Australian Flexible Learning Framework

supporting e-learning opportunities

# The Knowledge Tree – Edition 21
# Inclusivit-e

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# Edition 21: editorial
# Inclusivit-e

There's no doubt that e-learning has opened an exciting range of possibilities and opportunities for learners around the globe. But have all learners had the chance to join in the revolution?

In this edition of ***The Knowledge Tree*** we tackle the question of whether e-learning fosters social inclusion and ask how it can foster amongst equity groups equal participation in training and workforce development. The rate of technological change continues unabated, but are these technologies truly accessible? And, just as importantly, do they cater for learners' diverse needs while promoting positive learning experiences and greater participation in training?

Our contributors wrestle with these questions and provide unique insights into how e-learning technology can foster social inclusion. They also address pedagogical issues and offer practical strategies for how to cater for equity groups' needs. Our authors and interviewees also look at how a strong focus on technical standards can ensure accessible and inclusive e-learning resources.

Inclusive e-learning means different things to different groups and individuals. It's a broad topic and, in the name of inclusiveness, we have tried to include in our discussion as many equity groups as possible:

- Indigenous learners
- rural/remote learners
- learners with disabilities
- young disengaged or marginalised learners
- learners with low literacy and numeracy levels.

In our lead and peer reviewed article, Ruth Wallace, senior lecturer in the School of Education at Charles Darwin University, addresses inclusivity and Indigenous learners. 'Engaging Indigenous learners through mobile learning' looks at this technology's pedagogy and how it can connect with Indigenous people. Ruth details two key examples from the Northern Territory, explaining that engagement has occurred despite – and within – the context of Indigenous education and employment programs' that have had mixed and often unsustainable results. She argues that mobile learning technologies have achieved better outcomes, and she highlights the need for investment in key relationships, and changes to the policy and funding systems that affect Indigenous people's livelihoods.

Web 2.0 technologies allow people to interact with family, friends, work colleagues and like-minded others like never before. This year the State Library of Queensland implemented 'Looking @ 2.0', an online learning program focusing on Web 2.0 technologies and designed for all Queensland-based learners. The program aims to educate participants about Web 2.0 so they can make informed decisions about which technologies are right for them. In her article, 'Looking @ 2.0 – a program to meet a community need', Linda Barron from the state library of Queensland overviews the program and explains how it has engaged users throughout Queensland - including rural and remote learners, and mature learners. She also discusses the role of libraries in educating the public about Web 2.0 technologies.

'Creating inclusive e-learning' considers the impact of the e-learning revolution on learners from various backgrounds, including those with disabilities. Focusing on interactive, remotely delivered resources, Andrew Downie from NSW's Centre for Learning Innovation interprets e-learning broadly and considers a broad range of technical and learning style issues. He argues that there can be tensions in creating different versions of resources because such versions may not provide equivalent learning experiences, for example 'text only' alternative versions to animated versions (for those using screen reader software) may only replace interesting and instructive interaction with bland information. Andrew makes recommendations for how to accentuate e-learning's benefits while minimising its potential disadvantages.

Helen Lynch, ACT Toolbox Champion, writes in 'Learning technology for all' that the use of information and communication technology (ICT) offers the most enhanced, socially inclusive and learner-centred experiences available. She explores the latest research on how best to develop educators' skills so they can integrate ICT into their teaching practices. Helen also points out that research into teachers' professional development has shown the success of programs that go beyond narrow 're-tooling' to enable teachers to see e-learning's transformative possibilities.

In 'Are the digital natives restless?' Victor Callan, Annie Fergusson and Melanie Worrall provide an overview of upcoming research into how young learners engage with new technologies, and how technology can act as an enabler for youth disengaged from traditional learning approaches. And in a special video presentation, Tasmanian Toolbox Champion Peter Shanks imagines what e-learning might look like in 20 years time, including his prediction of an explosion in globally accessible open courseware.

As always we have a dynamic range of interviews. We talk to Jean Johnson and Jonny Dyer from Inclusion Trust about the origins of the organisation and how they use innovative learning strategies to foster social inclusion and empower marginalised members of society. We ask Owen ONeill from the Framework's E-standards for Training Business Activity about the importance of technical standards and how they can be used to develop accessible, inclusive e-learning. Finally, we talk to Lesley Cioccarelli, English teacher in the Adult Migrant English Program at Canberra Institute of Technology, about two virtual classroom initiatives involving migrant learners, and learners with low literacy and numeracy levels.

We hope you enjoy this edition of ***The Knowledge Tree*** and we look forward to your feedback.

# Engaging Indigenous learners through mobile learning: more than adding a new gadget

Engaging Indigenous learners through mobile learning is about more than adding a new gadget to their learning experiences. Through an emphasis on learner-centred approaches and teacher training, mobile technologies have been found to improve the connection between Indigenous learners and their trainers, improving learning experiences and outcomes. 'M-learning', referring to the use of mobile technologies in education, has the potential to support pedagogy that can improve Indigenous learners' engagement and outcomes across a range of programs. This article discusses two examples of this approach and examines the key issues in integrating mobile technologies and learning in educational practice.

Ruth Wallace has extensive experience in innovative delivery of vocational education and training (VET) programs in regional and remote areas of northern Australia. She's a senior VET lecturer and researcher, with particular expertise in VET practice development, learning communities, literacies and flexible learning. As the Director of the Social Partnerships in Learning Research Group, Charles Darwin University (CDU), Ruth has researched the links between identity and involvement in post-compulsory schooling and the use of mobile technologies in Indigenous workforce development. She has also undertaken research into flexible learning, action learning and developing effective materials and assessment for marginalised students.

## *Dial 'm' for mobile technologies*

M-learning refers to the personal – and pervasive – mobile devices and software now available for immediate interaction in educational settings (Kukulska-Hulme 2005). These include devices such as digital cameras, audio recorders, mobile phones, personal media devices (such as iPods), laptop computers, Smartphone, personal digital assistants (PDAs), and technology and software such as SMS (short message service) text messaging (Kukulske-Hulme 2005), wireless modems and through sharing audio, visual and text files.

The use of mobile technologies has extended rapidly around the globe, including to those communities with limited access to computer technologies:

> 'Contrary to trends in the developed world, where the PC and Internet connectivity is almost ubiquitous, mobile phones are currently the most important networked knowledge exchange technology used in the developing world. From a developing country perspective, features such as limited or no dependence on permanent electricity supply, easy maintenance, easy to use audio and text interfaces and the affordability of these devices are critical [for] mobile technology in education.' (van den Berg, Botha, Krause, Tolmay and van Zyl, 2008:290–1).

The increasing adoption of mobile technologies and devices in people's social and cultural practices (Kress and Pachler, 2007) has extended to the education and training sectors (Kukulsa-Hulme 2005) because they can facilitate flexibility, relevant contextual information and learner-centred approaches.

M-learning tools and material have been used in conjunction with a range of software and content management systems. These include system-wide mandated systems such as Blackboard, and freely available software and open source programs that provide access to instant messaging, emails, SMS, Web 2.0, digital stories, voicethreads, scrapbooking, social networking, audio recording and m-portfolios. The challenge, however, is to use mobile phones (and other technologies) pragmatically and to avoid replicating desktop computer functions (Botha, Traxler and Ford 2008:44).

## *M-learning and Indigenous learners*

Learners make choices based on their experiences. And their experiences will usually have led them to understand their strengths, their preferred ways of learning, and whether or not they enjoy exploring new ways of learning. People's learning methodologies are based on their worldviews and what supports them as learners to make social connections and explore alternative ways of working and living (Gee 2003).

Mobile learning tools extend the ways information can be collected, formatted, mixed and shared, particularly because learners can use readily available technologies in socially approved and recognised ways. For example, young people taking photographs with mobile phones, creating digital stories about their lives or, in the case of Indigenous learners, recording elders' oral histories.

'Digital tools create new possibilities for getting access to information, for producing sharing and reusing… The main point is more and more people in our culture can take part on these remixing activities; not only elite or specific groups (and the new)… [There are] possibilities of remixing all kinds of textual expressions and artefacts' (Erstad 2008:185).

Because mobile technologies are part of people's social and cultural lives, it is worth considering the social issues connected to their use in education. Field (2005:115–6) discusses the impact of emerging technologies on social capital, the trust and reciprocal relationships between individuals and communities, including those in cyberspace 'where people actively construct their identities as parts of wider sets of shared relationships.'

M-learning presents opportunities to engage with a range of knowledge sets, constructs and contexts beyond those found in many formal or desk-based educational settings. This can include multimedia-based representations of diverse home life and beliefs systems, and representations of knowledge created by different social and cultural constructs. M-learning can be used to make connections between learners' worlds, make unfamiliar contexts more accessible, and create ways of interpreting knowledge that reflect different ways of knowing.

Indigenous learners actively negotiate the intersections between and across a range of cultural, social and professional knowledge systems. Their knowledge and skills are not always well understood, visible or valued. Indigenous education and employment programs have had mixed and often unsustainable results due to lack of consistency and shared vision, limited investment in key relationships and the changing policy and funding environments that impact on Indigenous livelihoods.

The focus on developing m-learning to meet disenfranchised learners' needs is, however, based on more than technology provision. In a study of the digital divide in a remote desert Australian Indigenous community, Sawyer (2004) found that, although technology and infrastructure issues were addressed, key issues of pedagogy, teacher skills and institutional barriers remained (Boyle and Wallace 2008). Indigenous adult learners in remote communities commonly cited the lack of culturally appropriate VET learning approaches and learning resources as key issues hindering learning uptake and/or achievement of successful outcomes (Miller 2005, Young, Guenther et al 2007, Gelade and Stehlik 2004).

Two recent projects examined the use of mobile and other technologies to support Indigenous learners (and trainers) to improve learner engagement and input into their own learning. The following descriptions of these projects examine the key issues in using m-learning approaches in these contexts.

**Case study 1: ICT engages Indigenous learners**

The project was funded by the National Centre of Science, Information and Communication Technology and Mathematics Education in Rural and Regional Australia (SiMERR). It examined ways to assist teachers to use ICT as a teaching and learning tool, specifically in the engagement of reluctant and disengaged learners in regional contexts.

This 2008 partnership between Charles Darwin University (CDU) and the NT Catholic Education Office established a professional learning community of teachers across a range of non-government NT schools. The study identified the ICT technologies and pedagogies that could be used as teaching and learning tools, and the professional development practices required to develop ICT use that would engage students effectively.

The project's aim was to develop strong e-learning leaders by ensuring teachers could identify good practice and understand what was required to develop that practice. Teachers were introduced to – and shared – a variety of ICT tools (photo story, moviemaker and PowerPoint; interactive whiteboards, free photo manipulation programs), and discovered how they could be used to engage children in learning.

The teachers had diverse experience and confidence levels in using m-learning technologies, but learnt how to integrate ICT effectively into their teaching and learning sequences. Teachers can now implement these approaches in various locations and contexts, and act as mentors and critical colleagues in schools.

Teachers used a range of devices and software, including iPods, digital cameras, laptops, multimedia animation and Audacity to instruct about story telling and develop posters for a public campaign. Learners preferred working towards an external publishable purpose, and noted that publishing was more important than playing ICT-based games. They reported that the games became boring if they did not increase in difficulty or if they had no connection to their priorities.

When developing m-learning, contributors found it was important to have a sense of control in order to produce engaging material that had an authentic purpose. Different input systems – such as typing, voice, mouse and drawing – were attractive to learners who were not confident with their handwriting. Learners spent a lot of time on the content of their stories, felt ownership was important and were protective of their work.

The use of m-learning in well designed learning experiences had a significant impact on learners' engagement and participation. One identified advantage of m-learning was that it encouraged self-critique and a discussion about how learners, particularly reluctant learners, could work differently. These learners worked well in peer groups, sharing their expertise and experience. Other effective approaches included the social aspect of using computers, and the focus on activities that helped with basic computer skills.

Teachers identified the importance of being available to help students on demand and the ability to access mentor peer groups. It was also valuable to recognise teachers' different skills and encourage them to be confident in them. They were also encouraged to develop networks that supported their practice, rather than sensing they had to master everything before working with students.

**Case study 2: developing remote Indigenous workforces**

The Safe Places program was developed to support family harmony, based on Indigenous perspectives of life, family and health issues in NT Indigenous communities. The Safe Houses Training Framework, a partnership between the NT Department of Health and Families (NTDHF) and CDU, was established to guide Indigenous community members' professional development and qualification to work in and manage the Safe Places Program.

The innovative approach to professional development and training created a professional community of practice comprising Indigenous and non-Indigenous Safe Places staff, field officers and management. The Framework was mapped to nationally accredited qualifications, employability skills, position descriptions and a sustainable employment path (Wallace and Chick 2008).

Safe Places locations are remote and contextually unique. Therefore training and professional development takes place on-site and is integrated into the community and workplace. It is also based on skills sets required for the relevant position, and its context in and relationship to an endorsed competencies description.

Resources respect and incorporate Indigenous literacies and contexts, as well as their knowledge and understanding of family, relationships and community services. The content was developed with community approval and includes the mandatory data collection. The Safe Houses Training Framework developed digital, visually based data collection methods that could be used by Indigenous people working in the area.

The learning approach needed to move away from traditional text-based learning to use the literacies required in the job roles and the emerging digital age, i.e. visual and digital literacies. The materials and approach focused on portability and visual, accurate representations of workplaces as they operate in Indigenous communities.

Mobile technologies were an essential part of implementing the Framework as they provided a flexible way for Indigenous staff to develop training materials that met learners' needs.

M-portfolios were identified as an effective strategy for collecting evidence for assessment and RPL, as well as being exemplars of work-based projects, e.g. digital stories and videos developed in the Safe Houses. By analysing the work tasks and resources with the NTDHF team, CDU designed a range of projects using existing ICT. We also addressed the tasks the jobs would require and the funding body's needs. The NTDHF team designed case studies for use in training, ensuring high congruence with the environment in which the Safe Places program operates.

The Framework recognised the value of strong relationships in developing positive and self-sustaining learning experiences, networks and environments. The approach incorporated participants' significant knowledge about working in complex remote environments and socially based programmes. All resources are inclusive, include visual and digital resources for teaching, and entry to the program is not reliant on strong written Standard Australian English literacy skills.

## *Using m-learning pedagogy*

Any learning, including m-learning, is mediated by the learners' informing networks and communities; their local, work-related and global communities. Given this context, m-learning was found to have a distinct role in developing strong learner identity and in the re-engagement of regional learners in formal education.

When designing m-learning it is important to recognise that learners are active partners in producing the material for genuine purposes. M-learning can also provide the environment and tools for innovation and creative problem solving. Teachers need to be supported to explore the use of mobile technologies within their curriculum, sharing in leadership of technology use and in creating connections for learners to use in their own contexts.

M-learning is effectively the shared production and ownership of learning experiences, materials and opportunities, and its incorporation into new contexts. Its integration is best supported by the use of m-portfolios to manage and share learners' contexts, assessment and real life purposes (such as job applications).

M-learning is more than a set of new gadgets to be integrated into existing curriculum. Effective m-learning pedagogy is evidenced by the connections made with and by learners, in their worlds, for their purposes, rather than that of the educational institution. This is both the greatest opportunity m-learning offers and its greatest challenge for teachers.

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# Are digital natives restless?

In this article, Victor Callan, Annie Fergusson and Melanie Worrall provide an overview of upcoming research into how young learners engage with new technologies, and how technology can act as an enabler for youth disengaged from traditional learning approaches.

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## *Technology at work and play*

In order to assist disengaged young learners, it is important to consider how the general Australian youth population uses technology at home, socially and at work. Understanding this is vital if practitioners and employers want to better tailor learning and work environments around the needs and preferences of younger learners. That's why the Australian Flexible Learning Framework (Framework) has recently commissioned research into how we can build upon disengaged young people's existing knowledge and positive experiences of new technologies.

A key outcome of this research will be to inform and influence VET stakeholders to continue to build *their* understanding of the relationship between young people's technology use and its impact on their employment and education choices.

Prior to the global financial crisis, Australia's youth (15 – 24) unemployment rate was at its lowest since the 1970s. Between 2008 and 2009, however, the teenage unemployment rate rose from 12.2 per cent to 18.5 per cent – one of the largest annual increases in 20 years. In response, the Federal Government introduced a wide range of actions, including the Youth Compact, which includes new targets for the attainment of Year 12 or equivalent and the National Strategy for Young Australians. Through its National Youth Participation Requirement, the Compact with young Australians makes participation in education, training or employment compulsory for all young people until they reach the age of 17 years (COAG 2009). It also sets a target of 90 per cent Year 12 or equivalent attainment for the next decade.

TVET Australia provides high quality professional services that support the national training system in building Australia's skill base and fostering social and economic development. TVET recognises the Youth Compact strategy as having a key impact on VET policy in 2009 – 2010 (TVET 2009). In addition, TAFE Directors Australia and the Australian College of Educators have added their weight to the need to respond better to Australian youth's training, employment and education needs. For instance, TAFE Directors Australia said Australia needed to 'rethink many of its current approaches to the delivery of vocational skills to young people' (TDA 2009: 6).

The challenge for our schools and Vocational Education Training (VET) providers is to develop and sustain vocational programs that engage, support and motivate young people to build the skills required to complete Year 12 or its equivalent, and to move on to work or further study. We know that young people who are fully engaged in work or study are happier (*ibid*). Yet only 21 per cent of unemployed young Australians report that they feel 'very happy' about their career prospects, as against the 60 per cent for those in full-time work. For these and many other reasons (eg Australia's skills shortage), there is a major challenge afoot to re-engage unemployed young people and disengaged learners so that they are more confident about becoming lifelong learners and earners.

In a context where COAG has set a 90 per cent target completion rate for those who turn 19 in 2015, the focus is now on well-structured and targeted vocational education and training for young people in the post-compulsory years. Among these actions is the inclusion of more vocationally focused learning in secondary curricula, seen as a powerful strategy for addressing the attrition of those young people designated as 'less academically inclined' (Stanley 2007).

## *Get with the program*

We already know that learning programs are more likely to motivate youth to build skills when their environments are comfortable and more appealing than those provided by more traditional teaching methods. (Young & Fergusson 2004; Lewanski et al 2010; Maltby & Mackie 2009).

An emphasis on learner-centred approaches that provide more flexibility in delivery – and more opportunities for personalised learning – is critical to achieving these more positive VET outcomes. In addition, more successful VET programs:

- acknowledge learning styles and learning preferences
- provide applied, experiential work-related and work-based learning approaches
- know the value of collaborative learning and assessment, designed to develop teamwork.

While traditional methods can meet these expectations, e-learning is more able to more consistently provide such flexible, tailored and experiential learning environments (*ibid)*. It is important to better understand the full potential of new technologies in motivating and engaging youth to learn and earn. That is why there is a call for further research into how the skills gained in more informal learning environments are transferred to more formal learning environments.

For example, Dana Boyd has shown how young people use social network sites like MySpace and Facebook to mark their identity and to socialise with their peers (Boyd 2008). As young people learn to navigate social network sites, they also develop new strategies that shape how they engage with other environments that involve people and technology (eg training and work).

On the other hand, young people's technological skills may not match what his required for technologically enabled learning in training and educational settings. Contrary to the stereotype that all young people are 'digital natives', previous Framework projects reveal that while young people can have high level skills in some areas (eg social networking or email), their skill levels are not consistent across other technologies. Practitioners using e-learning with younger learners must clearly understand which skills transfer across formal and informal learning environments, and the skills differences that exist between more and less engaged learners.

## *Re-evaluating pedagogy*

As the momentum shifts towards more interactive and collaborative teaching and learning activities, current pedagogy about effective use of new technology may also require re-evaluation (Salmon 2006; Mason 2002). In line with this position, Figgis and Guthrie (2009) identify the need for research that builds on our understanding of 'heutagogy', or how technology promotes more self-determined learning and creates new learning cultures. This relatively new development represents a transition from pedagogy (ie teacher-centred) through andragogy (ie learner-centred) to heutagogy (ie recognising the increasing complexity of learning and the implications for learners) (Hase 2009)).

Finally, it is important to consider the motivational, affective and cognitive factors that impact upon young people's willingness to engage in learning, and why some disengaged learners are more willing to re-engage in learning than others (Mackie 2001). Resistance to learning is caused by many factors, including:

- anxiety
- low levels of numeracy and literacy
- negative learning experiences in the past
- poor self-concept and poor self-efficacy.

Poorly committed learners tend to show poorer self-efficacy, with a subsequent lack of control over events and greater feelings of helplessness (*ibid*, Maltby & Mackie 2009).

Given these issues, The Framework, through its Benchmarking and Research Business Activity, has commissioned research that will involve the development of an Issues Paper. The Paper will result from national consultation with youth, VET practitioners, and those who support disengaged learners in community and VET settings. The research will also take a practical approach and include a series of national 'think tanks' to explore key topics drawn from the eventual Issues Paper. The research will commence in October, with the national think tanks commencing in early 2011.

For more information, or if you would like to be involved in this research contact:

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# Creating inclusive e-learning

This article considers the impact of the e-learning revolution on learners from various backgrounds, including those who have disabilities. Focussing on interactive, remotely delivered resources, Andrew Downie interprets e-learning broadly to include material delivered online, CD-ROMS, DVDs and interactive whiteboards. He briefly considers a broad range of both technical and lesson structure issues and makes recommendations for how to accentuate e-learning's benefits while minimising its potential disadvantages.

Andrew Downie is a psychologist with a post-graduate Diploma in Education. He has a keen interest in making products and services available to the widest possible range of people. Andrew has worked for the NSW Department of Education and Training since 1992, providing adaptive technology information to staff and students. He has worked in his current role at the Centre for Learning Innovation since 2004. While he enjoys working with technology, Andrew's philosophy is that it should serve people. He is especially enthusiastic about using technological resources for problem-solving and to assist in communication between people.

New teaching tools can have both positive and negative impacts on learners. And the various technologies that drive e-learning are no exception. Internationally recognised authority on e-learning Kevin Kruse has considered the benefits and drawbacks of e-learning. When listing its benefits he says that '[l]ike no other training form, e-learning promises to provide a single experience that accommodates the three distinct learning styles of auditory learners, visual learners, and kinaesthetic learners'.

Kruse is right to say that e-learning has the potential to meet the needs of widely diverse learners. One important factor, however, is the availability of suitable equipment for both teachers and learners. An even more crucial issue is whether the e-learning resource has been developed with the goals of addressing differing learning styles and accommodating people with disabilities.

## *Access issues*

As e-learning material's sophistication has increased, broadband availability for online access has become even more important. In December 2009, the Australian Bureau of Statistics reported that 72 per cent of Australian households had internet access, and 86 per cent of those had broadband access. Not surprisingly, lower income households were less likely to have internet access.

It is important to recognise that online access to some e-learning material will be problematic or even non-viable for a substantial proportion of the population. Developers must keep this in mind when choosing both material format and mode(s) of delivery. A related issue is that telephone connections outside major cities are often unreliable, which has implications for data transfer and VOIP (voice over internet protocol) communications.

Choice of technology for a resource is another important consideration for developers. If proprietary products are used, it is vital to ensure that every learner has access to the required software. In some cases (Adobe Flash being a notable example) older versions of a product cannot interpret material developed with more recent versions. This can pose problems for those not confident to upgrade software and, as already mentioned, for those with limited internet access.

Another complication with proprietary software occurs when the user does not have administration rights for the computer in question. Depending on circumstances, this can lead to anything from a minor annoyance to a major disruption.

## *Designing for disability*

Assuming that all necessary technologies are present and operational, there remains the issue of the needs of people with diverse learning styles, including those with disabilities.

While Kruse states that e-learning has the potential to meet different learning styles, there is no guarantee that a specific package will do so. And Kruse does not make any reference to meeting the needs of learners who have disabilities. Similarly, the e-Learning site, while discussing advantages and disadvantages of e-learning, makes no reference to accommodating learners who have disabilities. Furthermore, the site is littered with examples of poor coding that can cause problems for people using adaptive technology. The W3c Validation Tool reported 100 validation errors on the home page alone.

This example of poor coding raises a valuable point. To ensure that an online resource is inclusive, it is important to adopt a standards-based approach. The World Wide Web Consortium (W3C) Web Content Accessibility Guidelines set out measurable criteria for determining accessibility. Version 2 of the Guidelines is technology neutral, whereas Version 1 related specifically to HTML. Failure to comply with the Guidelines means resources may be created that have in-built barriers for people with disabilities, and is likely to result in a less effective resource generally.

The W3C site is highly technical. While it does not yet fully reflect Version 2 of the Guidelines, the OptionKeys site does provide easy to understand information. This includes coding examples and links to other resources. (Valuable information on national e-learning standards is also available from the Australian Flexible Learning Framework site).

Resources should be assessed for usability and accessibility. It is easy to state that a resource should be fully accessible, but determining whether that has been achieved is not often straightforward. This is especially true of interactive material involving such techniques as scripting and scalable vector graphics such as Adobe Flash and Microsoft Silverlight. In such cases, thorough assessment should include testing with screen reading software that uses synthetic speech output. This, in turn, may require specialised skills on the part of the assessor.

Standards compliance is highly desirable, but few tools used for creating interactive resources ensure it. As more and more people without expert knowledge create e-learning resources, the likelihood of inaccessibility increases. To reverse this trend, education is needed, both to stress the importance of accessibility and to show how to achieve it. Ideally, creation tools should enforce, or at least strongly encourage, standards-based resources.

By facilitating multiple modality access, the technologies that allow e-learning to flourish also mean developers and administrators are under moral and legal pressure to adopt a holistic approach to resource development. For example, there is no technical reason why a video should not be captioned for the benefit of deaf learners (all new Centre for Learning Innovation video material is captioned). Similarly, although it is labour-intensive, audio captions can be provided for those with little or no vision. These facilities can be provided commercially through such services as Media Access Australia and The National Center for Accessible Media, which also offers free tools and guidelines for creating captions.

## *Specific resources needed*

Simon Ball has written a detailed and instructive review of Jane Seale's book, *E-Learning and disability in higher education: accessibility research and practice* (Routledge, 2006). In it he writes that 'Seale begins her book by explaining the reticence of e-learning practitioners to embrace accessibility concepts as if they were waiting 'for the magic fairy to miraculously transform all e-learning material with one wave of her magic wand. It is probably human nature that we would mostly prefer to be handed a ready-made meal than a lesson in farming, but we all know deep down that only the latter will lead to long-term success.'

Even if you haven't read Seale's book, Ball's review raises many important issues and is well worth reading in full. He asks, 'if a student requires a hard copy text rather than reading from the screen is it still e-learning?' and adds 'the tension between the desire to provide one single learning experience that is accessible to all learners, and to produce a range of materials and pathways, many of which present barriers to specific individuals but which, taken as a whole, allow all learners to seek a pathway that best fits their individual needs and learning style.'

Should all learners use the same version of a resource, or should there be different versions to meet diverse needs? Whether it is possible, or even desirable, to design one e-learning package to cater for different learning styles and varying levels of ability will depend on several factors. And before developing a resource it is vital to ask who is the audience. Careful consideration of potential users will help establish what form the presentation should take. This includes installing the most appropriate provisions for people who have disabilities.

It is currently not possible (and is unlikely in the foreseeable future), for example, for screen reader software to process graphic or animated material. A common approach to solving this problem is to offer a 'text only' alternative. Unfortunately, this often replaces interesting and instructive interaction with bland information, therefore not providing an equivalent learning experience. That is not to say the plain text option should be removed. And some students may prefer text only to the razzamatazz of the interactive version. But if the interaction was intended to foster

specific skills or concepts, an alternate text version cannot be deemed equivalent. Importantly, when using technology such as Flash to create interactive material, there is considerable scope to extend the experience to those using various types of adaptive technology.

Issues of equivalence and equal access require further exploration. While not in the education arena, an Australian local council recently considered removing all maps from its website so that blind visitors to the site would not be discriminated against. But if we take this notion of discrimination to its logical conclusion we would see all art galleries, musical performances and rock climbing venues (to name a few) banned. A more positive approach when specific information or concepts cannot be imparted online is to provide a meaningful alternative. When developing an e-learning resource, then, it will sometimes be more effective to develop specific resources for students who have disabilities than to make 'one size fit all'.

As e-learning technologies evolve, they will present both opportunities and challenges to educators and learners. There is huge potential to enrich lives and foster interest in a broad variety of subject areas. But one of the challenges is to use technology appropriately to meet educational goals, rather than be besotted by it. When used effectively, e-learning can provide unprecedented learning opportunities. It is crucial, however, that from the outset resources are developed to meet the needs of learners with diverse learning styles and those who have disabilities.

# Learning technology for all

In this article **Helen Lynch**, ACT Toolbox Champion, argues that the use of information and communication technology (ICT) offers enhanced learning experiences that are more socially inclusive and learner-centered than those offered without the use of such technologies. She explores the latest research on how best to develop the skills of educators to integrate ICT for learning in their teaching practice. Interestingly, research on professional development for teachers highlights the success of programs that go beyond narrow 're-tooling' courses to those that enable teachers to see the transformative possibilities of e-learning.

## *Growth of learner-centered e-learning*

There is no doubt that the use of information and communication technology (ICT) for teaching and learning, often referred to as e-learning, has grown dramatically over the last 15 years (Donald, Blake, Girault, Datt & Ramsay, 2009). According to the Framework's Benchmarking Statistics 2009 it has become a popular mode of study for mature students wrestling with the time constraints of work and family. These are students who need flexibility and choice about when, where and how they study. But perhaps more importantly, the technology, which encompasses everything from Web 2.0 to instant messaging, is increasingly used to create learning experiences for students across all sectors who want rather than need the type of learning the use of technology can deliver (I & J Management Services, 2009).

Students, along with their teachers, are recognising that ICT especially web based ICT can easily, by its very nature, deliver learning environments and experiences that can be more highly learner centered than conventional classroom environments. Such environments empower learners to take more control over their learning and can offer choices for learning that have not existed previously or were difficult to access or achieve.

The technology can offer learning experiences to those who because of isolation or disability have had few opportunities in the past. It can offer learning that is more socially inclusive and tailored to individual needs. (Dervin, & Develotte, 2010). As a consequence not only has this technology been widely seen as able to deliver an enhanced learning experience to diverse students groups, it is increasingly viewed by some as essential if students are to learn effectively in any context (Ertmer & Ottenbreit-Leftwich, 2010).

One of the most significant enablers of realising the benefits that ICT has the potential to deliver is the integration of the use of ICT for learning into the teaching practice of educators. Educators need to not only 'operate' the technology but also understand the theoretical and practical application of the pedagogical frameworks that foster its effective use and help fulfill its potential as a tool for social inclusion.

## *Developing the skills of educators*

Australia, among many other countries including the United Kingdom, has helped to support the burgeoning use of ICT for learning by developing strategies and interventions designed to support educators in schools, universities and vocational education to deploy ICT in their everyday teaching practice. The United Kingdom, for example, has had the JISC (Joint Information Systems Committee) since 1993. JISC is a project designed to resource UK Colleges and Universities to support their use of digital technology for teaching and learning (JISC and the Higher Education Academy, 2009).

The European Union has numerous projects, policies and approaches designed to establish and disseminate best practice in the field of ICT for teaching, targeting various education sectors (European Commission Directorate-General for Education and Culture, 2004). In Australia, since 2000, the vocational education and training sector has benefited from a national strategy in the form of the Australian Flexible Learning Framework to develop e-learning capability in the sector (Thompson & Kimberley, 2006). Australian schools, beginning in 2001 have benefited from investment by the Federal Government in the development of web based learning resources in the form of The Le@rning Federation's online curriculum content (Atikins, 2003). While governments here and overseas have taken different approaches within different jurisdiction to increase the use of ICT for teaching and learning, most have invested in the creation of digital content in some form to address curriculum needs and, most significantly, in professional development programs designed to directly influence teacher/educator practice.

Strategies that focus on building the capability of teachers and trainers to use ICT for student learning are a particular feature of the British and Australian approach. The Australian Flexible Learning Framework's Toolbox Champion service is a key example (ANTA, 2003) as is the UK JISC Netskills program.

## *The barriers educators face when adopting ICT*

Research has generated some understanding of what barriers might be in place to prevent educators from embedding the use of ICT in their teaching practice. Bingimlas (2009) in a review of the literature on the integration of ICT in teaching and learning suggests that failure to integrate ICT in teacher practice can be related, among other things, to lack of time to explore and learn about ICT, holding negative attitudes towards ICT and towards change in general, and a low confidence and competence in ICT use.

The lack of a theoretical and practical understanding of effective pedagogy in designing learning environments which use web based ICT technology and resources is a further serious impediment (Oliver & McMahon 2006 ).

# *New professional development approaches: addressing barriers, realising potential*

## Importance of PD in utilising ICT and creating inclusive learning

There seems to be little disagreement about the importance of professional development for educators as a factor enabling them to develop teaching practices that effectively utilise ICT to enhance student learning and create more inclusive learning environments. Such professional development programs are part of Australia's VET e-learning strategy, of the UK's national JISC program and of education departments in many jurisdictions across the world. Despite this there has been much debate over precisely what professional development programs should offer, how they should be structured and in what form they should be presented (Littlejohn, 2002).

## Criticisms of narrow approaches

Littlejohn (2002) and Prestridge (2007) point to criticisms of commonly used approaches that stress information technology skills acquisition or a 're-tooling' of teachers to supplement existing teaching practice (Triggs & John, 2004). This narrow focus addresses only some of the issues now identified by the literature as barriers to the use of ICT for enhancing student learning. Others point to criticisms of 'short course' approaches (Duncan-Howell, 2010), workshops, mentoring, online tutorials and intensive seminars (Glazer, Hannafin & Song, 2005) that often fail to support the embedding of new knowledge about ICT and pedagogy into existing practice.

## New possible approaches

Increasingly there is a recognition in the literature that professional development in ICT for teaching and learning for educators must address more than short course IT skill acquisition (Littlejohn, 2002: Prestridge 2007: Glazer, Hannafin & Song, 2005: Duncan-Howell, 2010) and be offered in a way that allows educators to learn through sustained engagement in authentic learning experiences that are based on meeting their teaching needs in their own classroom settings. More importantly, such programs should focus on facilitating transformative change in pedagogy. In other words professional development needs to 'move to a model that enables teachers to see the potentially 'transforming' possibilities of ICT' (Prestridge, 2007, p2) for their students and to transform their teaching practices to achieve this potential.

Littlejohn (2002) for example, when discussing online course design, advocates an approach whereby ICT professional development should:

- include a focus on educational theory that supports the design of engaging ICT enabled learning experiences for students
- be based on fulfilling a real teaching need such as developing an existing subject for delivery online
- take a project based approach in order to help educators develop a coherent structure and process to follow when constructing student learning experiences
- provide training in the IT skills needed by educators in their particular context, ie on a 'need to know' basis (Littlejohn, 2002, p.170).

Further, Graham and Phelps (2008) and Ertmer & Ottenbreit-Leftwich (2010) argue that for ICT professional development to be effective in this area it must change beliefs, values and attitudes so that teachers develop the confidence to adapt to change. This is a metacognitive approach aimed at supporting teachers to challenge their own pedagogical practices and beliefs and engage in an independent learning process where continual change is accepted. Ingram & Gilding (2002), also recognise the need for professional development to support long term change in process and structure for teaching, agree that ICT professional development for educators should meet teacher needs at a local level (their teaching group) and be situated within their teaching activities.

## *Theoretical underpinnings of new approaches*

The theoretical underpinnings of these new professional development programs and approaches are varied. Learning theories that posit professional learning as social learning: collaborative, collegiate and 'in community' culminating in the transformation of teaching practice (Triggs & John, 2004; Prestridge, 2007; Duncan-Howell, 2010; Reushle, 2005; Wang 2008) are evident. Further, theories of professional learning as situated in practice as authentic learning, are also significantly seen as appropriate for professional development activities (Glazer, Hannafin & Song, 2005; Franklin & Sessoms, 2005).

Many studies meld theoretical perspectives to construct professional development models where constructivist and situational learning theories contribute to programs where the dominance of both the professional learner's teaching context and their community of teaching colleagues are distinguishing features (for example, Hughes & Ooms, 2004; Wang, 2005 and the work on 'communities of enquiry'). Clearly professional learning is currently seen as most successful when situated in authentic professional tasks and when drawing on colleagues to converse, inquire and reflect on day to day teaching practice.

Hughes & Oom's (2004) study would further suggest that the community of enquiry model is more successful when educators who teach the same content or disciplinary knowledge form such groups for collegiate support and work with one another and technology experts to integrate technology in ways that 'transform subject area learning' for their students (Hughes & Ooms, 2004) .

## *Conclusion*

These new, more sophisticated approaches to professional learning for ICT integration signal a new maturity in the way educators are willing to develop their application of technology for teaching and learning. We can hope that this new professional learning results in the creation of more technology enabled learning spaces that are inclusive of different learners' needs and which take full advantage of ICT technology for learning now and in the future.

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elearning Europa: http://www.elearningeuropa.info/

Australian Flexible Learning Framework : http://www.flexiblelearning.net.au/

The Le@rning Federation: http://www.thelearningfederation.edu.au/

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# Looking @ 2.0 – A program to meet a community need

The Internet and Web 2.0 technologies enable people to interact with family, friends, work colleagues and like-minded people like never before. In July 2010 the State Library of Queensland implemented Looking @ 2.0 – a users guide to online technologies – is a free online course focussing on Web 2.0 technologies and designed for all Queensland-based learners. Looking @ 2.0 aims to educate participants about Web 2.0 technologies so they can make informed decisions about which technologies are right for them. Linda Barron is Looking @ 2.0's project manager and in this article she outlines the role of libraries in educating the public about Web 2.0 technologies. She also provides an overview of the program and its market, and how it has reached rural and remote users.

**Linda Barron** is Looking at 2.0's Project Manager and Client Learning Coordinator, Client Services and Collections at Brisbane's State Library of Queensland. She is currently undertaking a Masters of Training and Development at Griffith University. Linda can be contacted via email at linda.barron@slq.qld.gov.au.

## *Web 2.0: An everyday reality*

The Internet and Web 2.0 technologies enable people to interact with family, friends, work colleagues and like-minded others like never before. Web 2.0 technologies, especially, impact on people's personal, work and social lives. It is not unusual for politicians to use Twitter to announce policy, for musicians to release new music on MySpace, for the next singing star to be found on YouTube, or for astronauts to blog from space. Distance and time are no longer barriers; blogs, Twitter, social networking sites and online games allow people to immerse themselves in the online world whenever they choose.

Web 2.0 technologies are continually evolving, with constant improvements and new features. But only a minority of people embrace these new technologies and are comfortable with self-directed learning. Many others don't realise that Web 2.0 technologies exist that could be useful to them.

Negative publicity creates fear and results in a reluctance to investigate technologies. Furthermore, some who sign up are unaware of the precautions they can or should take to protect their privacy and prevent Internet safety problems. With the dangers of the Internet regularly making news – and new technologies being developed regularly – how can members of the public analyse which technologies are right for them?

## *Libraries and Web 2.0*

Libraries have traditionally been keepers of knowledge, places that can be relied on as sources of trustworthy and authoritative information. Today most libraries are using Web 2.0 technologies to experiment with new ways to engage clients. But should libraries provide educational programs to the public on Web 2.0 technologies?

One argument in favour is that libraries have already taken on the role of providing Internet access so it is a natural flow-on for them to engage people in the use of Web 2.0 technologies. The library of the future will, therefore, offer the important service of providing programs to help people gain the skills and knowledge needed to become information literate citizens.

The State Library of Queensland is a major research and reference library, providing a range of services and collections. But it also offers a suite of learning programs to improve participants' information literacy skills and to promote the Library's collections and services. Given that the Library is for all Queenslanders, there is an imperative to identify learning initiatives that have the capacity to reach rural and remote residents. And an online approach can be a cost effective way to deliver these learning programs.

In July 2010, the Library launched an online program called 'Looking @ 2.0'. The program was inspired by 'Licence to Test Drive', an earlier program conducted for State Library staff, which was widely praised for its ability to introduce staff to Web 2.0 applications. A couple of similar programs had also proved to be excellent models for the staff program: one was developed by the State Library of New South Wales as a staff resource, while the other was Helen Blowers' Learning 2.0 initiative, '23 Things', a program designed to encourage staff from Charlotte and Mecklenburg County Library North Carolina (USA) to explore new technologies.

## *Look, see, decide*

Feedback from Licence to Test Drive played an integral part in Looking @ 2.0's development. Participants of Licence to Test Drive questioned the necessity for signing up and enrolling for technologies that they were unlikely to access again. In addition, some Licence to Test Drive participants were concerned about the lack of anonymity, and about the fact that they would leave a digital footprint.

Looking @ 2.0 provides participants with an overview of Web 2.0 technologies within eight themed modules, addressing a range of interests – and interest levels. Privacy issues, Internet safety information and useful tips are also provided to help participants decide if these technologies are likely to be of interest. While registration is an available option for some applications, Looking @ 2.0 participants were not required to register for or open any accounts to complete the course.

The most important criterion for the inclusion of one of the eight modules was that the technology selected had to be Web 2.0 or in some way link to Web 2.0.

The selected themes were:

**Organise yourself.** This outlines Web 2.0 technologies that can be used to organise work and personal life. Includes Library Thing, Delicious and Big Tent.

**Get it out there.** The theme explores spaces where participants can publish on the web. Blogs and wikis are the focus.



**Listen, watch and mix it.** Explains podcasting, vodcasting and mashups.

**Share your photos.** Explains where and how to store and edit photos online.

**Keep up-to-date.** This theme investigates how participants can keep up-to-date with what's happening and when.

**Talk and connect.** Shows how to connect with others through social networking. Includes MySpace, Facebook and Skype.

**Play and be entertained.** Looks at online gaming, both free and subscription-based. The module will also include helpful facts and information about online gaming.

**Get more and explore.** A collection of the more unusual, interesting and quirky offerings available on the web. Sometimes useful, sometimes practical, generally amusing, and always a great way to waste some time!

Each module provides participants with background information, activities for further investigation aimed at developing understanding, a short quiz to test understanding, and a set of links and resources to enable further exploration. There is also useful information for less experienced Internet users.

## *The target market*

For the year ended July 2010, 70 per cent of adults who attended learning programs at the State Library were over 50. It was anticipated that this would be similar for Looking @ 2.0 and that the program would attract people who had limited experience with Web 2.0 technologies. As well as mature-aged learners, it was identified that adults with children interacting with the Internet would also be interested in educating themselves about 'what their kids are doing online'.

Analysis of initial surveys has revealed that 50 per cent of participants were over 50, 35 per cent were 30 – 39, and the remaining participants were under 29. Early participant feedback has supported assumptions made about participant age and Internet experience:

> ‘Unfortunately people over 40 who didn't grow up with this technology just don't get it sometimes... I hope I can learn lots from this course, so fingers crossed. Thanks so much for trying to help us with this course.’
>
> *Via email 6 August, 2010*
>
> ‘I’m coming up to my mid 50s and I am a little familiar with some of the things but others I’m not, so it has been a great learning experience. I appreciate being able to do it over the Internet as I live in the country on a dairy farm and most times would be unable to attend any course of this nature. The other thing I love is that it is FREE.’
> *Via email 9 September, 2010*

## *Connecting with Queenslanders*

During Looking @ 2.0’s scoping stage, the project team identified the challenge of reaching rural and remote Queenslanders who were not engaged with the State Library. Because the Library wanted to attract statewide participants, a strategy to generate registrations was needed, and public libraries were enlisted to promote and encourage involvement in the program.

Expression of interest documents were sent out to public libraries to see if they would be interested in participating, providing marketing and promotion, and offering support to potential participants. To date 100 public libraries from around the state have registered interest. Libraries are also offering activities such as on-site courses and drop-in sessions to complement the program. These enable participants to access help from a number of sources.

Registrations – submitted from Queensland metropolitan, regional and rural areas – have reached 1500. The smallest participating library is Mornington Island, which has a population of 1032 and an adult library membership of 112. The larger library services involved in the program include Logan, Sunshine Coast and Moreton Bay, all of which have more than 110,000 members.
The next step will be to undertake research with some participants and establish whether the program has affected their ongoing engagement with Web 2.0 applications. This research will commence at the end of the program and a report will be compiled to report the findings.

It is obvious that libraries, library staff and the general public are increasingly using Web 2.0 technologies. Substantial enrolment figures for the Looking @ 2.0 course shows a clear need for this style of program. From a professional perspective, the project provided the opportunity for libraries to demonstrate that they are a source of highly relevant information about innovative web-based technologies.

## *Acknowledgements*

Looking @ 2.0 was funded by OPAL (Online Public Access for Libraries). OPAL is a project-based program focussing on emerging technologies. Feedback from public libraries guides the approval process for projects on an annual basis.

## *Useful links*

To find out more, or register to participate in Looking @ 2.0, go to http://www.slq.qld.gov.au/services/learning/looking

Follow Looking @ 2.0 on Twitter http://twitter.com/slq_learning

Become a fan of the State Library of Queensland on Facebook http://www.facebook.com/statelibraryqld

# The future of e-learning

The Knowledge Tree asked Peter Shanks to gaze into a crystal screen and create a Prezi that imagines the future of e-learning. He sees a new understanding of literacy and a world of free, real-time content where collaboration is king.

Peter Shanks works in Tasmania helping VET trainers use online and Web 2.0 technologies for course delivery. He was formerly an IT teacher in Bathurst, NSW, specialising in web development and open source technologies. Peter has worked on a number of projects, including flickrCC (a creative commons licensed images search engine), wapipedia.org (Wikipedia for mobiles) and training o2. Peter is currently living and working in Tasmania as their Toolbox Champion.

You can view Peter's PREZI at http://prezi.com/c6uohgjru2we/the-future-of-e-learning-10-to-20-years-from-now

# Total inclusion – an interview with Jean Johnson and Jonny Dyer

Inclusion Trust aims to foster social inclusion and empower marginalised members of society. *The Knowledge Tree* spoke to Jean Johnson and Jonny Dyer about the organisation's origins and its innovative learning strategies.

**Jean Johnson** is the CEO of Inclusion Trust. She has worked in education for 25 years and for the last 10 years has led the Notschool.net research project. Jean has presented at conferences, published reports and papers, and has developed online projects in the UK and internationally.

**Jonny Dyer** is the Company Secretary of Inclusion Trust and worked with Jean Johnson to form the organisation in 2005. Jonny has also worked on the Notschool.net research project for the past 10 years.

You can find out more about Inclusion Trust at http://www.inclusiontrust.org

**The Knowledge Tree**

Tell us about the history of the Inclusion Trust. When did it start and why?

**Jean Johnson**

We started as a research team actually in a university. We started the whole thing together.

**Jonny Dyer**

Back in 2000.

**Jean Johnson**

And I've worked on virtual projects with various countries. I got a school with 1000 young people and one dial-up Internet connection. It all worked phenonemally well, I just sort of got involved in all this stuff. And then I went, because I had been doing that kinda stuff anyway, ran Notschool. And that had nothing, not a single child, not a website, a few boxes in the corner. It was a research project. It was about delivering online content to disaffected kids. So I started working on really kind of trying to build some kind of a community. Made thousands of mistakes. I suppose, after about three months started to put something together that actually worked. From then on it went from strength to strength.

**Jonny Dyer**

So a charity was built to house Notschool in the first instance, but there is an expectation that we do everything we can to get the learning of what we do and how we do it out across the country, across the world to work with other practitioners and to do the best we can for the most marginalised, the most disaffected young people that we meet all the time.

**The Knowledge Tree**

What learner need did the Inclusion Trust identify?

**Jean Johnson**

If you go back historically, it was actually about we've got a NEET (Not in Education, Employment or Training) problem here. It's kids who are not in education, employment or training. In a sense it started because of an identified need that you needed to do something about all these kids who are out of school. You know, so a child not in education or training is a drain on society in the long term, but they are also more likely to be in prison, have a criminal record, have a very low level of literacy. So it's something that won't go away. You have to deal with it.

A typical profile of a child is probably a single parent, second or third generation unemployed, several siblings by various fathers. You know parents with low levels of literacy and numeracy. And that's obviously a very generic profile and obviously there's a lot of variation there, but that's not untypical. The problem is growing in Europe and there's a tremendous recognised need that we have to deal with this in the current age.

Because technology gives you an ideal medium, you know if you can't take the child to the learning you take the learning to the child.

**Jonny Dyer**

I think it links back to one of our founding principles. When we talk about taking the learning to the child. But over the last few years technology has given us amazing opportunities to do amazing things, but one of the major problems is people don't address that in terms of the young persons need or the learners need or the users need.

And I think it's right at the core of what we do is look at good learning practice. Look at good pedagogy. Look at good involved ways of engaging young people then using technology to make that happen, not the other way round. I think around 10 years ago we were at the sharp pointy end of this, because in fact we were doing social networks, we were doing advanced online pedagogical systems that nobody else had thought of.

**The Knowledge Tree**

Tell us about the activities the Inclusion Trust runs. What is the duration of the activities?

**Jean Johnson**

First of all we only do stuff we like doing and are interested in doing. And secondly it's got to be sustainable. In other words we need to see a way that it could carry on. It's not to say it will always carry on. There may not be funding around, there might be all sorts of reasons why things can't continue, but we need to see that it could have longevity and be sustainable. Or else there is no point in doing a useful little project that's very nice and after six months you say 'thank you very much' write up some academic stuff and it goes. We do all sorts of things, but we also write policy documents and research papers, academic stuff, sit on various boards.

Notschool is obviously the flagship project that we do. Jonny was talking a bit earlier about something called In2ition which is a blended learning project that we do with a load of schools. It's about kids who are dropping out of school, but are hanging on in there. We are just finishing actually, a big online learning program using mobile phones. We've been working with probably half a dozen countries piloting it in Austria and the UK and that's about developing an online learning community that's accessible on a mobile phone by disaffected kids.

We've been working with the state of Detroit [Michigan], helping them build a big cyber-school. A sort of Notschool model and a blended learning model together. And they can move seamlessly in and out from one to the other and that's excellent. And that started as a small pilot, 400 – 500 kids has now gone statewide.

We're just writing a chapter for a book. We've just come back from Helsinki in Finland. We've been doing quite a lot in Sweden over the years as well, helping them. They do little projects, but they don't really do big holistic stuff. There's a lot of schools in Sweden building small units based on the sort of constructivist principles that we've developed.

**The Knowledge Tree**

How is social inclusion encouraged by your e-learning activities?

**Jonny Dyer**

For us, we are about a e-community allowing learning to happen. The community is what drives young people to take part. It's what allows a young person who is interested in one thing to find peers that they can discuss that one thing with. We can have an international community that allows you to break down all sorts of barriers and allows to find and build communities of practice where the young people are actually learning and directing their own learning. And that means out job is not to provide a curriculum and a bit of content, but give them the opportunities to learn and help guide them to make them responsible for their learning and to take their learning forwards in a direction that maps against the Government's systems.

E-learning provided by schools, they work on the principal that school is fantastic and if they put it online it makes it a little bit more cool so more kids will attend. This is where perhaps we have the most fundamental change. We don't work on the principal that school is fantastic. There is lots of brilliant people in schools. There is lots of brilliant things, but all that narrative of what a school is, what a class is, what an age description is. All that gets pushed out the window and you put the learner as an individual at the centre of what you do. That's effective learning through a community and that's what we do.

**Jean Johnson**

A lot of these kids don't fit a school. You wrap around them what they're good at and want to do and they feel secure doing. And they use the technology to help them, as an enabler, not as a content delivery mechanism. If it happens there's content there they want, then fine go get it. If there is something on YouTube they want, they can go get it. That's fine because they're interested, but that's not the prime purpose. Technology is just the enabler.

**The Knowledge Tree**

What are some of the success stories from Inclusion Trust activities? Have participants gone onto either further study or careers?

**Jonny Dyer**

The overall success for us, is when they go onto college placements or to learning within the job. We've one who always wanted to work in a supermarket and ended up working in a supermarket, which is a success because she had the confidence to be able to go and work in a supermarket, but actually even after all this time bearing in mind that we are taking the NETTS (National Education and Training Targets) and NEET (Not in Education, Employment or Training) group, so our expectations would be 0% going on to college. We still have 70% going on in to college or work based learning and that to us is a huge success.

**Jean Johnson**

There's only about probably less than 5% that aren't actually doing something, ie employed or at college, but given that a lot of these kids are from third generation unemployed, the fact that they're actually doing something involving learning, work, contributing to the economy is the big success. And a lot of them go for ICT. They feel confident, they look for careers involving IT and [are] art related.

**Jonny Dyer**

Another extreme is we had a young person who's extremely autistic. He was happy because he was working where he was understood and he was very comfortable with that and we've changed him from being a net burden to a net contributer to society. That is our greatest success when we do that time and time again.

# Setting the Standard – An interview with Owen ONeill

Owen ONeill talks to *The Knowledge Tree* about the importance of technical standards and how they can be implemented to develop accessible and inclusive e-learning.

Owen ONeill is the Business Activity Manager, E-standards for Training at the Framework and is based at eWorks. Since 2006 the E-standards for Training team have been researching and recommending technical standards for the vocational education and training (VET) sector under the direction of the VET sector's national E-standards Expert Group.

You can find out more about the work of the E-standards for Training activity at http://e-standards.flexiblelearning.net.au

**The Knowledge Tree**

Why are technical standards important and why should they be followed when developing e-learning?

**Owen ONeill**

They improve the reliability of e-learning content and systems, so the software and tools used to play or use the content. It means that e-learning content can be reused in different contexts as well, so the classic example is the Toolbox learning objects. So the Framework funds the creation of Toolbox learning objects which is e-learning content and that's made publicly available through the Toolbox repository and people can download that e-learning content and import it into their learning management system. The reasoning that works is that there are technical standards that have been followed by the people who have created the software and also the people who have created the e-learning content. So the idea really is that there should be less technical issues if you conform to technical standards. It makes content and systems more reliable. Technical standards is really an important part of making sure that content and be played across many different devices, on many different types of software with different types of hardware as well. And really you know e-learning content can be expensive to create as well, so we want to try and get the most value we can out of it. So by using the technical standards it is easier to reuse and repurpose.

**The Knowledge Tree**

What tools can developers use to implement technical standards when creating e-learning materials?

**Owen ONeill**

The Framework actually provides some tools and particularly for packaging and describing e-learning content there are tools like the VET Reload Tool and another tool called the Vetadata Tool which is used to create descriptive information about e-learning content so that it can be found when it is put into a repository or a collection. There is also another tool called ARED which is a way of creating learning sequences and then exporting them in a format that can be reused in learning management systems and besides the tools that the Framework provides there is a massive range of different tools out there for creating content and often its really a matter of knowing what to look for. So if you're using some tool to develop images, you know it can be as simple matter of making sure you can export the images in a format that is commonly used and meets the VET E-standards.

**The Knowledge Tree**

How does the implementation of technical standards in e-learning encourage social inclusion?

**Owen ONeill**

Well I think there's two main ways that it supports social inclusion. The first one is a term called *interoperability,* which basically means content and systems working together. If content is more reliable and can work across different systems it means that it can be used by a wider range of people. So we don't just create e-learning content for people with the latest and greatest software. We want to make sure that the content will work on simple devices or older people using older computers. So that is one aspect of why E-standards can help with social inclusion. The other really important part of it is accessability and standard are really important for making sure that content can be used by people with disabilities. And that could be physical disabilities such as blindness or learning disabilities even and also as we were saying before it may not be a physical disablility but also people using portable devices who don't have a big screen. That can be a situation where a lot of us find ourselves in and if the content can be ledgable and usable on the small screen then it is more accessable to those people as well. So accessibility is really an important part of helping to foster social inclusion.

**The Knowledge Tree**

Where can e-learning developers go to find out more information about technical standards?

**Owen ONeill**

Well the Framework's E-standards for training web site is obviously a really good place to start. We have broken it up into sections so different topics such as creating content for mobile devices for example or standard ways of packaging content so it can be reused. That is a really good resource for people to start with and what we are working on more and more is also guideline documents so we've got the technical information but we also want to provide guideline documents for teachers and trainers so it's sort of a user friendly introduction to a certain topic.

Just to pick an example we produced the technical standards information if a teacher is working with a web developer to create the content that the teacher can point them at the technical information. But what we've also done is written a teacher guide to developing content for mobile devices. That's sort of a user friendly introduction and these are the things that you should think about if you are creating content for mobile devices and what we are doing is we are progressively developing teacher guides for a lot of the other areas where we have technical standards so accessibility is another really important topic that we are working on at the moment developing some teacher guides.

The framework provides a lot of really useful support. For example there is a Toolbox Champion in every state and territory and there is also an E-learning Coordinator. They can be really good contact people if people have some thoughts about some e-learning content or approaches that they want to take they are really good people to talk to as well. The Framework has a lot of stuff out there and it is worthwhile seeing what you can use and make the most of.

**The Knowledge Tree**

How can all parties associated with the development of e-learning get involved in ensuring technical standards are set and achieved?

**Owen ONeill**

Back in 2006 the heads of training in each state and territory decided to set up a group called the E-standards expert group. The role of that group is to agree on technical standards for e-learning for the national training sector so there's representatives from each state and territory. The role of those people is to find out what issues there are in developing e-learning in their state or territory and to also disseminate information back into the jurisdiction as well. If you want to get involved they are really good contact person to start with and there is also we fund every year what we call emergency technology trials and that can also be really good way of researching a certain topic and we provide support as well as funding for those emerging technology trials.

So there are different ways of people getting involved. Our contact details are all on the E-standards for Training web site so people can contact us directly if they have any questions or issues.

**The Knowledge Tree**

What other steps can be taken to make e-learning more accessible?

**Owen ONeill**

If you are creating some e-learning content and you want to share it, people would want to use that content often in different ways than what you were expecting when you developed it. So if people when they are developing e-learning content can keep that in mind and use technical standards, that means that if someone comes along at a later stage and wants to update it or change it or take a copy and repurpose it for a different set of students, a different context, then that can help with the process of making it more reuseable.

It's also a good idea to have a look at the learning object repository network before you start developing content to see if there is anything that someone else has already created and you could rather than developing it from scratch you might be able to improve that content and share it back with the national VET sector.

Often people find a resource around OHS for plumbers and they may want to repurpose it for electricians. If the content wasn't developed conforming to technical standards it can be very difficult to reuse that content. It means that someone is more likely to have to build it from scratch rather than reuse something that already exists and a lot of the content in LORN is free for education as well so it really is available for people to repurpose and reuse as much as they can basically.

# Innovative e-learning initiatives – An interview with Lesley Cioccarelli

In this interview, Lesley Cioccarelli who teaches English in the Adult Migrant English Program at Canberra Institute of Technology, discusses two e-learning initiatives involving migrant learner, and learners with literacy and numeracy needs. These initiatives involve the use of virtual classroom (web-conferencing) technology in innovative ways.

Lesley Cioccarelli teaches English in the Adult Migrant English Program at Canberra Institute of Technology, both in the classroom and via Distance Learning. She also coordinates flexible learning for the CIT Vocational College, using her background as an IT professional to assist colleagues to implement e-learning and use ICT in their teaching and learning programs. She is currently completing a Master of Online Education.

**The Knowledge Tree**

Could you provide us with some background information about the teaching program you're involved in?

**Lesley Cioccarelli**

At Canberra Institute of Technology (CIT), I work with CIT Vocational College which caters for learners of diverse backgrounds and experience who are working towards essential skills like Year 10, Year 12 and English language. We are one of the national providers of the Adult Migrant English Program or AMEP which is a program for newly arrived migrants and refugees funded by the Department of Immigration and Citizenship.

I coordinate and teach in our Distance Learning Program. The Distance Learning program caters for learners who are unable to attend classes mostly because of work or family responsibilities. The learners receive materials such as books, CDs and DVDs and study independently at home. They have a half hour lesson every week with a teacher. This is generally by telephone, some students come in for face to face lessons as well.

In CIT Vocational College I'm also our Flexible Learning Coordinator and working with anything regarding e-learning or ICT in our learning programs.

**The Knowledge Tree**

For the AMEP Distance Learning program, how have you used e-learning technologies to cater for the diverse needs of the group?

**Lesley Cioccarelli**

I realised that when I had learners coming for face to face lessons we generally used a sheet of paper for making notes, writing explanations, drawing diagrams. And we also used other materials like photos and real objects and browsed websites to support their language learning.

After doing some online professional development through the Framework using VET Virtual I started thinking how I might use the Virtual Classroom technology with my distance learners. I started using it with a couple of students and immediately saw the benefits. We were using the Whiteboard the same way as a notepad. Writing, drawing pictures, loading photos all at the same time as talking. This meant that we had visual and textual support for their listening in English and also supported vocabulary learning, grammar and pronunciation, making it much more effective in meeting individual needs.

Around this time we had a learner who needed to return to his home country for an extended period of time and wanted to continue his English learning. We can't use Skype from our network at CIT, so we had been communicating via email and sending mp3 files as well, but once I knew about the Virtual Classrooms I realised this was the way to go. After a few months we had another student in the same position and since they were at the same level it opened up the possibility of having a small class online. So for over a year we've had a weekly lesson with one learner in Seoul in South Korea, the other in Beijing in China and here in Canberra. Even when one of them was back in Canberra, they continued with the Virtual Classroom lessons.

**The Knowledge Tree**

What are some of the positive learning experiences gained by the learners in using the Virtual Classroom in an innovative way? Were there also some difficulties and hurdles you needed to overcome?

**Lesley Cioccarelli**

The Virtual Classroom enabled us to use text and image to support our speaking and listening during the lessons. Either the learner or I can write on the Whiteboard to illustrate or explain what we're talking about. We can do live exercises such as gap-fills, error corrections, grammar activities and also use authentic texts from websites. Such as news websites, but we also browse through others to illustrate our discussions. We've gone to Australian Government websites for information to help their families who have remained in Australia.

To do all of this though, we had to move from the Framework's VET Virtual platform to Elluminate Live. So we could share our desktops and all view the same websites together. I've also used the webcam to demonstrate concepts that are difficult without visual support and also to show the students who are overseas the changing seasons from my window.

One of the learners in my first trials with this had started another VET course while she was studying with the AMEP. And using the Virtual Classroom she could practise her oral presentation skills and also enable me to give her feedback on her writing. She copied and pasted parts of her report to the Whiteboard, so we could discuss the things she needed help with.

The Virtual Classrooms also meant that I could invite others into our lessons. The learners living overseas for long periods really needed to practise, to develop their spoken English skills. And this enabled them to have extended conversations with others and at the same time allowed me to just listen and assess their spoken English skills.

It's been a overwhelmingly positive experience, but there have been a few hurdles. The first student I trialled with this didn't have a headset, so we had to use a phone at the same time we were online. Which worked out just fine. There have been lots of connection problems over the years at different times. Sometimes the audio won't work and we'll have a lesson by Text chat, but all up the advantages far outweigh the problems.

**The Knowledge Tree**

What other e-learning innovation have you recently piloted?

**Lesley Cioccarelli**

In 2009 CIT Vocational College was successful in securing funding for a Framework's
E-learning Innovations Project to develop an online learning support program. We already provided drop-in tutorial sessions for all CIT students at our learning centres on the main campuses. With teachers providing tuition on things like research and study skills, writing skills, understanding and responding to assignments, maths for their courses, how to prepare oral presentations. Basically anything to help with the skills needed to complete the programs at CIT.

We wanted to extend this to support learners unable to attend at a campus such as our flexible learning students, part-time students and students with family responsibilities and jobs. Central to this was the realisation through the work I was doing with AMEP Distance Learning and Virtual Classrooms that we could provide the same type of support online as we were face to face. The pilot clearly showed that this idea was feasible and was very popular with the students and teachers who participated in the pilot. Also recognising that we couldn't meet all student needs in real-time, we piloted other options for support such as video and email feedback.

**The Knowledge Tree**

What is your vision for the learning support online initiative and how will it support learners with literacy and numeracy needs?

**Lesley Cioccarelli**

We had lots of problems during the pilot last year because of the lack of a stable CIT controlled environment, but now that we've got a new e-learn platform we have our own Wimba Live Classroom and the whole e-learn suite of tools means that the vision is even greater than what we've planned to do for the project last year.

Next year we are going to fine tune our Virtual Classroom tuition service and do more with the other options for learning supports, such as video, audio and email feedback. And also want to develop comprehensive self-help resources. All of these will be part of the login learning support program, which will run in conjunction with the existing drop-in learning support on campus.

The program means that we can support students that are unable to attend at timetabled times on campus. During the pilot we provided tutorial assistance to learners with a diverse range of needs to develop their language, literacy and numeracy skills to complete their VET programs. Many of the enquiries received were sent during the night. We assisted students in their homes whilst they were caring for their children and even while they were interstate.

We definitely extended our reach and received very positive feedback and gratitude from the learners involved. We expect that with a whole program that we're implementing next year, this will reach even further and provide better help for students where and when they need it as well as on campus.

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