Indigenous people and e-nabling technologies: An analysis of recent experiences in northern and central Australia

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Abstract

The potential of e-tools, e-media and e-learning to support the goals of Indigenous people, their communities and organisations for cultural, social and economic sustainability, is still relatively unrealised, particularly in the more remote regions of Australia. Although this paper acknowledges the key barriers to the use of information and communication technologies (ICTs), it will demonstrate the potentially significant role that these can play in the development of learning spaces, resources and networks for Indigenous people. Researchers from the Desert Knowledge Cooperative Research Centre and the Social Partnerships in Learning Research Consortium (SPIl) based at Charles Darwin University and have been using a range of tools to support both vocational education and training, and research. Recent work has explored ways to use emerging technologies to incorporate and represent the voices of Indigenous learners across a range of contexts including e-portfolios, e-tools for resource development and social networking spaces. Existing and emerging technologies are powerful tools that can assist to recognise and validate tacit learning, support engagement in formal lifelong learning and establish pathways for engagement in the labour market. The analysis of a range of projects conducted in northern and central Australian contexts will provide evidence of the need for vocational education and training providers and employers to harness the potential that ICTs have to offer for the engagement, training and employment of Indigenous people.

Introduction

‘E-learning should not be undertaken by Aboriginal communities simply for the sake of it, but used as a vehicle for achieving broader social outcomes (McDonald and O’Callaghan 2007)’.

Gee (2004) asserts that people learn better through embodied processes, where content is related to activities, discussion and sharing ideas. E-learning reflects and is constructed by the social world of
learners; their workplace, home and social networks. Indigenous learners, working across the range of knowledge systems represented in their social world, are negotiating the intersections between their own lives, dominant learning systems and e-learning spaces. Effective education in any context then needs to ensure that the knowledge and skills involved is well understood, recognised and as a consequence, valued (Campbell and Christie 2009). Examples of e-learning adoption by Indigenous people have demonstrated the potential of e-learning to connect their work, social and cultural lives (Wallace and Appo 2010). This paper examines a series of e-learning projects to consider the ways technologies could benefit the recognition of Indigenous peoples’ knowledge and experience through improved engagement in formal lifelong learning systems and the labour market.

The Vocational Education and Training (VET) system has made a significant commitment to improving the educational outcomes for Indigenous people as evidenced by policy, research, product development and targeted funding programs. Evidence of the significant commitment by the VET system to improve educational outcomes for Indigenous people can be found in a range of strategies and reports. Some examples include; Partners in a Learning Culture: Blueprint for implementation (Australian National Training Authority 2004), Indigenous Australians in Vocational Education and Training: National research strategy 2003-2006 (National Centre for Vocational Education Research and Australian Indigenous Training Advisory Council 2004) and the range of National Partnerships and Agreements under the National Indigenous Reform Agreement (Council of Australian Governments 2008). The use of e-learning approaches and new technologies as a means to address access and equity issues, particularly for people living in geographically remote locations continues to be promoted.

Partnerships that respect and recognise all stakeholders' knowledge, strengths and needs are the cornerstone of effective engagement. Learning partnerships flourish in an environment that promotes flexibility, diversity, imagines alternatives and links to the contemporary world and Indigenous knowledge systems (Wallace and Boyle 2010). Effective approaches to training and workforce development in remote and regional Indigenous contexts requires on-going communication and negotiation within a framework that acknowledges and respects local cultural protocols.

This paper examines the application of a range of electronic technologies in Indigenous contexts across northern and central Australia. Through a series of projects, Indigenous and non-Indigenous partners have established successful learning partnerships that support a range of sustainable demand-driven outcomes. A discussion of these projects utilising social networking spaces, e-portfolios, and e-tools for enterprise development and resource development will highlight the key issues related to their use and the potential opportunities these technologies afford Indigenous people.
Background

Wenger (1998) describes learning as social and experienced, as part of social contexts where people utilise their relationships to engage in meaningful experiences where they negotiate their shared understandings of the world. A review of research completed by Miller (2005) found the key factors in implementing training that meets the aspirations of Indigenous Australians included self development skills, completion of educational subjects and courses at all levels, employment, self determination and community development. These aspirations are the key starting point for developing and implementing a training plan with Indigenous people, training organisations and industry partners. Miller (2005) found seven key factors are associated with positive and improved outcomes from vocational education and training for Indigenous people that must be considered regardless of the location, time or context;

- community ownership and involvement
- the incorporation of Indigenous identities, cultures, knowledge and values
- the establishment of ‘true’ partnerships
- flexibility in course design, content and delivery
- quality staff and committed advocacy
- extensive student support services
- appropriate funding that allows for sustainability.

These accord with the findings of the *Djama in VET* (Henry, Arnott et al. 1998) study, which identified six interconnected issues that impact on the outcomes from VET delivery with Indigenous communities. The issues included ensuring VET delivery is culturally appropriate by ensuring Indigenous community culture and knowledge are completely integrated and the relevant community has control over all aspects of VET delivery. Furthermore, training needs to be matched with current and developing work, embedded into community and community business and preferably taught by Indigenous trainers. The training must be based on meaningful partnerships between VET providers and community based enterprises where roles, practices and contexts related to training are justly negotiated. The learning relationships respect, and are sensitive to Indigenous cultures and community development interests. Indigenous authority is of central importance to all aspects of program implementation. This can be evidenced by such things as; the use of curriculum materials developed and tested for Indigenous communities, full participation of Indigenous Elders, employers and trainers, transparent processes and procedures to conduct the training and formal agreements that outline these principles and mutual responsibilities for all parties. Underlying these issues is the shared ownership of learning and relationships that underpin learning partnerships. The challenge for Training Organisations is to take these issues seriously and adopt approaches that engage, rather than tokenise, Indigenous people, aspirations and knowledge (Campbell and Christie 2009). E-learning has the potential to make explicit the knowledge and skills that Indigenous people have and to share information across distance and languages, through the inclusion of accurate representations of Indigenous contexts and through integrated visual, audio and written forms.
Campbell (2000) in a review of the implications of the VET reform agenda for Indigenous people, noted that if ‘improvements to the lives of Indigenous people are to be realised it is essential they do not fall behind in their access to and knowledge of the new technology’. In 2004 the mid-term review of the Partners in a learning culture (Australian National Training Authority 2004) highlighted the apparent enthusiasm of Indigenous learners for utilising new technologies. Young, Guenther et al (2005) also emphasize ‘A key challenge for the vocational education and training (VET) system is to build on the ways in which Indigenous desert peoples are actively embracing ICTs for their own ends and purposes, rather than focusing on using these technologies to distribute predefined and often inappropriate services and resources’.

In his report into the ‘digital divide’ issues in one remote desert community (Sawyer 2004) stated that, ‘even where technology and infrastructure issues are addressed, issues of pedagogy, teacher skills and institutional barriers remain’. In addition, Young, Guenther et al (2005) stated ‘that the pedagogical ‘science’ of teaching across text-based and oral cultures is undeveloped, and such inadequacies can easily be transported to an e-learning context’. In early 2009 the Australian Government announced substantial funding for a high speed Vocational Broadband Network Department of Education, Employment and Workplace Relations 2009) that will facilitate Technical and Further Education’s (TAFE’s) and their students’ access to technology rich learning environments. ICT needs to be understood as part of broader knowledge production and management in Indigenous contexts. It is important to identify the ways that e-resources and technologies are both incorporated successfully into learning and the implications for learning support systems.

Utilising and integrating e-learning has implications for identifying effective pedagogies. There is a pressing need to employ education and training models that both recognise prior knowledge and skills, and work-related skills, in both mainstream and local, customary livelihoods (Campbell and Christie 2009). Learning must be demand driven, identified as part of both individual and community development planning processes (Young Guenther, and Boyle 2007). Consideration needs to be given to both local language/s and literacy and numeracy, in a program that is both contextualised and customised. Holistic approaches to learning as promoted by McGrath (2007) can positively impact on learning. Workplace-based learning (Billett 2001) has been utilised extensively with enterprise owners and provides learning opportunities in the work-role, focusing on using e-learning for genuine purpose and provided immediate meaning and value for learning.

If e-learning has the potential to include Indigenous people in the development of new approaches to learning and the co-production of knowledge, its integration must addresses the skills and qualification gaps needed to gain successful employment outcomes. In a comprehensive review of the state of vocational education and training (VET) and adult and community education (ACE) for Aboriginal people across desert Australia, Young, Guenther et al (2007) found there is a ‘significant misalignment between the content and delivery models
of VET and the prior skills, educational demands and aspirations of desert Indigenous people. VET programs struggle to adapt to and address the types of learning needs that arise as a result of language and cultural differences and the different ways work is constructed’.

Boyle and Wallace (2008) note that integrated e-learning developed with Indigenous people ‘is more than understanding the technological or ICT resources but addressing organisational, systemic, pedagogical and cultural issues that challenge policy, educational institutions and systems, educators and educational brokers... (There is a) need to work with educational policy, institutions, trainers and brokers to re-imagine VET in Indigenous contexts and then, together consider a new way to structure, fund and support remote Indigenous peoples’ learning through e-learning’.

Guenther, Young, et al (2005) identified the importance of training systems that respond to client demand rather than driven by the suppliers’ interests. In regional areas, a supplier driven program may be typified by choosing courses based on the available teachers, using generic assessment from an alien environment or being driven by funding models rather than positive learning models. As Young, Guenther et al (2007) found, approaches to VET that were successful in improving Indigenous people’s livelihood opportunities included a long term commitment that ‘assisted in nurturing and sustaining the partnerships which were crucial to the success of the initiatives’. These partnerships were facilitated by non-government organisations that linked local people to government and other agencies through supporting effective communication and access to services. This concept of lifelong learning partnerships in a digital environment is a complex one that requires active partnerships to operate with Western education and training systems.

Training providers, Indigenous enterprise owners, government funders and industry partners are challenged with negotiating new ways of working that are focussed on meeting the aspirations of Indigenous people. ‘Developing innovative and successful approaches to training in (urban), remote and regional contexts with Indigenous people, necessitates effective partnership and the recognition of diverse knowledge systems as they relate to the worlds of work, community engagement and learning’ (Wallace, Curry and Agar 2008). Successful outcomes of Indigenous involvement in VET are not always related to further education or employment. Approaches to Indigenous learning need to acknowledge the importance of outcomes such as increased confidence, improved literacy, and the ability to promote and facilitate family and community knowledge and wellbeing.

The potential of Indigenous people to inform and shape e-learning to achieve positive and empowering outcomes can be realised through partnership and a readiness to learn together. Expertise in working across knowledge systems that recognise Indigenous and non-Indigenous people’s histories, context, place, values and connection to country can not be underestimated. E-learning provides a mechanism to explore these world views and engage in learning through the coproduction of knowledge in ways that may not be perfect and are definitely not
value free, but provide starting points for a new conversation about ideas and learning (Wallace and Appo 2010 p.104).

Anderson (2006), Gelade and Stehlik (2004) and O’Callaghan (2005) all support the need to address both social contextual issues, and learning outcomes, in Indigenous education and training contexts. Lankshear and Knobel (2003) note the term literacy indicates competence or proficiency. Digital literacies then are part of the rapidly changing information and communication technologies (ICTs) evident in learning environments. Competence in a broad range of digital literacies is becoming important to ensuring access to, and gaining benefit from the social, economic and cultural resources encountered across the lifespan. Access to digital literacies and resources, the digital divide is, as Payne (2005) asserts, ‘not about computers[sic] or connectivity per se; rather, the divide is a simplifying metaphor that questions the social gaps between humans that use, and societies that rely on ICTs. Framed as such, the digital divide is not only a technological predicament; it is also an ethical crisis. As ICT innovations proliferate at exponential rates, and as our communal dependency on ICTs strengthens, the opportunity to leave others behind increases in kind’.

Social partnerships in learning have the potential to offer frameworks for understanding the roles and networks that underpin community engagement for training and workforce development. Social partnerships in learning, are the interagency and interdisciplinary relationships used to; examine diverse knowledge systems, develop capacity building processes and understand the underlying relationships that facilitate connections, engagement and decision making between government, non-government, enterprise, community, stakeholders and individuals (Wallace 2008). These frameworks operate at and across all levels i.e. involving individuals, organizations and learning systems. Social partnerships in learning (Wallace 2008) and social enterprise development (Low and Chinnock 2008) research has indicated that while the aspiration may be to work in systems that are democratic and fair, the realities are that the interactions between systems can be subverted by powerful players and external agendas. Staff turnover, inadequate representation, changes in policy, evaluations systems and input driven economic process can all contribute to social partnerships that work against effective community engagement and capacity building through training and enterprise development. Any approach to community engagement acknowledges these realities and develop proactive approaches for partners to manage them.

**E-learning vignettes**

These vignettes each represent a development of thinking and practice across the use of e-learning in VET. This paper reports on a thematic analysis of the outcomes described in these vignettes in order to examine all of the relevant data concerned, classify the patterns across the data, catalogue these patterns into sub-themes, report feedback from informants and develop an argument for choosing these themes (Aronson 1994). The research team analysed the project reports, outputs and data of each project to identify the common themes developed through each project. The analysis process identified examples of
similarity and variation and the themes that emerged as the projects developed. In particular, the research mapped the key areas of e-learning that have impacted on Indigenous education participation.

**Vignette One: E-portfolios for Aboriginal Artworkers in Central Australia**

A Northern Territory Flexible Learning Innovations Project funded by the Australian Flexible Learning Framework in 2008 provided an opportunity to investigate the potential for using electronic tools for skills recognition, evidence/artefact collection and storage for assessment of Aboriginal Artworkers against a Certificate III in Art Centre Administration, a nationally endorsed qualification in the Visual Arts, Crafts and Design Training Package (CUV03) (Boyle 2008). The industry-training provider partnership between Desart, the Association of Central Australian Aboriginal Art and Craft Centres and Charles Darwin University effectively enabled individuals with skills and knowledge of the VET sector, training packages, institutional processes and e-skills to work side-by-side with those who had skills and knowledge of the people, processes and operations of the Aboriginal Art and Craft Centres in Central Australia. Engaging Art Centre Managers and Artworkers, both current and potential, was the important first step for this project.

**Competency Navigator** software was used to create user-defined ‘job roles’ based on units of competency within the Certificate III in Arts Centre Administration. (http://www.theworklab.com.au/index.php?option=com_content&task=view&id=126&Itemid=280). Competency Navigator also provided Recognition of Prior Learning (RPL) evidence gathering reports and individual training plan frameworks. **Skillsbook** (http://www.theworklab.com.au/index.php?option=com_content&task=view&id=113&Itemid=301), an open-source e-portfolio software for the VET sector, was used to both gather and store evidence of the Artworker’s skills and experience, and accessed by VET trainers for assessment purposes. Results, course outlines and copies of Certificates from a range of providers/organisations with whom the Artworkers had previously studied were sourced on written permission from the Artworkers. Artist profiles, digital portfolios of art work and third party reports were prepared, collated and converted to PDF files by the Artworker, Art Centre Manager and/or the Training Mentor at Desart. Conversations were captured as MP3 audio files. Digital photos and videos of general Art Centre activities, participation in public exhibitions and role plays were recorded. An ‘Artworker Group’ space was created in **Skillsbook**, a private email and communication space for those invited to join by the Group Manager, at Desart. In the future, this space could be used by anyone involved in the Aboriginal Artworker Program to talk to another Artworker or to Desart. **Competency Navigator** templates were used as a base to generate training plans arising from conversations with, and evidence collected from each Artworker. Desart has used this information to facilitate further training with the Artworkers. Although not necessarily maintaining the project-developed e-portfolios for Artworkers, Desart is continuing to support them, and their Art Centre Managers in the collection and storage of electronic evidence for RPL.
Vignette Two: Collaborative online learning: Social networking spaces and Indigenous participation

The social networking space creator Ning (http://www.ning.com/) has been used as both a project management support tool and a shared communication space across a number of Indigenous and non-Indigenous project partnerships. Ning was chosen for its visual appeal and ease of creation, customisation, management and use. The Central Australian Education and Training Network (CAETN) was the first project to utilise a social networking site to connect its members, store and share network information and promote its activities (http://centralaustraliaeandnetwork.ning.com/). CAETN was formally re-established in 2006 partially supported with funding under a Reframing the Future Project. It was established to develop ways of working both within and between providers to improve outcomes for stakeholders with an interest in Aboriginal education. The Network builds on and exchanges knowledge so as to develop members’ capabilities to ensure provision of Aboriginal demand-responsive education and training whilst operating within new commonwealth governance arrangements. Although starting as a Network of providers, the CAETN has greatly expanded to include a far broader representation. The Network aligns with both the need to promote strong relationships between industry and training providers, and, potentially innovation and recognition of prior learning and, involves Aboriginal learners – young and mature, learners from urban, regional and remote areas and community environments.

PowerUp Plus is a resource developed through funding from the Northern Territory Innovations Program through the Australian Flexible Learning Framework in 2009 uses a Ning site (http://powerupplus.ning.com/) to provide an online space where users of e-tools can get together to evaluate the PowerUp Plus resource as it is created, share ideas and resources, links, and ask questions. The PowerUp Plus resource is available on the internet and CD-ROM for Indigenous people who are interested in learning more about e-tools and their applications, and, for Indigenous people interested in training others in their use. The Indigenous evaluation and audio team are all employees of remote Indigenous media organisations (REMOs) and members of the Indigenous Remote Media Association (IRCA) (http://www.irca.net.au/). The E-Assist and ePIE projects, both funded by the Northern Territory Department of Education and Training have private Ning sites where Teachers, and Indigenous Assistant Teachers from participating schools, and Indigenous and Remote Workforce Development staff from the Department, can collaborate to build a community of learners. Here members are able to share stories, resources and experiences from their school across vast geographical distances in a range of multimedia formats. Members are supported to participate and contribute openly and safely in these Ning sites and have found that they are able to adopt and adapt ideas from others to suit their own situations. The ‘new message/comment’ alerts ensure rapid response to others contributions, and many comments suggest that members ‘like it because they know we are always there’.
Vignette three: Working from Our Strengths: Using e-learning to recognise knowledge and competence in Indigenous enterprise training and development

This Australian Flexible Learning Framework, Indigenous Engagement project used e-learning tools and technologies to support Indigenous people employed across a range of Indigenous organisations develop training plans that with their current and potential staff. The participants undertook the Certificate IV in Training and Assessment to support their careers and to be qualified trainers in their organisations. The approach established effective processes using digital technologies to recognise the knowledge that Indigenous people have developed through working in different roles and industries. Participants undertook the RPL and current competence (RCC) process using digital photographs, videos and stories, e-portfolios and networking. Participants developed skills in using a range of digital technologies to represent their knowledge and skills within their own context. Participants prepared an e-portfolio of their evidence that was discussed with a training specialist prior to the formal assessment. Assessors found that the process changed their relationship with learners as they were able to see individuals’ strengths within their own context, these images and examples provided a productive starting point for a discussion about what learners did know and targeted the areas for further training. In this way training did not repeat areas of learners’ strength but focussed on the areas that needed development. The final product outlined the process for developing a training plan with an Indigenous enterprise team, ways to use e-tools to collect evidence to apply for undertake RPL and RCC and examples of successful e-applications for RPL and training plans.

Discussion

The outcomes of these projects have identified issues in e-learning in practice. This is more than understanding the technological or ICT resources but addressing organisational, systemic, pedagogic and cultural issues that challenge policy, educational institutions and systems, educators and educational brokers. The outcomes described in the vignettes provide examples of the need to consider these issues to be able to re-imagine VET in Indigenous contexts and then, together consider a new way to structure, fund and support remote Indigenous peoples’ learning through e-learning.

The work of Indigenous and non-Indigenous partners across community, industry, educational institutions and government agencies has demonstrated the value of exploring the role of e-learning in improving the educational and employment outcomes of Indigenous people. E-learning is so much more than the introduction of digital technologies; it is understanding the role of those technologies in communication across cultures, regions, workplaces and ideas. It is the co-production of knowledge, the development of the skills to participate in workforces and the ability to share and represent concepts in many different ways. The potential of Indigenous people to inform and shape e-learning to achieve positive and empowering outcomes is realized through partnerships and a readiness to learn together. Expertise in working across knowledge systems
that recognise Indigenous and non-Indigenous people's histories, context, place, values and connection to country can not be underestimated. E-learning provides a mechanism to explore these world views and engage in learning through the co-production of knowledge in ways that may not be perfect and are definitely not value free, but provide starting points for a new conversation about ideas and learning.

The use of e-tools to support learning assisted to increase the value of learning in Indigenous contexts – for individuals, families and communities. Accessing e-tools created environments for sharing knowledge and learning together. Opportunities were created for intergenerational learning, for example, in the first vignette, opportunities for the younger, often less experienced artists to share and use their greater ICT skills with the more mature, and more experienced artists. Not only can this provide opportunities for the social side-by-side learning that is preferred by Indigenous learners, but it allows for self-selection of learning partners/groups and the self-selection of the resources they preferred to use and the ongoing development of new culturally appropriate resources. By analysing the work in context and as it develops over time, skills sets can be established that are then matched to competencies. Digital resources offer the opportunity for people to demonstrate their competence through audio, visual and written forms, that can be flexible, mapped by Indigenous people to their knowledge systems and expectations and to more accurately represent Indigenous people's knowledge. As effective resources are developed and used by businesses they will form the examples for future training and development, and their developers becomes the future trainers. What is important then is ensuring people involved in training have digital literacies and the confidence to work across a range of emerging technologies.

Effective partnerships that included Indigenous community members, Indigenous trainers and educational brokers, industry, registered training organisations and local support groups were a key element in the successful integration of e-learning and achievement of employment and other significant outcomes. The greater and more extended the commitment of partners in considering e-learning, the more strategic the use of e-learning for Indigenous peoples’ purpose in the long term. The partnerships were a significant investment for participants and needed time and attention throughout the project. Partners were not necessarily e-learning or technology experts, rather they could see the potential and were willing to explore what this meant on the ground. Community engagement is predicated on partnerships that respect and recognise all stakeholders’ knowledge, strengths and needs. Effective approaches to training and workforce development in remote and regional communities use a range of e-tools to negotiate each stage of its implementation. The focus on improving engagement is connected to having the flexibility to imagine alternative ways of working with people. The community engagement and training approaches need to be as diverse as the Indigenous communities and participants involved.

*Hardware and software* that is freely available, reliable and accessible is preferable to chasing the latest and less reliable technologies. Uploading files is
bandwidth, file size, format and system dependent. Time, patience and persistence are required to make things work. The incredible array of file formats, characteristics, size/upload limits, html editors, browsers, media players and the associated incompatibilities of each does make using e- and web-based technologies particularly frustrating. Access to good equipment is equally important. In addition, you need to have access to a range of software that includes audio and video conversion and editing software, quite often, the free to download software is fine to use standalone, but is not interoperable without a range of conversions. Uploading to Web 2.0 is not difficult, however once again, you need to be aware of the audio and video format and size. If you are not using these skills on a regular basis that you forget all the necessary procedures and it results in a long and painful emergency re-learning process.

Interoperability issues also impacted when working across systems. There was a need for standardised levels of technical services, maintenance contracts and information formats between community and service providers, bandwidth issues, power issues, technical support, upgrade affordability and the availability of a wide range of appropriate content. When considering learners' educational profiles over time there is a lack of consistent and available information. A common database or e-portfolio of previous training, employment and experience would ensure there is no repetition of unnecessary learning. This would also support the development of a clear pathway for information sharing between employment networks and education providers.

Co-production of knowledge and artefacts through the use of e-tools allowed Indigenous participants to better reflect their existing strengths and knowledge, for their own reflection and, if people choose to do so, for RPL approaches to assessment. This included the use of video, audio, digital stories, websites and portfolios. The potential uses of e-learning tools developed with participants as teams grew in confidence and knowledge about what was possible and the story they wanted to tell. As examples, Indigenous enterprise owners took trainers on a virtual tour of their business and explained their underlying business principles and, Indigenous trainers made advertisements for radio to show their knowledge of the education system. The ownership of the final outcomes was shared which was reflected in the accurate representations of Indigenous people and the appropriate representation of sensitive information. Indigenous people began to think differently about their learning and use of e-learning that generated a series of work across projects that was unexpected. This was most effective when Indigenous people were involved at every stage. Trust is the cornerstone of co-production and was the focus for developing strong relationships across people, groups and institutions. The critical mass of knowledge and resources was central to gaining external and agency support for project teams and their ideas.

Conclusion

Effective approaches to e-learning created value in learning - for individuals, their families and communities, socially, culturally and in some cases, economically. The development of resources created opportunities for intergenerational and social learning whilst simultaneously recognising
participants’ own knowledge and know-how. The resources intentionally provided alternative and culturally appropriate methods for recognising strengths. The customisation that is possible with e-tools for e-learning resources is what makes them so much more valuable for Indigenous learners. E-learning has potential if the focus is on the partnerships not the tools, and if Indigenous leadership truly exists in its development and implementation.

The outcomes of these projects have identified issues in e-learning in practice. E-learning can support systems that align better with and engage people across diverse ways of learning and skills recognition to meet personal and community aspirations and workforce development needs. This is more than understanding the technological or ICT resources but addressing organisational, systemic, pedagogic and cultural issues that challenge policy, educational institutions and systems, educators and educational brokers. E-tools are only part of any life-long learning, training, assessment, and communication or presentation toolkit. Our work with Indigenous people continues to reinforce for us the positive benefits arising from the use and application of freely available, simple-to-use, customisable and engaging e-tools. However, universal access to well-maintained ICT assets and reliable broadband will remain problematic in many remote areas for some time to come. The outcomes of these projects clearly indicate the need to address these issues to be able to re-imagine VET in Indigenous contexts and then, together consider a new way to structure, fund and support remote Indigenous peoples' learning through e-learning.

References


