diverse, unpredictable, challenging, opportunistic and irritating times. The knowledge era is disrupting our thinking, our relationships and our work practices and we must adapt to it to survive.

Increasingly in VET people are recognizing the need for new strategies and practices in capability development to support them in the implementation of fast changing priorities, systems, structures, customer demands, learner needs, new technologies and innovation.

**Learning ecologies - the metaphor**

> Metaphors help us to express ourselves, our relationships and help us to provide meaning in a local context.

Capability development in VET needs to embrace a new metaphor - learning ecologies. Learning ecologies can be seen as a metaphor for how we need to work and learn in the knowledge era. Metaphors may not be logical but can create images that challenge what is blindly accepted. They give us a way of understanding our situations and they give a new language for discussion.

An ecological metaphor embraces the ambiguity, contradictions, irritation, complexity and competing priorities of the knowledge era. It serves to fuse together a range of philosophies, domains, disciplines, concepts, principles, strategies and practices so they make sense in the collective.

**There is no one way to get it right**

What an ecological metaphor offers capability development in VET is not the way to get it right or ‘the’ solution as there is no one way to get it right and there is no one solution. An ecological metaphor is more about a way of being and a way of raising our sensitivity to what is going on around us, giving us insight into how we can work with it.

Ecology is a way of looking at the world that is both intuitive, caring and responsible. It is also risky business! It is an invitation and a challenge to take a brave leap and be willing and determined to

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2 Dr Charles M Savage of Knowledge Era Enterprises “Shaping Our Future” – Cable and Wireless Optus, Melbourne, October 1999
ride the tension between seemingly contradictory concepts that challenge our thinking and our practice – such as:

- this is not about precision or pre-determined ways of doing things - it is not predictive, but anticipative
- it is a permissive framework which means there is tension and pain as there are no clear answers - it is a *why to* rather than *how to* model
- we will get some of it wrong *and* this will help to create the shifts
- ecology is more about successive approximations than exactness
- fuzziness is its strength – which is a precise concept that provides a framework for understanding the chaos
- self-organising happens in an ecology, but there may be no satisfactory explanation for where the organising pattern comes from.

Ecologies are models that relate to adaptability
Adaptability is a key survival capability within an ecology. Ecological models operate on a simple formula. When there is stability in the ecological environment there is equilibrium. However when there is a disruption or disturbance (a perturbation) in the environment and there is pronounced disruption to the prevailing equilibrium, ecologies respond by adapting. Adapting is about keeping fit and agile enough to remain responsive to disturbances in the environment. Agents must be dynamic and flexible enough to mobilise and make the necessary adjustments to multiple demands and competing priorities.

The knowledge era is characterised by perturbations - radical and discontinuous change in the organisation’s environment. Not only do these disturbances need to make sense; organisations, teams and individuals must be agile to adapt to them. Adaptation however is not just a mechanical response. It is also a conscious and responsible choice.

Relating ecologies to learning and development allows new links to develop and generates new ways of thinking. The word ecology comes from the Greek words OIKOS meaning *where you live* and LOGOS meaning *to study*. It also stems from domestic science which means looking after and caring for your home. Ecology is a study of where you live – and work! Relating it to capability development in VET makes good business sense, as we need to create rich learning environments that are:

1. holistic and inclusive
2. adaptive and shaping
3. diverse and complex.

This is the essence of learning ecologies. It draws on plurality and richness of ideas and recognises there are multiple ways to adapt to the environment and reach a learning goal. Learning ecologies is the most useful metaphor to underpin the emerging models and strategies for capability development in the knowledge era in VET.

Knowledge work – the process

*Every one’s work needs to incorporate the process of knowledge work.*

*Knowledge work is not a job description but can be viewed more as a way of working and learning in the knowledge era.*

VET is a knowledge-based industry with knowledge as its core business. It confronts a number of issues which relate to the pace of new knowledge acquisition, how knowledge is accessed and
exchanged and the contexts in which it is important. 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.

**Characteristics of knowledge work**

Knowledge work is the new economic imperative and is characterised by:

- being more organic than mechanistic
- processes and outcomes that are more emergent than predictable – the skill of knowledge work is about the ability of being anticipatory
- being not just a collection of information – it is how the user reacts to information that matters
- who and how you know is as important as what you know
- a human focus not a technology one – on tacit knowledge, which can often only be shared through relationship, conversation and interactions
- working with ambiguity, with opposites and paradoxes coexisting.

**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 in VET need the capacity to:

- balance work, learning and knowing
- undertake research using well-developed 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 fact-to-face and virtual environments.

Knowledge workers need the ability to continually learn, change and take intuitive leaps within organisations that may support mediocrity and step-by-step processes of improvement, based on measurement and incremental change - alongside innovation. Other generic contradictions of the knowledge era include:

- Competition and cooperation
- Mutation and extinction
- Growth and decay
- Replenishment and exhaustion
- Wholes and parts
- Individual and collective
- Order and chaos
- Flexibility and balance
- Stability and unpredictability.

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Organisational capabilities

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 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 capability development framework that supports the matching of the skills of knowledge workers with the needs of clients. The management of knowledge work is a crucial business skill and a pivotal driver for enabling high quality capability development initiatives.

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 organization; adjusts job opportunities to accommodate individual worker aspirations within the goals of the organization; 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.