

The role of e-learning in ‘holistic’ approaches to VET in remote Australian Indigenous contexts

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Abstract

Indigenous¹ peoples in remote contexts are engaging with new communication and information technologies, yet this may not be realised by mainstream vocational education and training (VET) providers. This paper will utilise evidence from recent case studies that suggests that new technologies have a significant role to play in the development of networks, resources and learning spaces for remote Australian Indigenous peoples. We explore key barriers to the use of new technologies including restrictive funding models and poor cross-agency and organisation coordination which hinders the provision of services, interoperability issues and the ability to respond to the demand for emerging uses for technologies. This paper also discusses key issues around the suitability of available resources, applicability of the industry-based nationally accredited training packages in remote contexts, variable educational profiles of the learners, and the variable skills of teaching staff to develop and use suitable resources and technologies.

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). There has been a significant commitment by the VET system to improve educational outcomes for Indigenous people as evidenced by policy, research, product development and targeted funding programs. Some examples include Partners in a Learning Culture: Blueprint for implementation (ANTA, 2004), Indigenous Australians in Vocational Education and Training : National research strategy 2003-2006 (NCVER and AITAC, 2004) and Actioning the Agenda: A whole of government approach to Indigenous affairs in the Northern Territory 2005-2009 (Northern Territory Government, 2005). 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, such as in the recently released 2008-2011 Australian Flexible Learning Framework Strategy (Flexible Learning Advisory Group 2007).

Only by improving educational policy and practice engagement in line with local needs and aspirations will the increasing access to technological infrastructure impact on the engagement of remote Indigenous learners with e-learning approaches. This paper considers two recent VET projects with remote Indigenous people that have utilised and explored the issues in using information and communication technologies (ICTs) to support education. The findings of these projects indicate the importance of considering organisational, systemic pedagogic and cultural issues. These findings are analysed to highlight important considerations for educational institutions, systems and educators in developing approaches to learning with Indigenous people that utilise ICTs.

¹ The words Indigenous and Aboriginal are used throughout this paper as regionally appropriate.

Significance

The significant changes underway in Indigenous affairs are focused on aligning training with 'mainstream' work opportunities, the reality however for remote Indigenous Australians is that the training effort, and policies more generally, need to support emerging and local livelihood opportunities, such as those suggested by Altman (2007) in his reference to customary economies. We need to be mindful that successful outcomes of Indigenous involvement in vocational education and training are not always related to further education or employment. Therefore, 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. 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. This approach is a move away from the primarily economic, government driven skills acquisition based on Australia's nationally recognised industry-based Training Packages to something likened to UNESCO's (2005) *Education for Sustainable Development*.

Some commonly cited key issues hindering uptake and/or achievement of successful outcomes by remote Indigenous adult learners include a lack of culturally appropriate learning approaches and learning resources utilised in VET teaching in remote communities (see Miller 2005, Young, Roberston, Sawyer and Guenther 2005, Young, Guenther and Boyle 2007, Gelade and Stehlik 2004). Indigenous learners navigating the educational system face the unavailability of desired courses, lack of continuity across institutions and jurisdictions poor previous experiences and/or lack of understanding of how VET programs operate in remote locations. Many Indigenous people, organizations and non-Indigenous people working with communities may lack an awareness of the availability of VET or learning opportunities generally in that area. The available or potential work opportunities may not be identified when planning training. Educational providers, teachers and trainers may lack experience in working in Indigenous contexts, lack knowledge of the people and cultures with whom they work or have a deficit view of Indigenous learners (Wallace, Curry, Ludwig, and Morgan (2006). Trainers' professional development has not necessarily included the skills sets to adapt resources, use technology or work with students who have high cultural or low English literacy and numeracy skills.

There appears to be significant enthusiasm for utilising new technologies for learning in Indigenous contexts and this is reiterated in the mid-term review of the Partners in a Learning Culture (ANTA 2004). 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 (Young et al 2005: 2).

A report into 'digital divide' issues in one remote desert community (Sawyer 2004) highlighted that even where technology and infrastructure issues were addressed, key issues of pedagogy, teacher skills and institutional barriers remained. Young et al (2005: 12) also note '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' (Young et al 2005: 12).

Literature review

In a study of social capital and its relationship to learning, Field (2005: 1-2) noted the value of recognising 'the complexity and diffusion of lifelong and lifewide learning (as a concept that is not)...easily absorbed by more conventional education and training systems'. Jarvis (2004:16-7) notes the inability of educative institutions to maintain pace with the society's new demands, meaning much learning occurs outside the education system in unplanned ways. Learning always happens within the wider social contexts (Field 2005) in which we live and engage, as such it is socially constructed (Wenger 1998). The way we learn is embedded in the society's knowledge systems; its associated networks, resources and learning spaces.

In an analysis of the ways resources produced by Aboriginal people, in their own digital environments can be viewed by Australian law, Christie (2007: 2-3) noted;

People use the digital resources in a social context as props or artefacts, in the same way that they would use non-digital resources like paintings, photos, diagrams, ceremonial objects, and of course the land itself and natural phenomena in talking about and representing themselves and their histories, and making agreements... the use of Aboriginal digital resources is serious business, making claims about ownership, about rights and responsibilities, and appropriate behaviour. In these cases the ways that the resources are identified and validated, the way they are accessed and displayed and the ways assemblages are put together and used in context, is a crucial part of the knowledge production process, and negotiations over resources .

An understanding of the context of these resources within the relevant knowledge is essential in developing effective approaches to learning. These resources can be described in terms of language and a range of written, visual and audio literacies; these are located in social practice and structures. 'Literacies are socially situated...located in particular times and places, indicative of broader social practices' (Barton, Hamilton and Ivanič 2000: 1). 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 key in 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,

.....is 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.

Campbell (2000: 38) in a review of implication 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'. Understanding ICT as part broader knowledge production and management across Indigenous communities and the predominantly non-Indigenous governmental and training systems with whom people interact, is essential in

designing approaches to VET that will support the development of sustainable futures for Indigenous people. What is important, then, is to identify the ways that these resources are incorporated successfully into learning and the implications for learning support systems. As Young et al (2007: 10) found, approaches to VET that were successful in improving Indigenous people's livelihood opportunities in desert regions 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.

Case studies

Vignette 1: The Central Australian Education and Training Network: E-learning Network Project

The Central Australian Education and Training Network (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 including Indigenous Coordination Centres, Shared Responsibility Agreements, and with regard to changes to the Community Development Employment Program, Remote Area Exemptions and the Job Networks. In their continuing desire for 'Indigenous economic independence', new commonwealth and territory initiatives (under their Indigenous Economic Development Strategies), are impacting on the way education and training business is negotiated in remote areas, with an increase in demand, rather than supply driven responses required.

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. The Australian Flexible Learning Framework funded an E-learning Network project in 2007 that provided CAETN members with an opportunity to both explore the meaning of a range of E-tools and to evaluate their potential applications with Aboriginal learners through an industry partnership with Desart, the Association of Central Australian Aboriginal Art and Craft Centres (www.Desart.com.au). Desart sought to explore the e-learning opportunities for the customisation and delivery of 'Our Art, Our Place, Our Way' an existing Department of Education Science and Training, Workplace English Language and Literacy- funded CD Rom resource kit for the CUV30403 Certificate III in Arts Administration, an exploration that would simultaneously further the implementation of the Desart Training Plan.

This project provided Aboriginal artists/art centre workers with opportunities to increase their general knowledge about e-learning opportunities and applications and to have input into their preferred type and level of engagement with e-learning. They

participated in a trial of e-learning resources, developed from a base CD Rom resource 'Our Art, Our Place, Our Way' and provided feedback on the trial to inform the future development of e-learning resources and their application to a larger training project for Aboriginal Artworkers. The project also provided opportunities for increased engagement with e-learning and learning generally that could potentially provide a framework for further learning and employment.

Vignette 2: Working from Our Strengths: Using e-learning to recognise knowledge and competence in Indigenous enterprise training and development

This project was funded by the Australian Flexible Learning Framework, Indigenous Engagement project which had three aims. These aims were to build on successful project and outcomes which will enable e-learning to become an integral part of the way in which the Indigenous sector accesses VET nationally, increase the demand for e-learning, lead by Indigenous communities which will lead to improved employment outcomes, build business opportunities and develop and strengthen links with industry and identify and encourage opportunities for Indigenous individuals and communities to participate in employment and community development projects which enhance the Indigenous community e-learning capacity.

The project built on the work of Indigenous enterprise operators across northern Australia to develop effective strategies to ensure relevant, quality training and qualifications are implemented that support economic independence and knowledge management at a local and national level. The project team and participants analysed a range of e-learning tools and technologies to assess and identify ways the tools could support Indigenous enterprise operators to recognise the knowledge that is developed and owned by that enterprise, and establish opportunities for leading e-learning training with Indigenous people involved in enterprise training. Indigenous participants had previously completed a high level VET qualification and together developed a recognition of prior learning (RPL) and current competence (RCC) process that reflects the work undertaken in communities and locally based enterprises using; digital photographs, videos and stories, visual and written competency procedures using local languages, e-portfolios, networking and planning through SharePoint and Elluminate and the Top End Groove website (managed by Indigenous cultural tourism enterprise owners network).

The final product, a DVD resource, outlines the process for developing a training plan with an Indigenous enterprise team and ways to use e-tools to collect evidence to apply for undertake RPL and RCC. The 'Extras' section includes examples of successful e-applications for RPL and training plans and examples of customised training programmes developed with Indigenous enterprises using e-tools.

Findings and discussion

An analysis of projects identified organisational, systemic, pedagogic and cultural issues impacted significantly on the outcomes for Indigenous people involved. Each of these is discussed below in detail.

Organisational issues

The lack of communication within and between providers, State/Territory government departments and Commonwealth departments continues to result in inappropriate training being funded, quite often on multiple occasions to multiple providers with

unsatisfactory outcomes. E-portfolios or similar could be used to allow Indigenous learners to more effectively manage their education and training pathways. Holistic approaches to VET support contextualised and customised resources, developed by, or at least in consultation with the community. These are not resources that can simply be developed once and then reused by teacher/trainers to every group of Indigenous learners. The application of national industry training packages is not always appropriate in remote Indigenous contexts. In remote communities, standard training funding models do not fit well with the most effective training, models. Student groups are small, have strong cultural commitments and often speak English as an additional language. Students' English literacy and numeracy levels can be extremely low and communities are located a day's drive from the provider base and have no little or no suitable teacher accommodation and reliably functional teaching facilities.

Artists, art centre workers and enterprise owners found that the ability to customise resources was valuable in their learning and work. Customisation included; incorporating English (spoken clearly, slowly and subscripted), or their local or recognised language. Participants included the use of music to present their work and concepts, preferably using Indigenous instruments and/or voices or their own community band/s or enterprise. Customisation also included the inclusion of photographs of people and places they knew or worked in. The representation of familiar and community based contexts encouraged people to want to spend time looking at using and listening to the resources. These are resources they could look at, learn from and enjoy on their own, or better still with other workers/artists/art centre workers. There continues to be quite significant ICT infrastructure rollout including the recent Backing Indigenous Ability telecommunications program for Indigenous communities/organisations and the new SkyConnect Satellite Network for education and health service delivery to remote communities in the Northern Territory, and the indication of the need for more cross agency coordination to ensure that appropriate infrastructure, training and mentoring of users and maintenance is employed.

Systemic Issues

Funding models need to accord with and support effective training models. Cross jurisdictional funding issues means that recurrently funded training cannot be conducted out of State/Territory. Any cross border training may attract fee-for-service or differential fees for education service delivery, no matter the most appropriate provider. Recurrent funding is based on delivery of national training package qualifications. Nominal hours allocated to national training package competencies are not based on remote Indigenous learners and were inadequate. This was a significant barrier to learning when learners had poor English literacy or insufficient underpinning knowledge and skills. Targeted program funding is inconsistent, rather than strategic or sustainable supporting the development of a programme with a cohort of students. There was a great need for training and work ready programs (pre-vocational training) far surpassing the need for the delivery of higher level VET programs, although funding for these types of programs is severely limited. A range of long term support and partnership structures need to be considered for successful sustained life-long learning that meets individual, family and community goals. Funding for this type of critical investment is not easily found.

Interoperability issues 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 of previous training, employment and experience would ensure there is no repetition of courses. This would support the development of a clear pathway for information sharing between job network providers and education providers.

Pedagogical issues

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

Effective programs create spaces for the identification of new uses for e-learning in Aboriginal/Indigenous contexts. Professional development of teaching staff to facilitate the identification of these uses and engagement with them by their students can grow effective programs. The e-tool is not as important as the way it is integrated into students' learning and world of work. With access to a basic computer and a digital camera in the workplace (standard equipment in an art centre) Aboriginal artists and enterprise owners were not only viewing the resources, but taking new pictures, recording voices and creating their own resources in their own enterprise about their own jobs, tasks and how to perform them. With access to the internet these resources can be shared with culturally appropriate others, or be accessed by community members if travelling. Learning can even be conducted between community art centres using simple electronic classrooms. The ability to see and communicate with other Aboriginal workers/artists/art workers/relatives and others at distance without have to leave the security and duties required of them in their home community was well received.

Aboriginal artists, art centre workers and enterprise owners were quick to consider a whole range of uses for the E-tools they were demonstrated and/or used. The principally oral nature of Indigenous languages lends itself well to E-mediums. Combined with other known cultural strengths such as the visual and performing arts, the potential for developing engaging resources for cultural maintenance, learning, business development and for other entrepreneurial activities is extremely high.

Cultural Issues

The use of e-tools to support learning can assist to increase the value of learning in Indigenous contexts – for individuals, families and communities. Accessing e-tools can create environments for sharing knowledge and learning together, it can record

cultural history for multiple uses from restricted access to entrepreneurship. Opportunities are created for intergenerational learning, for example, in the first case study 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 Aboriginal 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. The ability to use simple tools to create complex culturally appropriate evidence of skills and knowledge required for assessment against nationally recognised training package competency criteria provides new opportunities for Aboriginal learners. What is much more problematic is the non-Aboriginal assessment of these portfolios. It was important to professionally develop and support training staff working with culturally sensitive materials and assessing with Aboriginal elders where appropriate.

There was a significant variance in the skills of teaching staff to develop and use suitable resources and technologies. There are still significant differences between available e-tools and technologies and the skills of teachers to be able to maximise their use in learning contexts. Staff were challenged by a reluctance to change their teaching and assessing strategies or if interested in finding time for professional development. Staff reported that despite the wide array of online and face-to-face opportunities for professional development in e-learning, their professional development time was dominated by sessions about compliance and institutional policies and procedures. This left little time for staff to access available resources or discuss pedagogical approaches as it applies in Indigenous contexts.

Skilled teachers who built strong relationships with learners, their families and the community were able to develop contextual, culturally and linguistically appropriate learning resources. The extent of in-out migration and the difficulty of retaining quality staff in remote areas impacts negatively on the sustainability of effective programs and educational initiatives. The approaches to e-learning that were effective created value in learning - for individuals, families and communities; socially, historically and culturally. These resources created opportunities for intergenerational and social learning while introducing students' materials and knowledge into the e-tools. The resources intentionally provided alternative and culturally appropriate methods for recognising strengths. The recognition that the e-learning resources described were far more engaging, and understandable, for the learners than purely print based resources. The customisation that is possible with the E-learning resources is what makes them so much more valuable for Aboriginal learners.

Furthermore, existing knowledge suggests that using simple, relatively cheap mobile audio and video enabled devices for learning has been successful with some Aboriginal learner groups, we know that the learning needs to be contextual and for many, needs to be offered bilingually, we know that Aboriginal learners enjoy learning in their communities and prefer to self-select who they learn with, we know that there are imperatives for Aboriginal people to have recognised and/or gain the necessary skills to be employed in 'mainstream' jobs and we know that the Northern Territory is implementing major governance changes that will provide new opportunities for Aboriginal people.

Conclusion

The outcomes of these projects have identified practical issues in implementing e-learning. This is about 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 of these projects clearly indicate the need to work with educational policy, institutions, trainers and brokers to re-imagine VET in Indigenous contexts and then, together consider new ways to structure, fund and support remote Indigenous peoples' learning through e-learning. A new vision of VET in Indigenous contexts using e-learning will have these key features and challenges. E-learning approaches are framed and based in Indigenous students' experiences and knowledge systems. ICT systems allow students to manage/record their skills and knowledge in ways that make sense internally and can be interrogated to meet qualification expectations. The approaches allow local customisation of content and use. Training support focuses on developing confidence to work across and try new technologies as they emerge.

Networked learning environments provide ways for individual and isolated students to form a community of practice and learn from their peers. By using networked approaches these conversations need not be mediated by the trainer, rather they can act as the catalyst for positive community based learning. The implications for trainers/facilitators are to build ICT English literacy and numeracy integration and learning negotiation expertise. Facilitators share management of the learning partnership rather being expert that controls education. In this environment, VET is established within appropriate partnerships that can facilitate the need for work readiness, pre vocational and vocational education and training, on and off site. In this environment, staff training includes ongoing staff development to keep abreast of the possibilities of incorporation of E-tools and new ways of e-learning into the blend of learning spaces. Learning facilitation teams are demand driven and linked to individual, family and community development aspirations.

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