

The Impact of E-learning on Employability Skills Development

Final Report

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Acknowledgement

We have been impressed by the way VET practitioners and institutions are responding to the challenge of embedding the employability skills in the work of VET in ways that strengthen the educational role of the sector and which involve innovative uses of learning technologies.

We have learned from all of the 27 interviewees across the nation, listed in Attachment A, and are grateful for the time and knowledge they shared for the benefit of this study.

We are most grateful for the extra contribution made by the interviewees and their organisations involved in the three case studies conducted for the study.

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Executive summary

The Australian vocational education and training (VET) sector is in transition in implementing a new policy for the employability skills of learning, self management, planning and organising, problem solving, communication, teamwork, initiative and enterprise and use of technology. These skills are being written into VET competency standards in training packages and their explicit development has been made a requirement from July 2008. This requirement is stimulating the exploration by VET practitioners of effective teaching, learning, reporting and assessment processes for the employability skills. This report, produced by the national training system's e-learning strategy, the Australian Flexible Learning Framework (Framework¹), considers how technology (e-learning) can assist.

Study method

A literature review was carried out from which the characteristics of the employability skills were determined and what it means for educational practice generally. The e-learning role has not been a focus of research to date; however, it is known to be in use. Examples include the *UK Key Skills Support Program* and the *Canadian Employability Skills Toolkit*.

Interviews were conducted to determine current uses of e-learning in Australian VET to support the development of the employability skills by learners. Twenty-seven people from 23 VET organisations from all Australian states and territories and a mix of provider types were consulted by phone using a prepared questionnaire based on the literature review. The interviewees were selected because they were in leadership roles regarding employability skills development and therefore well placed to identify the critical success factors and best uses for e-learning.

Three of the providers from the national consultations were selected for further study to demonstrate good practice employability skills development involving e-learning.

Key findings

The employability skills have the following characteristics that make them a challenge to teach and learn.

- They are used in combination in an interlocking and overlapping manner to perform work tasks.
- They can be applied at various levels depending on the task.
- They are context dependent in their application but transferable to other contexts.
- They are developed in all aspects of life and throughout life. This characteristic is acknowledged in some of the other terms used for these skills, such as core skills, basic skills, life skills and key competencies.

There is general recognition that active or 'hands on' learning is the most effective means of developing the employability skills given their characteristics. Moreover, those consulted for this study reported that using active learning strategies is driving learner engagement with VET, which aids learner achievement and retention. The educational experience is more interesting, the jobs for which learners are heading are brought alive, and motivation for learning is raised by using active learning

¹ <http://flexiblelearning.net.au>

approaches such as real work settings, simulated work settings, project-based activities, well-constructed scenarios, case studies and role-plays.

Cleary, Flynn and Thomasson (2006) recommend that for effective employability skills development, the design of an overall active teaching and learning and assessment strategy adheres to the following four adult learning principles:

1. Responsible learning – learners take responsibility for their learning.
2. Experiential learning – learners learn from experience.
3. Cooperative learning – learners learn with and through others.
4. Reflective learning – learners reflect on and learn from their experience.

Those consulted for this study agreed that e-learning can foster these four types of learning and the development of all of the employability skills.

The use of e-learning per se assists learners to undertake self-paced learning and so to take responsibility for their learning: when, where and how they want to do it. Some particular learning technologies in use to facilitate 'responsible learning' include web-based research, podcasts, other online educational resources, m-learning, e-quizzes/tests and online course content, and learning objects from Flexible Learning Toolboxes (Toolboxes²).

'Experiential learning' can provide a strong basis for the demonstration and development of most of the employability skills. The individual learns from experiences in real and simulated contexts. E-learning is being used as a significant tool in this regard in the form of simulated material from Toolboxes, CD-ROMs that contain workplace and community simulations, and the use of virtual worlds such as 'Second Life'.

The family of employability skills which 'cooperative learning' supports include teamwork, communication and problem solving. E-learning tools in use to support cooperative learning include virtual classrooms, web conferencing, interactive whiteboards, chat rooms, wikis and other online communication and collaboration tools.

'Reflective learning' is a key facet of employability skills development. E-learning tools in use for reflection on an individual's experience and learning with regard to the employability skills include e-portfolios, blogs, wikis, audio/video self-recording, digital stories and other online self-assessment tools. Learners are using these e-tools to document their employability skills and provide self-assessment notes for validation for use as evidence of competency. Performance levels with regard to employability skills require greater attention, however.

E-learning in the delivery blend, as outlined above, also enables teachers to cater for a wide range of learning styles: auditory learning (eg own and others' recordings); visual learning (eg videos); and kinetic learning (eg through workplace simulations). Indeed, learning and learning styles is the employability skill that all interviewees reported focusing on early with their VET learners, at the course induction stage, and, in many instances, using electronic-based materials. Learners were encouraged to reflect on their learning style preferences and to develop their learning skills and confidence throughout their VET programs to underpin all other learning.

The interviewees also reported that putting as many resources, activities and assessments as possible into electronic form enables quality teaching resources to be made available widely and for teachers to use classroom time to better effect. By using technology as a tool for learner management (eg Moodle and Blackboard),

² Toolboxes are high quality, cost effective interactive e-learning and assessment resources: <http://flexiblelearning.net.au/toolboxes>

teachers can develop and execute individual learning plans and track the progress being made by the learner in relation to the employability skills.

In situ examples of the various uses of e-learning discussed above are provided in the report, drawn from the three case studies undertaken.

The Skills Tech Australia (Qld) case study concerns a 'front-end' employability skills induction program for apprentices to improve their work readiness and a retention improvement strategy. The program involves a focus on problem-solving skills using three online problems that learners work on collaboratively. The program also makes considerable use of Toolbox materials, such as photos, movie clips and games, along with other learning objects made using PhotoStory, ARED³, eXe, Hot Potatoes and Captivate software.

The Electronics and Computer Systems Engineering Program at the Tea Tree Gully Campus of TAFE SA case study focuses on an electronic tool called LINKup, which is an instruction and employability skills self-learning tool as well as an e-portfolio tool for the recording of employability skills. LINKup has many forms of e-resources contained within it.

The NSW Adult Migrant Education Service (AMES)/VET/Industry Partnership case study includes applications of e-learning to assist literacy/communication skills development, such as audio recording tools, combined with technical skills development, such as using videos of real work activities and learning objects from training packages, which are made available in a Moodle site.

Conclusions

A transition situation with much promise was observed in the role of e-learning in employability skills development in VET in line with the new policy. The consultations and case studies uncovered significant innovations involving e-learning among VET organisations as they seek to embed employability skills in their work through active and personalised learning strategies.

The identification of best uses of e-learning for employability skills development is aided by clustering these skills into families of like skills against the adult learning principles that emphasise their development.

The critical success factors for effective use of e-learning in employability skills development and reporting identified in this study include in relation to the key concepts to be recognised, pedagogical aspects, assessment and reporting and management aspects. The success factors also refer to two areas for further development of the Employability Skills Framework that will enhance roles for e-learning. They are the use of conceptual structures that link the employability skills and performance levels structures that show progression in these skills.

Overall, it is concluded that e-learning and the employability skills should be seen as two of the dynamic influences whose interaction is likely to have a significant impact on shaping the evolving approach to vocational education and training under 21st Century conditions. There is much to gain through systematic discussion and building further on the innovative work and impacts to date.

³ ARED is an e-learning development tool designed to allow teachers and trainers, with little more than basic computer skills, to easily build their own e-learning resources:

<http://flexiblelearning.net.au/ared>

Introduction

This research on the impact of e-learning on employability skills development and reporting in vocational education and training (VET) in Australia was undertaken for the Benchmarking and Research business activity⁴ of the national training system's e-learning strategy, the Australian Flexible Learning Framework (Framework).

E-learning refers to the use of information and communication technology (ICT) in education and training.

'Employability skills' is the preferred term of Australian industry and the VET sector for generic skills that apply across a variety of jobs and life contexts. There are eight employability skills in the framework developed by Australian industry (ACCI/BCA, 2002), and adopted by the Australian VET sector.

Employability skills are the focus of this study and they are:

1. **Communication** skills that contribute to productive and harmonious relations between employees and customers.
2. **Team work** skills that contribute to productive working relationships and outcomes.
3. **Problem-solving** skills that contribute to productive outcomes.
4. **Initiative and enterprise** skills that contribute to innovative outcomes.
5. **Planning and organising** skills that contribute to long-term and short-term strategic planning.
6. **Self-management** skills that contribute to employee satisfaction and growth.
7. **Learning** skills that contribute to ongoing improvement and expansion in employee and company operations and outcomes.
8. **Technology** skills that contribute to effective execution of tasks.

The renewed emphasis on the employability skills in Australian VET makes this project timely.

Employability skills are taking on increased importance because jobs of today require flexibility and that flexibility "*requires a strong grounding in generic, transferable skills*" (Finn Review Committee 1991, p. 55) and the ongoing development of these skills to maintain employability (ACCI/BCA 2002, p. 3). The VET sector is exploring effective approaches to the teaching, learning and assessment and reporting of the employability skills as part of the new VET policy, which is that an explicit approach to the development of these skills

⁴ The Framework' Benchmarking and Research business activity conducts benchmarking activities to determine the use, impact and uptake of e-learning within different learner groups, states and territories, RTOs, business and industry; and research to inform the development of policy and new direction: <http://flexiblelearning.net.au/research>

Study questions

Five research questions were set for this study:

1. How is current practice in e-learning in VET registered training organisations (RTOs) and in the workplace supporting the attainment of employability skills for learners?
2. How can e-learning best be used to help develop and document employability skills?
3. Which employability skills, or which elements of their development, are best addressed by e-learning approaches? Are there any elements for which this approach is not suitable?
4. How can e-learning best blend with and complement other approaches to learning these skills?
5. What are the success factors in using e-learning to deliver and document employability skills?

Study method

A review of Australian and international literature conducted in the early stages of the study revealed that the e-learning role in fostering employability skills has up to now not been a research priority, but that there is a wealth of material on the characteristics of the employability skills and what this means for educational practice to develop these skills.

From the literature review, questions for the broad consultations phase of the study were developed to build a picture of current practices in the development and reporting of employability skills among a range of VET providers across the nation, and the uses being made of e-learning.

Twenty-seven people from 23 VET organisations from all Australian states and territories (Table 1) and a mix of provider types (Table 2) were interviewed by phone.

Table 1: National consultations - VET provider sample by jurisdiction

NSW	VIC	QLD	WA	SA	TAS	ACT	NT
3	4	5	3	4	1	1	2

Table 2: National consultations - VET provider sample by type

Public TAFE	Dual sector tertiary	Technical college	Private
14	3	2	4

The interviewees were providing leadership for their organisation in the development of new approaches to the teaching, learning and assessment of the employability skills. The bias in the sample was deliberate. Considered opinions from VET people with a high level of understanding of employability skills and their development and reporting were required to inform the set of good practices for the use of e-learning in the process that was to be developed. The information they provided was recorded manually in the questionnaire templates, used to guide the consultation, and then collated into a report.

The interviewees collectively had experience with a range of training packages and/or general VET programs in relation to employability skills. The majority reported using e-learning in the process. Some of the interviewees were not using e-learning but had aspirations for doing so in the future, being hindered by connectivity issues or because the uptake of e-learning in general was not advanced in their organisation. Other interviewees were in the development stage in the use of e-learning.

Table 3: Breadth of training package experience amongst the interviewed

Training package	Number in sample
Many - general discussion	9
Several trades	3
Electronics	1
TCF	1
Health and community services	5
Business services	5
TAA	2
General education/vocational preparation	4

Note: Some interviewees nominated more than one training package group.

A list of the people interviewed and their organisations is given in Attachment A, while the questionnaire used in the consultations is given in Attachment B.

Three of the providers were chosen for further investigation as case studies to demonstrate the role e-learning can play and the main success factors for effective employability skills development. The providers are:

1. Skills Tech Australia (Qld), which is using e-learning within a 'front-end' employability skills induction program for apprentices.
2. The Electronics and Computer Systems Engineering Program at the Tea Tree Gully Campus of TAFESA, which has a comprehensive, strategic approach to fostering the employability skills using an electronic tool called LINKup.
3. The NSW Adult Migrant Education Service (AMES)/VET/Industry Partnership, which uses e-learning in a model that links literacy skills with employability and technical skills in dual qualification courses.

The literature review, national consultation findings and case studies in full are in support documents separate to this report.

This report

The findings from the literature review on the characteristics of employability skills and their implications for the teaching and learning of these skills and e-learning are discussed in Chapter 2.

Current practice in VET teaching and learning and reporting and assessment of the employability skills and uses made of e-learning identified from the national consultations are discussed in Chapter 3, with illustrative examples from the case studies.

Chapter 4 contains answers to the research questions.

Characteristics of employability skills and their implications for teaching and learning

A review of the research literature identified that employability skills have several distinctive characteristics that make their development challenging for the VET sector. This has implications for the teaching and learning of these skills and the use of e-learning in this process (Bowman & Kearns 2008a).

Key characteristics of employability skills

There is a recognition that the employability skills are:

- interlocking and overlapping and used in combination to perform work tasks so that aspects essential to one domain will support competence in another
- applied and performed at various levels depending on the task
- context dependent, but transferable from context to context
- developed over a lifetime in all aspects of life experience, including paid and unpaid employment, self-employment, formal and informal education, and community activities.

These features are widely recognised in the literature on generic skills (Allen Group 2004, 2006; Rychen and Salganik 2003; Cleary, Flynn, and Thomasson 2006). While various terms are used for these skills internationally, a common core of essential skills tends to be found in all lists; therefore, international experience can be drawn on as well as Australian experience.

Key issues and implications for VET practitioners

There is general recognition that active and situated learning strategies that replicate key features of real work settings are most effective in the development of the employability skills given their characteristics (Cotton 2001; Dawe 2003; Callan 2003; NCVET 2003b).

A four component model has been developed in the resource guide *Employability Skills from Framework to Practice* (Cleary, Flynn and Thomasson, 2006) based on a review of research on how to foster the development of employability skills. The model acknowledges that teaching and learning approaches that foster the development of employability skills require the application of four adult learning principles:

1. **Responsible learning**, which “*encourages learners to take ownership of the learning process through more direct and active participation in the learning process and includes the following: making meaning out of new knowledge, distilling principles which will aid transference to new contexts and practising skills and mastering processes. Responsible learning emphasises self-management and initiative and enterprise as learners work independently to develop new knowledge and activities in the interest of furthering their skills.*” (p. 46)
2. **Experiential learning**, which “*emphasises ‘learning to do’ and ‘learning from doing’. Authentic learning occurs when learners have an opportunity to apply their skills and knowledge in authentic work environments or in contexts which attempt to simulate the real. With its emphasis on real-time demonstration of skills, experiential learning can provide a strong basis for the demonstration and development of all Employability Skills. It can be particularly useful to*

create opportunities in which problem solving and planning and organising skills are applied in real time.” (pp. 46-47)

3. **Cooperative learning**, which *“encourages learners to learn from each other, share learning tasks and learn from a range of people including colleagues, mentors, coaches, supervisors, trainers, and others. Cooperative learning-based activities can be particularly useful in a classroom environment to provide opportunities to work with teamwork and communication skills.”* (p. 47)
4. **Reflective learning**, which *“is about consciously and systematically appraising experience to turn it into lessons for the future. This can be introspective, where learners are encouraged to examine changes in their own perceptions, goals, confidences and motivations. It addresses: developing critical thinking skills, learning to learn and developing attitudes that promote lifelong learning. Reflective learning can be useful in directly addressing problem solving, initiative and enterprise and self-management skills.”* (p. 47)

Particular emphasis is placed on ‘reflective learning’ which is seen as *“an irreplaceable component of the overall instruction of Employability Skills. Learners must be provided with an opportunity to reflect on the ways the skills contribute to job effectiveness as well as their own abilities in relation to each of the skill areas.”* (p. 47)

There are shifts in the role of the teacher when active, situated, and ‘democratic instructional approaches’ are adopted, with teachers becoming facilitators and coaches rather than instructors.

There are opportunities for creative learning strategies that are holistic and draw on life experience now and in the future as these skills continue to develop. Teaching and learning strategies should recognise that the employability skills have multiple roles (as life, employability, learning and innovation skills) and are developed over a lifetime in a range of contexts.

The wide applicability of the employability skills is acknowledged in some of the other terms used for these skills: key skills or basic skills (UK); core skills (European Union); key competences (OECD); and 21st Century skills (USA).

The Allen Group (2004) report noted this in the following terms:

“The employability skills definition is useful and concise; however the broader context for development and relevance of employability skills needs to be recognised. Employability skills are developed over a lifetime in all aspects of life experience, including paid and unpaid employment, self employment, formal education and community activities.” (Allen Group, 2004, p. vii)

The Australian ACCI/BCA Employability Skills Framework does not acknowledge the overlapping and interconnecting nature of employability skills. This may have consequences for the effective teaching and learning of these skills.

The absence of structure that reflects the relationship between skills in the Employability Skills Framework potentially impacts on teaching, learning, recording and assessment strategies and the role of e-learning in that it poses the danger of ad-hoc applications in which some of the employability skills receive less attention than others. This situation was identified by the Allen Group in their 2006 *Assessing and Reporting of Employability Skills in Training Packages* report.

The Allen Group report on the assessment and reporting of employability skills in training packages noted that there were significant differences in the extent to which employability skills are currently represented in training packages.

“There are some differences across skill types — for example, while communication skills are represented comprehensively in Training Packages, other less tangible skills such as self management, initiative, enterprise, and learning are not well represented or well understood.” (Allen Group, 2006, p. 19)

This theme, that some employability skills are not well understood and are consequently poorly addressed, emerged a number of times in the research and consultations. For example, the South Australian Employability Skills Community of Practice (SAESCoP) noted in their blog in June 2008:

“The common thinking around employability skills within this group, and within the vocational education and training (VET) sector we suspect was that we don’t have a common understanding of the current thinking on how employability skills are to be delivered and assessed in new and revised Training Packages.”

“We have different levels of understanding of the term employability skills in VET, and have different conceptions of how employability skills should be implemented in VET.”
(Miller, 2008, p. 1)

The ACCI/BCA Employability Skills Framework (2002), which has been adopted by the Australian VET sector, was developed through consultations with employers, supplemented by research and case studies, and is a list of the following eight skills:

1. Communication
2. Team work
3. Problem solving
4. Initiative and enterprise
5. Planning and organising
6. Self management
7. Learning
8. Technology

The OECD DeSeCo Framework of key competencies (2005), however, does acknowledge the overlapping nature of these competencies, and as such, may be of value to practitioners. This model was developed through theoretical and conceptual insights derived from papers commissioned from a range of disciplines and in the broader life context.

The DeSeCo conceptual framework classifies the key competencies into three broad categories:

1. Ability to use tools interactively.
2. Ability to act in heterogeneous groups.
3. Ability to act autonomously.

The key competencies are then mapped to each of these three categories:

1. Ability to use tools interactively.

- Ability to use language symbols and text interactively.
- Ability to use knowledge and information interactively.
- Ability to use technology interactively.

2. Ability to act in socially heterogeneous groups.

- Ability to cooperate.
- Ability to manage and resolve conflict.
- Ability to relate to others.

3. Ability to act autonomously.

- Ability to defend and assist own rights, interests and needs.

- Ability to form and construct life plans and personal projects.
- Ability to act within the big picture.

The ability to think and act reflectively is seen to be central to this framework.

“Reflectiveness involves not just the ability to apply routinely a formula or method for confronting a situation, but also the ability to deal with change, learn from experience and think and act with a critical stance.” (DeSeCO 2005, p. 5)

A recent Employability Skills Project undertaken by Metropolitan South Institute of TAFE, the lead institute for employability skills in Queensland TAFE, compared the ACCI/BCA Employability Skills Framework with the OECD DeSeCo model and reported that:

“The ACCI/BCA Framework was developed in a pragmatic way and lacks the theoretical and conceptual base of the DeSeCo model so that it lacks the concern with logical structure found in the DeSeCo framework...” (Giles-Peters, 2008, p.13)

“... whereas a pragmatic approach was adopted in the ACCI/BCA Framework, the OECD adopted a theoretical and conceptual approach [which] led to a more coherent and unified framework where the relationships between the skills included is clearer.” (Giles-Peters, 2008 pp.19-28).

Giles-Peters suggests that further work be undertaken to develop an enhanced Employability Skills Framework that provides a stronger framework for teaching and learning strategies.

The literature suggests that the benefit of a conceptual framework is that it would aid the pace of understanding and development of these skills.

“A key finding in the learning and transfer literature is that organising information into a conceptual framework allows for greater transfer, that is, it allows the learner to apply what was learnt in new situations and to learn related information more quickly.” (National Research Council, 2000, p. 17)

Whether making more evident the relationships between the employability skills is useful as a basis for learning strategies development and roles for e-learning was taken up with the VET practitioners involved in this study. They were asked to comment on the effectiveness of e-learning in relation to specific clusters of employability skills that the researchers had developed based on the DeSeCo model.

Table 4: Clusters of employability skills based on DeSeCo model

Researchers grouping	DeSeCo grouping	Employability skills
Self mastery skills	The ability to act autonomously	Learning skills Planning and organising Self management
Interpersonal skills	The ability to act in socially heterogeneous groups	Communication Team work
Conceptual/thinking skills	Within all categories	Problem solving Initiative and enterprise
Technology skills	The ability to use tools	Use of technology

This four-part categorisation of the employability skills was useful. Those interviewed identified different forms of learning strategies and e-learning to facilitate each of the

four groupings. They were of the view that all four groupings of the employability skills can be facilitated using e-learning. However, two caveats were regularly added with regard to the use of e-learning for the development of the interpersonal skills group.

1. Many VET teachers still do not have the e-skills and associated facilitation skills required to use e-learning for interpersonal skills development purposes.
2. Videos, web cams and virtual classrooms are not as good as in-person approaches. To cover all elements of the interpersonal skills, the interviewees suggested that a blended delivery approach is required for learning and some face-to-face activities.

The overarching message about the use of e-learning for employability skills development was that e-learning is just one of a range of tools and methodologies that can be used. Employability skills facilitation requires the design of an overall active teaching, learning and assessment strategy and then the selection of learning approaches to achieve the strategy.

This message led to the study conclusion that the identification of best uses of e-learning for employability skills development is aided by clustering the employability skills into families of like skills against the adult learning principles that emphasise their development.

The ACCI/BCA Employability Skills Framework does not acknowledge in any detail that the employability skills can be performed at various levels. The absence of assigned performance levels may be its shortcoming.

The employability skills in new VET training packages are embedded and are not linked to any predetermined levels, unlike the key competencies, which the employability skills have replaced, that had a performance level from 0 (no competency) to 3 (high level competency). Each training package that comes online under the embedded approach to the employability skills has a range of facets described. The facets are specific examples of skills and behaviours that contribute to the overall application of a particular employability skill in the context of the qualification and job role. The facets imply the depth and application of the employability skills but they do not correspond to any assigned set of performance levels.

It is up to the VET trainer or assessor to design learning and assessment approaches that encompass the facets to the correct levels of performance. The wording of the employability skills has to be read carefully and the level interpreted. This unique embedding of the employability skills in the VET training packages was found to be a point of contention during the national consultations undertaken for this study. It has been suggested as unsatisfactory by Cushnahan (2009) who argues that a more universal strategy for interpreting generic skills might best be developed.

The embedded and highly contextual nature of the employability skills in the VET training packages without any performance level references was said to make it hard to deal with them and to use VET training packages in 'open-ended ways' that encourage and facilitate recognition of the life-wide and life-long characteristic of these skills.

Another notable feature of the Australian employability skills compared to those of other countries is the omission of literacy and numeracy skills from the list. What this means for the development of the employability skills was also discussed in the national consultations phase of the study.

It was found that linking basic skills such as literacy with employability skills and vocational skills training is becoming common practice as a way forward to meeting the needs of many adult Australians for whom literacy and numeracy can otherwise

prove a barrier to participation in VET and improved job opportunities, and that e-learning can play a role here.

It was also found that problem solving might best be regarded as a foundation skill because of its significance for industry, Australia's poor performance in this area (ABS, 2007), and the interlocking of this skill with most of the other employability skills.

Problem solving is one of four domains in the OECD Literacy and Life Skills survey. The other three domains are prose literacy, document literacy and numeracy. There are significant numbers of Australians with low performance levels in all four literacy domains, with problem solving being the domain with the poorest performance (ABS, 2007, p. 5).

Implications for e-learning

E-learning has a significant role to play in facilitating the development of the employability skills. The extent and potential of that role was the subject of this study, and in this process VET practitioners were invited to reflect on the key characteristics of the employability skills and how they influenced teaching and learning approaches, and which might also be incorporating e-learning tools and methodologies. (See the questionnaire used in the consultations in Attachment B.)

Current uses of e-learning in employability skills development and reporting in Australian VET

State of play of VET practices in relation to employability skills

The national consultations confirmed that the Australian VET sector is in transition to the new embedded and explicit approach to the teaching and reporting of the eight employability skills.

Interviewees were asked to rate their organisation's approach to the employability skills along a continuum from 'laissez faire' (left to individual teachers, some of whom are taking the initiative) through to 'have an organised approach/model in place for use at the discretion of staff' (see Figure 1 below).

Most of the providers represented in the national consultations were in middling positions; for example, having:

- just started to roll out professional development (PD) on employability skills for all interested teachers
- just completed such an exercise, or
- just completed pilot testing of models.

Figure 1: Continuum of current practices regarding employability skills

No approach ----->Developed model

Left to teachers/some being innovative	Started PD roll-out	Just finished PD roll out	Testing or have just tested models	Have a developed model(s)
7	4	2	6	4

(Numbers refer to the sample of 23 VET providers consulted for the study.)

The interviewees were using the various professional development materials that have been developed. The main resources in use were:

- the *Professional Development Program for Employability Skills* developed by John Mitchell and colleagues on behalf of the National Quality Council
- the 2006 *Employability Skills from Framework to Practice* resource guide by Precision Consultancy (Cleary, Flynn & Thomasson, 2006)
- the Allen Group 2006 report *Assessing and Reporting of Employability Skills in Training Packages*.

The interviewees also reported using the communication sheets on employability skills targeted to learners, employees and employers that have also been produced by the VET sector.

Main uses of e-learning to support employability skills development

Three main ways in which e-learning is being used to support employability skills development and/or reporting across a wide range of training packages were identified:

1. As part of the delivery blend to facilitate active learning of these skills with learner-centred pedagogies.
2. As a tool for teachers for learner management.
3. As a tool for learners to document their employability skills and self-assessment notes for validation for use as evidence of competency.

E-learning in the delivery blend to support attainment of employability skills

There was ready agreement by all interviewees that active and self-directed learning strategies are the most effective for employability skills development, with 'reflective learning' built-in as an essential component.

All interviewees suggested that the renewed focus on employability skills was having an impact on teaching and learning strategy design. It was accelerating a switch from 'chalk and talk' instructional approaches to activity-based, coaching and facilitating approaches.

The interviewees readily supplied various examples of active-learning strategies, such as:

- real work settings
- simulated work settings
- project-based activities
- well constructed scenarios
- case studies
- role plays
- the undertaking of the above in teams
- group discussion.

All learners are said to respond well to 'real life' approaches. An explicit focus on employability skills is driving learner engagement with VET as it is bringing alive the jobs for which learners are heading.

Roles for e-learning in the delivery blend

E-learning in the delivery blend enables teachers to cater to a wide range of learning styles such as auditory learning, visual learning and self-testing through puzzles and quizzes, and kinetic learning through workplace simulations.

Indeed, 'learning' is the employability skill that all interviewees reported focusing on early with their VET learners, at the course induction stage. VET learners are commonly being introduced to learning styles, in many instances using electronic-based materials, and encouraged to reflect on their learning style preferences and to develop their learning skills and confidence throughout their VET programs.

The use of e-learning in the delivery blend assists learners to undertake self-paced learning and so take responsibility for their learning, when, where and how they want to do this. It also makes learning more interesting.

Using e-learning resources allows reinforcement of learning. Audio files and videos, for example, can be replayed as many times as needed and Toolboxes are being trawled for relevant learning objects that are being used separately.

Growing use of social e-learning tools such as web conferencing, chat rooms, blogs and wikis was also reported to be advancing socially interactive and collaborative learning, especially among regional and isolated learners who would not otherwise be able to interact with a range of people.

The use of the immersive learning environments of virtual worlds is enabling connections to a wider range of people and allows for continuing and growing social interactions, which themselves can serve as a basis for collaborative education. Virtual worlds are also used for high-risk activities (eg in health services) and where they can provide a safer learning environment for experimenting with behaviour options.

It was suggested, however, that there are many VET teachers who still do not have the e-facilitation skills required to support the use of e-learning for 'cooperative learning' and interpersonal skills development purposes.

It was also remarked on several occasions that basically it is the learning activities used rather than the technical aspects.

Employability skills facilitation requires the design of an overall teaching and learning and assessment strategy in which e-learning is just one of the tools used.

Bringing in literacy skills

As mentioned previously, a notable feature of the Australian VET set of employability skills compared to those in other countries is that they do not include the basic skills of language, literacy and numeracy (NCVER, 2003). Interviewees were asked about this and how the teaching and learning strategies for employability skills were affected when learners have poor basic skills.

All interviewees reported taking basic skills into account, particularly language and literacy skills. Numeracy skills were mentioned by only two interviewees.

It appears to be common practice to involve learners at the outset of their learning program in some form of pre-prepared test of their basic skills. The test might be included in their application form or undertaken as part of the course induction process. Technology literacy was also covered in most instances. Australian workplace cultural training was another basic skill that was identified by several interviewees.

Most VET providers use the Australian National Reporting System (NRS) for language, literacy and numeracy as their assessment guide. For others, a United

Kingdom developed Basic and Key Skills Builder (BKSB) program is serving as an electronic contextualised diagnostic tool for language, literacy and numeracy development. The Australian version of the BKSB⁵ is available through the Business Development Manager of the Metropolitan South Institute of TAFE, the Queensland lead institute for the employability skills and a partner to Skills Tech Australia, one of the case studies in this study.

The basic skills of learners determined by the testing were taken into account in the teaching and learning strategies employed. Teachers of literacy were commonly made available and worked with the learners who needed support in their VET programs.

A case study was undertaken of the most integrated model we found of language and literacy skills training alongside VET skills and Australian workplace cultural training using a blended delivery approach. This was the NSW Adult Migrant English Service (AMES) and Partners in VET and in Industry.

Case study 1

Blended delivery of basic skills, employability skills and technical skills by NSW AMES and Partners

NSW AMES and Partners from VET and Industry are accelerating adults for whom English is a second language into appropriate jobs through the delivery of dual qualification courses that combine *Certificates in English* with VET Certificates in skill shortage areas, specifically:

- *Certificate II in Business Administration* BSB20201
- *Certificate III in Aged Care Work* CHC30102
- *Certificate III in Children's Services* CHC30402.

The English teaching and learning activities are mapped and tailored to the VET course components that are delivered by some NSW adult and community education (ACE) providers and the Batchelor Institute in Darwin, both of which are RTOs. Industry partners provide work experience placements, relevant industry input to teaching resources and practices, and employment preparatory activities such as preparing job resumes and interview practice.

The employability skills feature strongly in the linked skills courses in the context of the Australian workplace culture, and e-learning is becoming an increasingly significant feature in their development.

NSW AMES and Partners is using Moodle and populating their site with learning objects developed by the team and from the Framework's Toolbox Repository⁶. Learners are making videos of their VET work tasks, some of which have been added to Moodle as teaching resources for future learners. The industry presentations, which have been a feature of the face-to-face courses, are being recorded and put into a Moodle site⁷. Industry experts are also viewing other resources in the site and offering advice on improvements.

Learners spend time with the English language teacher, with the VET teacher or trainer, with both teachers/trainers, and in work placements with industry partners during their courses. As the number of e-learning resources for the course grows, learners can spend more time learning as and when they wish and interacting with the VET teachers, trainers and industry experts.

⁵ <http://www.bksb.co.uk/australia.shtml>

⁶ <http://flexiblelearning.net.au/toolbox/repository>

⁷ <http://jobequip2Moodle.com.au>

At course commencement, all learners develop a learning plan, look at their learning styles and start a learning plan diary. There are activities in Moodle related to 'learning' as a skill aimed to help learners have an active awareness of self as a learner, manage their own learning and apply practical strategies that facilitate their learning. The learning plans can be used to demonstrate their planning and organising skills.

To improve their employment prospects in Australia, people from non-English speaking backgrounds are most keen to develop their communication skills. Communication e-tools, like chat and 'show and tell' areas where participants can support each other, are high on the list of priorities for learners.

The Moodle site includes an audio file so that learners can practise their oral communication skills. They can record themselves interacting with clients on the telephone for vocational job task purposes and replay and assess themselves. They can record as many times as they wish and then submit a recording they are happy with for assessment. They also critique each others' recordings.

Learners are developing their oral skills by appearing as the instructors in work task demonstration videos. The videos are viewed by other learners, who make notes before recording the task using a voice tool embedded in Moodle. The trainer then assesses the learner's pronunciation and grammar, which is also added to Moodle.

Job-related articles accessed through the internet or Moodle are used to develop their reading skills, and the learners collectively build in Moodle a dictionary of key words related to their jobs.

Written English skills are developed through job-related tasks such as writing letters and employment resumes.

The learners are required to reflect regularly on their progress in the program and their work placements in their learning diaries, which can be submitted for assessment as a written English exercise. How the learners deal with any problems that arise in their work placements is shared and discussed by the learners to encourage peer learning about problem solving.

Team-building activities and approaches are encouraged. The learners work in teams to develop their industry visits and work placement programs, for example, and to practise some of their work tasks.

These are some of the ways in which reading, writing and oral communication teaching activities are tailored to and undertaken in the context of the particular VET program component of the linked skills courses.

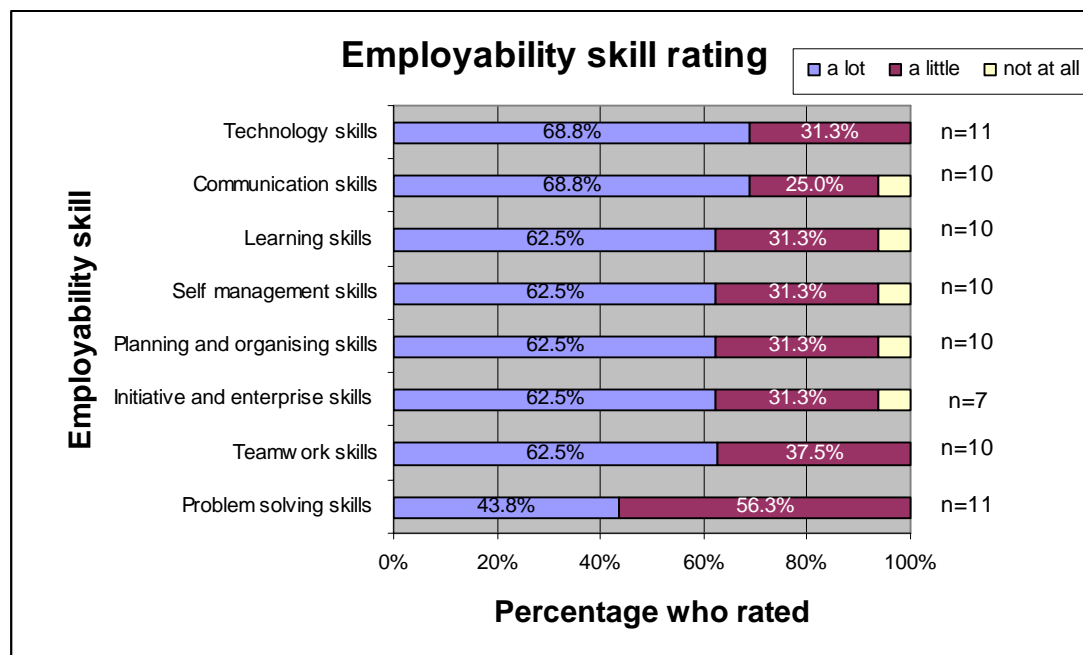
Specific examples of the core literacy skills are mapped against all eight employability skills embedded in the VET qualifications. Assessment of the core skills is currently against the National Reporting System (NRS) for language literacy and numeracy. A new mapping will be done for 2009 against the new Australian Core Skills Framework (ACSF) that replaces the NRS.

It is important to note, however, that learner performance in relation to the employability skills in the VET qualifications component of the linked courses is assessed in the context of the VET course and by the VET partner.

Early results of the introduction of e-learning into linked skills courses of AMES and Partners are promising. The learners who have so far responded to the survey are highly satisfied with the blended delivery model, report having improved their employability skills as a result of the introduction of the e-learning components as outlined in Figure 2, and most graduates find work reasonably quickly.

Figure 2: How much online activities in linked skills courses of the NSW AMES and Partners in VET and Industry are helping learners to increase their employability skills

(Learner survey results as at 12 November 2008.)



The fully integrated or linked basic skills, employability skills and technical skills model of AMES and Partners is worth exploring by the wider VET community. It meets the needs of many adult Australians for whom literacy can otherwise prove a barrier to participation in VET and employment (ABS, 2007). Embedding English certification training in vocational skills training enables adults to develop skills and knowledge more quickly and to enter the workforce more confidently.

E-learning to support VET teachers to manage the learning process

A second role identified by the interviewees for e-learning was for learning management.

The interviewees reported that the introduction of e-learning into the VET delivery blend enables them to make available quality teaching resources that are reusable and can be made available widely when and as needed by learners and other teachers and industry partners. Putting as many resources, activities and assessments as possible into electronic form also enables teachers to use classroom time to better effect.

Electronic learning management systems are also becoming commonplace (eg Moodle and Blackboard). They were said to enable the development and execution of individual learning plans. They also provide an excellent tracking system, enabling the teacher to see the progress being made by the learner on various tasks. What they have completed and their learning achievements, including in relation to the employability skills, can be inputted in the one place for easy reference. One interviewee commented that:

“...one person can drive a community of practice in social constructivist teaching [and a large student body] using an e-learning management system...”

E-learning portfolios to help the development, documenting and assessment of employability skills

The third role mentioned by those interviewed for e-learning was to help the development and documenting of employability skills to consolidate evidence of learners' employability skills. This is hardly surprising given that a portfolio approach to employability skills reporting was noted to be popular and recommended in two reports on approaches to employability skills reporting and assessment undertaken for the then Commonwealth Department of Education, Science and Training⁸ (Allen Group 2004, 2006).

It was noted that the development and use of e-portfolios (electronic portfolios) is currently also being investigated by the Framework and by education.au⁹ in respect of all kinds of work-related skills.

A small number of the interviewees in the study were using an e-portfolio tool for learners to document examples of their employability skills and their self-assessment notes. 'Reflective learning' was commonly understood to be the key to employability skills development. Several other interviewees were using paper-based work book approaches. Other interviewees appeared not to be asking learners to collect evidence but were making the learners aware of these skills and when and how they occurred in their learning programs and were undertaking holistic assessment of these skills in the assessment tasks they set.

The value of e-portfolios is that a myriad of examples of a person's demonstration of employability skills can be collected and presented in interesting ways. The various pieces of evidence can be cross-referenced and linked. The e-portfolio can also be updated continuously and easily. Learners are expected to benefit by having a transportable and comprehensive e-portfolio that will assist when seeking employment. They can download the content onto a USB device, or email an invitation to view the e-portfolio to a potential employer.

Mixed reaction to e-portfolios

Not all interviewees were in favour of e-portfolios as they were considered exceptionally burdensome for some learner groups. Some interviewees wondered if employers would refer to them or just look at the employability skills summary statements. Alternatively, they may simply ask prospective employees about these skills during an interview. Interviewees also pointed out that there is no agreement on what e-portfolios of employability skills should look like and how they would work.

Most interviewees believed in a huge untapped future potential for e-portfolios. One interviewee pointed to the advanced trend towards e-portfolios in Europe and suggested this would happen in Australia. Others pointed to the shift that is occurring from classroom-based to workplace-based learning, and that this would result in the demand for skills recording tools, including e-portfolios, from employers and employees in the future.

E-portfolio examples

Various e-portfolio templates are available. The interviewees identified the templates of TAFE Victoria Virtual Campus, MyTAFE, Myfuture, and QUT. One interviewee is using e-Google as an e-portfolio platform.

⁸ Currently the Department of Education, Employment and Workplace Relations:

<http://deewr.gov.au>

⁹ <http://educationau.edu.au>

Some interviewees have developed their own. The Swinburne Skills Passport is one example. The process of collecting evidence for the Swinburne Passport involves learners progressively filling in a Word document template to outline their employability skills. When learners have completed the evidence collection, they upload their Word document into the WebCT course for the Swinburne Employability Skills Passport that has been developed for teachers to record the learners' achievements and their validation of the skills.

The Passport can include other work and life experiences that contribute to the development of a learner's employability skills. The Passport has been available as a paper-based version for the past four years, but 2008 was the first year Swinburne TAFE offered an e-version.

Swinburne University of Technology's TAFE Division (Swinburne TAFE) was honoured for its visionary Employability Skills Passport on 20 November 2008 with the coveted *Innovative Business Award* at the Australian Training Awards in Darwin.

The Swinburne E-portfolio is another example. Swinburne learners may choose to develop a more sophisticated electronic portfolio using the e-portfolio of the TAFE Virtual Campus. They can develop a CV, make an online photo album, develop a career portfolio and integrate written achievements with images, photos, copies of actual qualifications, audio and/or video files.

Swinburne TAFE's Employability Skills website¹⁰ is open to the public and all of the resources, case studies and templates are available for use.

Ballarat University is using Word documents and TAFE VC e-portfolios. They are also using Facebook styles that appeal to learners. As at Swinburne, learners use these resources on a voluntary basis.

Sunshine Coast Institute of TAFE has developed an e-portfolio recently within a Reframing the Future project. The teachers involved focused on developing a platform that would provide the benefit of a trackable assessment resource and offer the opportunity for innovative and engaging practice in the development and assessment of employability skills. They piloted their e-portfolio approach in 2008 before enabling its use throughout the institute.

The Electronics and Computer Systems Engineering program at Tea Tree Gully Campus (formerly the Torrens Valley Institute) of TAFE South Australia has a specially built e-portfolio tool for employability skills. Called LINKup, it is more than an employability skills recording tool in that it is also a comprehensive, internationally recognised e-learning employability skills development program.

Case study 2

Employability Skills Development in the Electronics and Computer Systems Engineering Program at the Tea Tree Gully Campus of TAFE SA

Employability skills development has been a special feature of the Electronics and Computer Systems Engineering courses at Tea Tree Gully Campus of TAFE South Australia (TAFE SA) since their commencement in 1991. An electronic tool called LINKup was developed specifically to help learners understand and develop their employability skills. It is an instruction as well as a recording tool, containing many forms of educational resources.

Initially, LINKup was a value-added course component. Learners were encouraged to develop their knowledge of and competence in the employability skills using LINKup on a voluntary basis. Over the years, LINKup has proved its worth among the staff of

¹⁰ http://www.tafe.swin.edu.au/employability_skills

the program, who have observed learner growth in relation to their employability skills through the use of LINKup, and employers of their graduates have provided positive feedback. There is an interview with an employer and a graduate student within the LINKup tool. From 2003, LINKup has become a mandated part of the Electronics and Computer Systems Engineering courses at Tea Tree Gully Campus of TAFE SA.

Figure 3: The E-learning tool LINKup for self development of employability skills

LINKup
Employability Skills

A proven practical way to assess and improve your **Employability Skills**.

- Years of 'hands-on' research and development
- National and international acclaim
- Used by students, trainers, employers
- [Improves workplace performance \(see video\)](#)
- [LINKup Certificate](#)

What To Do (Video)

Discover
...what LINKup Employability Skills are

Investigate
...the exclusive LINKup Validated Self Assessments

Try
...a LINKup assessment first hand

Reflect
...on how LINKup could help you

LINKup Employability Skills

- Initiative & Enterprise
- Self Management
- Learning
- Communication
- Teamwork
- Problem Solving
- Planning & Organising
- Technology
- Using Information
- Mathematical Techniques

Employer...

We've had several of our staff go through this [LINKup] process and it's really helped them determine where their strengths are and how they can improve on them

Rebecca Jansen
Advanced Rapid Robotic Manufacturing

LINKup Assessments

Government of South Australia **tafeSA**

Source: <http://linkup.tafesa.edu.au>

Course induction includes a focus on the employability skills and their critical importance to becoming a successful worker, as well as to life in general. LINKup is introduced to the learners, in particular the video within the site that introduces the employability skills and the employability skill of 'learning' is particularly emphasised at induction. There is an exercise in LINKup that assists learners to recognise their own learning styles so that they can seek out course resources and approaches that meet their needs.

The learners take an active approach to selecting, identifying, performing and assessing their employability skills as appropriate throughout their course. They are given some choice over which employability skills are appropriate for their particular context in the simulated workplace environment of their program or in real workplaces, if available. From 2003, learners have been required to complete a specified number of validated self-assessments of their employability skills as part of their studies.

Whenever they do a task assignment, learners have the option, using LINKup, to reflect on the employability skills that were involved. The employability skills that can be demonstrated within the various technical skill tasks are discussed with learners and included in written materials. The skills must be demonstrated in the context of the tasks the learners perform to ensure authentic performance of those skills.

There are three levels of possible competency achievement of the employability skills inbuilt to LINKup to assist individual self-development of the employability skills, as shown in Table 5 below.

Table 5: Dimensions of competency and performance levels in LINKup

Dimensions of competency	Performance level
Task skills Capacity to perform required tasks	Level 1
Task management skills Manage a number of different tasks	Level 2
Contingency management skills Dealing with irregularity, imperfections and the unknown Job/role environment skills Dealing with responsibilities and expectations of the work environment	Level 3

Having chosen an employability skill for validated assessment, the next decision learners need to make is the level of performance of the employability skill they have demonstrated. Selection of the performance level brings up a worksheet for that employability skill, with performance criteria and examples for that level.

Learners complete the worksheet, defining the purpose and strategy they employed in relation to the employability skill, recording and sorting their evidence and then reflecting on how well the evidence meets the performance criteria. They may find they have chosen the wrong performance level in the first instance and change to another.

A learner using LINKup consulted in the consultations phase of this study had the following to say about the performance levels:

“Coming to grips with the performance levels can take a while but once you get it they provide a useful framework of how you can advance up the employability skills ladder. Now I see why some blokes got the promotion and others did not who had better technical skills in my opinion.

The performance levels in LINKup give us a competitive edge. The results can be quantified. For each employability skill the number of times I have proven competence through self-reflection at the various performance levels can be put into a simple table to present to an employer and I can back this up with my validated evidence that I keep in a folder.”

Once they are happy with their evidence base and self-assessment, they submit the form together with the associated task assignment to VET staff and/or workplace supervisors who then assess and validate it or provide feedback on what else the learner needs to do to meet the performance standard. The learner can re-submit when the additional work has been done.

Learners can seek RPL of employability skills if they want to. In these instances, a learner might prepare using the LINKUP self-assessment forms which are then validated via a face to face interview so that staff can ensure they obtain the full information required.

Full details of all validated self-assessments are recorded for each learner (in the same way their technical achievements are recorded) in the VSMART computer-based student management system that is designed to record all employability skills self-assessments in addition to all other course assessments.

Both staff and learners acknowledge that self-assessment of employability skills is a high level cognitive process. Learners find it hard going at first, but once they have done their first employability skill self-assessment they require little ongoing assistance.

LINKup¹¹ is available free to anyone who wishes to use it, in full or in part, and an 'offline' version is under development to enable users to take a copy home and work on it at any time without having to be online.

The only issue with LINKup of any substance reported by others in VET is that it has performance level references in relation to employability skills, whereas there are no such references in the new embedded approach to employability skills in VET. There are those in VET who are against and those who are for performance level references in relation to the employability skills.

The argument against the use of levels appears to be that they are not part of the new endorsed approach to the employability skills in VET, even though it was acknowledged that this approach leaves room for a range of judgments of competency.

The argument for performance levels in simple terms is that they are part of reality in that there is an employability skills ladder. This is acknowledged in the guidelines for assessing employability skills that were developed by Precision Consultancy and which include:

- take an holistic approach and collect evidence of the employability skills, working together across a range of units of competency
- empower the learner to take responsibility for collecting and compiling suitable evidence (in a portfolio approach)
- be sure to take the setting into account, and
- *“give due consideration to the level of the application of the employability skills”* (Cleary, Flynn and Thomasson, 2006, p. 48)

In considering the level of the application of the employability skills, the guidelines further state:

“The application of Employability Skills will vary across the different levels of the Australian Qualifications Framework (AQF). Methods of assessment for Certificate I and II level qualifications may not produce reliable, valid outcomes for higher level qualifications.

The added complexity of Employability Skills in higher level qualifications requires approaches that generate a range of evidence over a period of time from a variety of applications. Empower those being assessed to collect a portfolio of evidence that assists assessors to infer the attainment of the less tangible skills including analytical skills, creative thinking and complex problem solving.” (Cleary, Flynn and Thomasson, 2006, p. 52)

¹¹ <http://linkup.tafesa.edu.au>

The use of level descriptors to enhance the role of e-portfolios

A framework for the employability skills that incorporates generic level descriptors applied across all training packages would:

- increase the reliability of assessment because they can be clearly applied
- foster greater use of RPL of these skills
- facilitate the adoption of a life-wide and life-long learning approach to employability skills development
- increase the attention and value placed on the employability skills by all parties
- enable portfolios of evidence on employability skills to have wider credence.

Note, however, that if the levels were applied against the employability skills at the VET qualification level, the issue would remain of how to take into account achievement of employability skills among VET learners and workers doing individual units of competency or skills sets training only. Several of those interviewed for this study are considering issuing special Statements of Attainment for employability skills developed at the unit of competency level.

In the national consultations it was found that the uniquely embedded nature of the employability skills was hindering the use RPL. While the guidelines for employability skills development in VET state that assessment can occur through RPL, it is difficult to do so when the employability skills are written specifically in the context of the qualification and job for which the learner is training. Therefore, in practice, assessment strategies rarely encompassed the use of formal, upfront RPL processes. Instead, it was more common to see an approach that accelerated progression through the current course.

It is notable that three of the interviewees in the national consultations were in the process of carrying out comparative mapping exercises of the employability skills in VET compared to the generic skills recognised in the schools sector and/or higher education sector. The aim is to establish a universal framework for generic skills development in Australia with performance levels built in to acknowledge that they are developed over a lifetime and in all aspects of life. One interviewee suggested that employability skills are better thought of as accumulated rather than transferred, that they are continuously built upon.

The need for client-focused approaches to the employability skills and e-learning

Learners' personal situations make a big difference to how they best develop employability skills and therefore to what teaching, learning and assessment approaches are best adopted, and in turn what uses are made of e-learning.

Some interviewees, particularly those working with learners in low level VET qualifications and young learners with limited experience of the world of work, pointed to the need to watch the language used and the approach used to employability skills development. These groups of clients may not have thought about employability skills before. The discussion of employability skills is best kept simple and tied specifically to work tasks to illustrate the relevance of their practice and application.

It may be best to limit conversations about these skills during the information sessions at the commencement of the learning program because the training program, with all of its units of competence and subject matter, is daunting enough. More structured and constrained learning resources and evidence-generating activities and giving more detailed direction, instruction and support may be required.

An innovative approach to employability skills development among young apprentices is being trialled by Skills Tech Queensland. This features a 'front end' induction program involving e-learning, chosen as a case study for illustrating how the productivity of apprenticeship training might be enhanced by this approach.

Case study 3

The Employability Skills Induction Program of Skills Tech Australia

Skills Tech Australia was established in 2006 as a specialised TAFE institute for all trades in Queensland to reform apprenticeship training in accord with the Queensland Skills Plan¹² and with regard to objective 1.44 of the Queensland Skills Plan, which is directed at delivering intensive, up-front training for apprentices (Department of Education, Training and the Arts, 2008).

The Employability Skills Induction Program is part of the new up-front approach to apprenticeship training being implemented by Skills Tech Australia.

The Employability Skills Induction Program has been developed as a package involving two phases. Phase 1 focuses on:

- general occupational health and safety
- the attainment of basic trade skills
- the application of problem-solving skills
- the identification of the learners' own preferred learning style and literacy/numeracy levels.

After completing Phase 1 learners progress to Phase 2, which addresses trade-specific skills. While directed towards specific trade skills, the program may also further define the necessary skills required by learners. This means that other employability skills may be brought into the program as needed.

The program is delivered with a blended delivery strategy that combines e-learning with teacher interaction in a number of roles. It makes considerable use of materials from Toolboxes. These include photos, movie clips and games. The online aspects also include the application of PhotoStory, ARED, eXe, Hot Potatoes and Captivate software. While these applications have value for learning, they also have value as a teacher development tool in demonstrating to teachers that blended delivery, as well as being effective, can be put together easily and create dynamic learning.

Tools such as videos, online tests, online assignments, electronic crosswords, and web-based research also play a part in the program. A meeting with some learners confirmed that learners like working with online learning materials, providing this does not occur all day.

The teacher role in the adopted blended delivery approach includes conducting one-to-one sessions, class-based discussions, and supplementary group activities (including out of class activities). This approach, aligned with e-learning, is bringing a shift in the teachers' role from instructor to manager and facilitator of the learning experience.

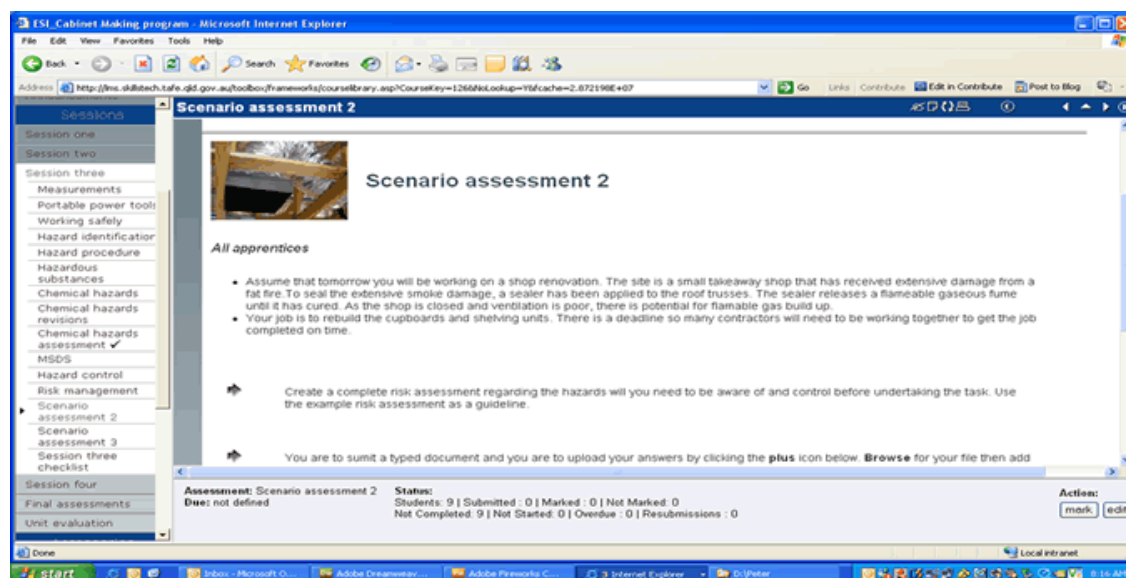
While all eight employability skills are built into the program, a particular feature is the approach taken to the skills of 'learning' and 'problem-solving'. They are treated as key employability skills. Learners are made aware of their own learning style so that they understand options to broaden ways in which they learn. Learners are presented with problems to work on in developing their analytical techniques and skills using

¹² <http://www.trainandemploy.qld.gov.au/skillsplan/>

e-learning. Three online problems are built into the program and group learning is used to give learners experience in developing their 'collaborative' skills.

Figure 4 provides an example of one of the problem scenario assessments presented online for learners. A scenario assessment provides a similar task online for a problem-solving activity.

Figure 4: Scenario assessment 2 (for 'problem solving')



Source: Skills Tech Australia

Another significant aspect of the learner-centred teaching and learning approach is that learners' language, literacy and numeracy needs are covered in the program, with e-learning playing a major role in remedial diagnosis and action.

The Employability Skills Induction Program initiative reflects the general approach being adopted by Skills Tech Australia to an evolving apprenticeship education model that combines e-learning with learner-centred teaching and learning practices as a response to skills shortages and teacher shortages in key trade areas.

While the Employability Skills Induction Program is relatively new, the outcomes and results to date point to the value of an up-front introduction to the employability skills aligned with and involving e-learning.

The program has been assessed with data collected from learners and feedback provided to teachers.

Learners liked the program being offered in a self-paced environment and found that they could complete it in the time allocated.

Teachers were satisfied with this approach which contributed to making the learners better able to participate in the workshop situation. Teachers generally liked the role of self-assessment tools and other progress assessments built into the program (Thomas, 2008, p. 10).

The findings are also supported by those from a UK study on a 'front-end model' for building language, literacy and key skills into modern apprenticeship training (Cranmer et al, undated) undertaken for the National Research and Development Centre for Adult Literacy and Numeracy¹³. This study found positive gains from this approach in

¹³ <http://nrdc.org.uk>

terms of learner motivation and engagement which were reflected in subsequent outcomes such as higher retention rates.

Perhaps the most significant conclusion to be drawn from this case study is that e-learning, when well used, is a natural tool for enhancing the 'learning to learn' capability of learners that underpins the lifelong development of employability skills.

The literature search undertaken for this study showed a general recognition that employability skills are developed and refined over a lifetime; hence, the use of e-learning to empower learners and to develop self-directed learning habits and capability is fundamentally important in providing a platform for ongoing development of these skills and maintaining employability throughout a working life.

Conclusions

What is current practice?

There is a mix of old and new practices in the transition to the new policy of explicit embedding of employability skills in training packages.

E-learning is being used to support employability skills development:

- in blended delivery to facilitate active student-centred learning
- as a tool for teachers in learning management systems
- as an e-portfolio tool for learners to document their employability skills as evidence of competency.

There is diverse practice among VET providers, with some in the early stages of building a strategic approach to e-learning and the employability skills.

Overall, a transition situation with much promise was observed in the role of the employability skills in VET in line with the new policy. The consultations and case studies show that institutions are grappling with the challenge of embedding the employability skills in their work through strengthening the educational role and value of their work. The consultations and case studies revealed significant innovations involving e-learning in evolving good practice approaches to the development of the employability skills in VET.

Moreover, the VET practitioners who participated in the national consultations for this study reported that an explicit focus on employability skills using active learning strategies drives learner engagement with VET. They are more motivated, which aids learner achievement and retention.

New and more flexible approaches are nowhere more needed than in apprenticeship training in Australia, which has been marked by high drop out rates and over rigidity (OECD, 2008). Reform of the traditional approaches to training apprentices is an objective of the Queensland Skills Plan and promising ways to achieve this involving up-front induction in the employability skills using e-learning have been detailed in this study. Raising the motivation of apprentices and their capacity for ongoing learning through innovative blends of e-learning, employability skills, and active learning strategies, has the potential to make a major contribution to apprenticeship reform, and to contribute significantly to innovative approaches to skill shortages.

What are the best uses of e-learning?

- To enable teachers to cater for a range of learning styles and capabilities.
- To facilitate learner-centred and personalised approaches.

- To provide a range of contexts to facilitate learning and transfer of knowledge.
- To provide a means of recording of evidence of competency in employability skills.

The skill of 'learning' underpins all the other employability skills and thus there is an advantage in focusing on 'learning to learn' as a foundation for addressing the other employability skills and to equip learners with the skills to maintain vocational competence over time.

The consultations revealed a strong interest in developing the learning awareness and capability of learners and that e-learning was being widely used in the process. All three case studies encouraged learners to develop an active awareness of 'self as learner' and to use e-learning resources. This approach may be regarded as one of the good practice principles.

In a similar way, e-portfolios are being used as a tool to stimulate 'reflective learning' and to develop the habits of responsible, self-directed learners.

However, wider credence to the use of e-portfolios might be achieved through the incorporation of level descriptors into an Employability Skills Framework that applied across all levels of education and life contexts. This would provide e-portfolios built around standardised assessment information that would be more readily interpreted by everyone and give e-portfolios of employability skills more universal recognition and traction, as is happening in the European Union (European Union 2006).

The consultations also raised the issue of whether a free-standing qualification should be awarded for the employability skills where there is a demand for this. The AMES/VET/industry case study shows how a dual qualification structure can be used to recognise work done in the basic skills as well as vocational achievement.

Qualifications in key skills have been awarded in the UK for some time, so this is a well established principle in some countries. In Australia, a recent development in this direction is the 'job ready certificate' concept under discussion to help senior secondary school leavers who are looking to enter the workforce directly from school, by providing them with a certified statement of their employability skills and personal attributes for use as a job reference (Sweet, 2008).

How can e-learning blend and complement other approaches?

E-learning can support a wide range of approaches. It is particularly valuable for:

- learner-centred approaches
- providing multiple contexts and simulations
- assisting learners in learning to learn
- enabling learners to learn from each other.

Employability skills facilitation requires the design of an overall teaching and learning and assessment strategy in which e-learning is just one of the tools used. This study found, however, that the use of e-learning to widen the perspectives of participants through team work and learning through interaction with other people is not as well developed as it might be. This is a key area for development.

Which employability skills are best addressed by e-learning?

E-learning can be used in teaching and learning strategies for all the employability skills, although in various ways.

Providing structures that take account of the relationships between the employability skills will facilitate the identification of effective teaching and learning strategies and,

consequently, effective uses of e-learning, e.g. by clustering the employability skills into families of like skills against the adult learning principles that emphasise their development.

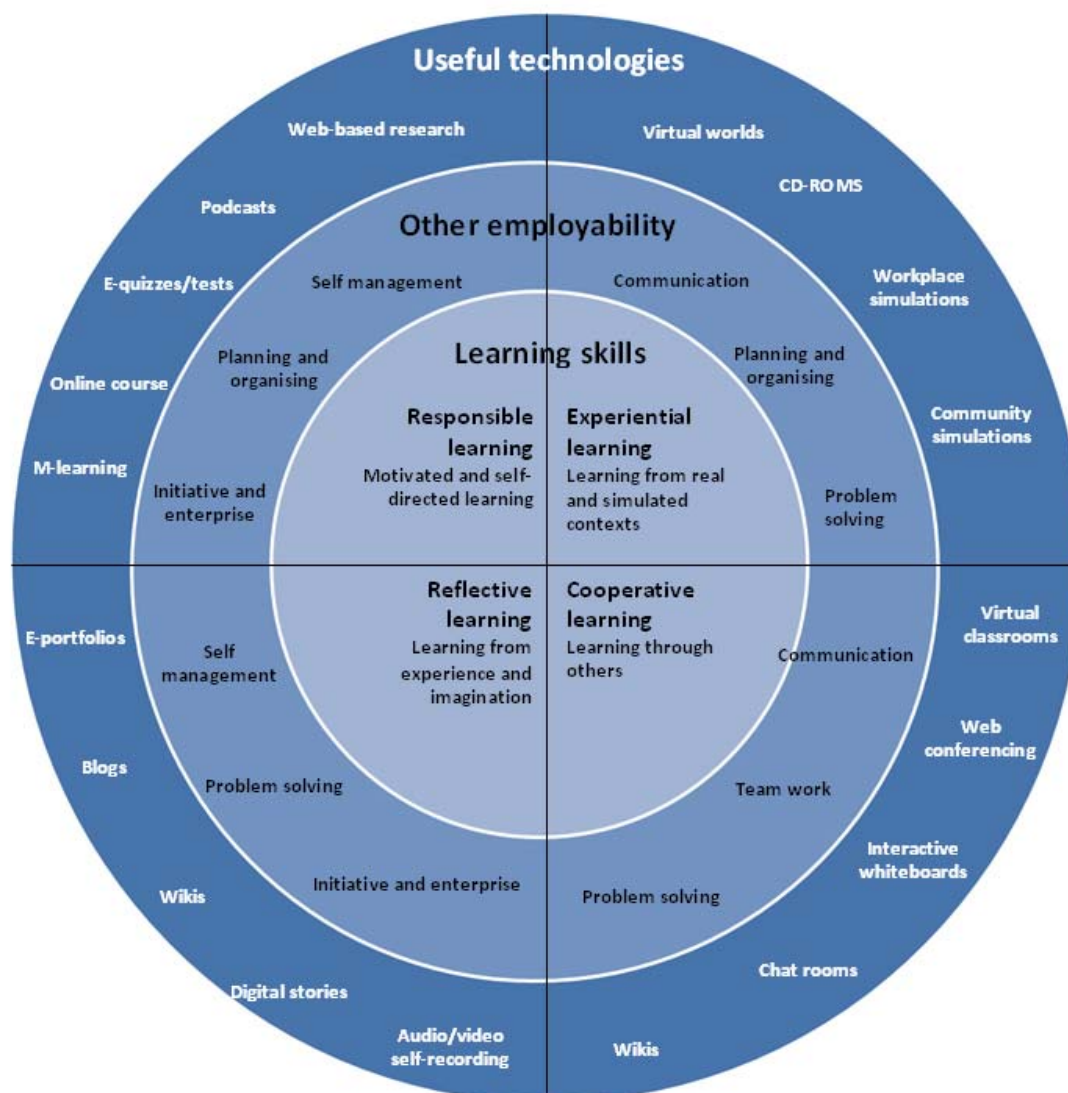
Many of the interviewees were interested in introducing the employability skills in a strategic and structured way so that learners become aware that these skills are overlapping and interconnected. Using the four adult learning principles as an organising framework has value in reinforcing the centrality of learning skills as the foundation for addressing all of the other employability skills and in:

- emphasising the importance of developing the motivated, self-directed and autonomous learner ('responsible learning')
- showing the importance of experiential/active/situated learning ('experiential learning')
- emphasising that learning through and with others is an important mode of learning that draws on a number of employability skills – teamwork, communication, technology, problem solving – and which can be applied in strategies such as action learning ('cooperative learning'),
- emphasising the key role of reflective learning as a driver of continuous improvement in learning habits and outcomes ('reflective learning').

The grouping of the adult learning principles also has value in that the employability skills can be related to the groupings. Similarly, e-learning technologies that best address each of the adult learning principles and employability skills groupings can be identified relatively easily.

Useful technologies for the development of the employability skills are identified in Figure 5, drawing on the work of Cleary, Flynn and Thomasson (2006) and the findings of this study. Figure 5 emphasises the centrality of the 'learning' employability skill to the development of all of the other employability skills. It breaks learning skills into four types (in the inner circle) and shows clusters of the other employability skills that are well suited to being developed through each type of learning (middle circle) and, in turn, examples of technologies that seem particularly suited to each cluster of the employability skills (outer circle).

Figure 5: Examples of useful technologies for the development of the employability skills



What are the critical success factors?

The critical success factors identified from this study are outlined in Figure 6 (following) and cover conceptual, pedagogical, assessment and reporting and management aspects and areas for further development.

Much is to be gained from whole-of-institution employability skills development strategies that are developed in collaborative ways with contributions from teachers and other stakeholders. Building an institution-level blueprint for implementation of the employability skills could have value. Both the national consultations and case studies show that institutions are recognising this strategic principle, and that e-learning tools and technologies can be used creatively to assist a systematic approach to the development of the employability skills that recognises their distinctive characteristics.

Pedagogically speaking, greater attention could be paid to how the skills link through the adoption of the four adult learning principles model and the significance of

'learning' as the core employability skill. It would also be strategic to focus strongly on problem-solving skills in which Australian adults have a poor performance record overall (ABS, 2007).

Moreover, further research and innovation should be undertaken to link remedial education in literacy to the employability skills in integrated strategies that develop independence and confidence. E-learning tools could be an important part of these strategies.

To aid assessment and reporting, there is room to strengthen the use of e-portfolios by paying greater attention to levels of application of the employability skills from basic through to advanced. E-portfolios built around standardised levels would give them wider credence and encourage greater use of RPL.

The use of electronic management systems is also most worthwhile. It enables teachers to manage the learning environment and processes and resources far more effectively and allows learners easier access to quality teaching and learning resources.

There remains a high need, however, for VET practitioners to be given the opportunity to develop further their educational understanding and practices with regard to the employability skills and the use of e-learning for this purpose. The role of e-learning in 'cooperative learning' and interpersonal employability skills development is underplayed at present but is expected to become more significant in the future as more VET practitioners learn how to use social networking technologies.

There also would be value in enhancing the Employability Skills Framework to address the conceptual, structural and levels issues identified because the employability skills are central to building sustainability in Australian industry and society, perceived by the OECD DeSeCo program as creating a *successful life in a well functioning society* (Rychen and Salginck, 2003, p. 66). The employability skills in combination with information and communication technologies appear to be key drivers that will contribute to shaping the evolving approach to VET under 21st Century conditions.

Figure 6: Success factor guidelines for the effective use of e-learning in employability skills development and reporting

CONCEPT AND ROLE

1. Develop the employability skills based on a strategic and structured approach set out in this report that links the employability skills to each other and the various clusters of these skills to adult learning principles (eg see Figure 5).
2. Recognise the value of the employability skills in all aspects of life in addition to their employability role, and include recognition of prior developments in these skills in learning and assessment strategies.

PEDAGOGICAL ASPECTS

1. Use e-learning in blended learning strategies to cater for a range of learning styles and encourage individualised, self-directed learning.
2. Adopt active learning strategies such as role plays, real work and simulated work environments, and incorporate e-learning.
3. Recognise the centrality of learning skills as the foundation for addressing all of the other employability skills.

4. Break the learning skills into four types: responsible; experiential; cooperative; and reflective learning, These four adult learning principles were found to be most useful and all can be progressed through e-learning.
5. Pay attention to problem solving also as a foundation skill because of its significance for industry and because Australia has poor performance in this area.
6. Implement an upfront induction/orientation program to develop awareness and understanding of the employability skills and the e-learning role using a conceptual structure that shows the linkages between these skills (as in Figure 5).
7. Link remedial education for basic skills, such as literacy, and development of the employability skills in integrated strategies that harness e-learning.

ASSESSMENT AND REPORTING

1. Use e-portfolios as a tool for student reflective learning as well as a tool for reporting and assessing learner progress in the employability skills.
2. Pay attention to the different levels of application and performance of the employability skills from basic through to advanced. This can aid learner understanding of the contextual nature of these skills and how to progress development of these skills in different situations and over time.

MANAGEMENT ASPECTS

1. Use a technology-based learning management system to support individual learning plans, tracking of learner progress and achievement, and the efficient use of teaching resources.
2. Adopt whole of institution strategies, effectively coordinated and supported by staff development activities in both employability skills and e-learning and particularly e-learning facilitation skills to enhance cooperative learning opportunities.

KEY AREAS FOR FURTHER DEVELOPMENT

1. Recognise that further innovations are needed in the Employability Skills Framework to address the conceptual/structural issue and the levels issue identified in this report so as to develop an enhanced Employability Skills Framework and roles for e-learning in VET.

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Attachment A: Interviewees for the research

*Those also involved in the case studies.

Institution	Interviewee(s)
Metropolitan South Institute of TAFE	Linda Brown*
Sunshine Coast Institute of TAFE	Lisa Molloy Cathy Hazzard Leonie Sperry
Brisbane North TAFE	Michael Diezmann
Skills Tech Australia	Laura Thomas*
Gold Coast Institute of TAFE	Janniene McDonald
Brisbane North Institute of TAFE	Jo Sinclair
Charles Darwin University	Jo Norris
Batchelor Institute of Indigenous Tertiary Education	Melodie Bat
Canberra Institute of Technology	Sue Malsen Penny Neuendorf
NSW AMES	Dorothy Waterhouse*
Greenacres Training Service	Tania Tsiamis
Illawarra TAFE Institute	Vicki Marchant
Box Hill TAFE	John Pardy
Ballarat University	Irene Warfe
Swinburne TAFE	Julie Hurrell Deb Petty
Torrens Valley/Tea tree Gully Institute TAFESA North	Rob Denton*
TAFESA	Allison Miller
TAFESA	Mark Hunwicks
Barkuma Inc.	Peter Willis
C Y O'Connor TAFE WA	Jo Hart
Swan TAFE	Mike Bezaud
Australian Institute of Technology Transfer WA	Michael Mullins
TAFE Tasmania	Christine Hughes

Attachment B: National Consultations Questionnaire

Global Learning Services is undertaking a study of the impact of e-learning on the development and reporting of employability skills for the national vocational education and training (VET) sector's e-learning strategy, the Australian Flexible Learning Framework (Framework).

The study is to support the goal of improving performance among providers of VET in the use of e-learning in the development and reporting of employability skills.

The eight employability skills that have been adopted by the Australian VET sector are listed at the end of this paper.

E-learning refers to the use of information and communication technology in the delivery of education and training.

E-learning uses electronic media to deliver flexible vocational education and training. It includes access to, downloading and use of web-, CD-ROM- or computer-based learning resources in the classroom, workplace or home.

It also includes: online access to and participation in course activities (eg online simulations, online group discussions); directed use of the internet, mobile and voice technologies for learning and research purposes; structured learning-based email communication; and online assessment activities.

Thank you for agreeing to participate in our broad national consultation. The questions we wish to cover in our telephone interview with you are set out below

National Consultations Coordinator
Kaye Bowman

Part I: General information

1. What is the policy/approach of your organisation to developing employability skills in learners?
2. In what ways does your role relate to developing employability skills?
3. Have you been involved in any professional development training focused on employability skills and/or e-learning?
4. The employability skills in which particular training package(s)/qualification(s) will you be focusing on in the rest of this discussion?
5. Are these employability skills well documented in the selected training package/ qualifications and summaries that can be downloaded from <http://employabilityskillsresources.com>?

Part 2: Fostering the development of employability skills (as listed in Table 1 following)

6. What do you see as the main issues in developing the competence of learners in employability skills (as listed in Table 1, Column 1)?
7. Do you agree with the view that active and situated learning strategies are most effective in developing employability skills? Why? To what extent do you use such learning strategies?
8. It has been said that employability skills overlap and interlock with each other. Do you agree? Do you take account of this characteristic in your learning and assessment strategies?
9. It has also been said that employability skills are developed over a lifetime in all aspects of life experience. Do you agree? Do you take account of this in any way?
10. The level of performance of employability skills generally gradates upwards as you go to higher qualification levels. How does the level of performance criteria affect learning assessment and reporting strategies?
11. How do you address any problems in foundation skills and knowledge in developing the competence of learners in employability skills? For example in:
 - a) Literacy and numeracy?
 - b) Understanding what employability skills are?
 - c) Any other foundation issues?

Part 3: E-learning and employability skills development and reporting

a) Actual experiences

12. a) How do you go about fostering the development and reporting of employability skills in your given training packages and qualifications?
b) How do learners respond?
13. a) Can you give some examples of the ways e-learning has been used in relation to employability skills development and/or reporting (in isolation and/or in building particular vocational competencies and/or in preparatory programs for many occupations)?
b) How have learners responded?
14. Do you use Flexible Learning Toolbox materials? If so, in what ways?
15. What technologies and media do you find most useful in building and reporting employability skills?
16. In what ways does the use of e-learning blend with and complement other approaches to learning these skills?

b) Views on the potential of e-learning

17. What do you see as the main role/roles of e-learning in developing and documenting employability skills?
18. Does this role extend to all the employability skills, or is e-learning most effective for some aspects only?
For particular types of employability skills (see Table 1, Column 2)
- Self mastery skills?
 - People skills?
 - Conceptual/thinking skills?
 - Enterprising skills?
19. Please comment on the following statements:
- Learning to learn is the core or central employability skill.
 - The successful completion of e-learning of any kind requires as prerequisites the *self mastery* cluster of employability skills.
 - For e-learning to have impact on *interpersonal skills* development, the human factor must not be neglected within e-learning strategies.
 - E-learning has mostly been used to provide elements of 'stable knowledge' but has the potential to enhance the *conceptual/thinking skills* of problem solving, creativity and innovation in the workforce.
20. Do you believe that more should be done to develop the learning capability of learners in developing the employability skills through life? If so, in what ways?

Part 4: Summation

21. What do you regard as the main success factors in best practice use of e-learning to deliver and document employability skills?

Attachment: Table 1

Employability skills	Skills type
<i>Communication skills</i> that contribute to productive and harmonious relations between employees and customers	Interpersonal
<i>Teamwork skills</i> that contribute to productive working relationships and outcomes	Interpersonal
<i>Problem solving skills</i> that contribute to productive outcomes	Conceptual/thinking
<i>Initiative and enterprise skills</i> that contribute to innovative outcomes	Enterprising skills
<i>Planning and organising skills</i> that contribute to long-term and short-term strategic planning	Self mastery/conceptual/thinking
<i>Self management skills</i> that contribute to employee satisfaction and growth	Self mastery
<i>Learning skills</i> that contribute to ongoing improvement and expansion in employee and company operations and outcomes	Self mastery
<i>Technology skills</i> that contribute to effective execution of tasks	Technical

For more information

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