Experiencing Indigenous Knowledge Online as a Community Narrative

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This article explores a project at the Koori Centre, University of Sydney, funded by the Australian Learning and Teaching Council (ALTC) in 2011, titled 'Indigenous On-Line Cultural Teaching and Sharing'. One of the team members (Kutay) was also a project team member on the ALTC-funded project 'Exploring PBL in Indigenous Australian Studies', which has developed a teaching and learning process (PEARL) for Indigenous Australian studies. In this article, we present the 'Indigenous On-Line Cultural Teaching and Sharing' project as an exemplar of this teaching process. The project turns a highly successful interactive kinship workshop into an interactive online experience for all students and staff of the University of Sydney. The project is developing a sharing portal for Aboriginal people in New South Wales (NSW) to incorporate their stories and experiences of cultural, historical and educational issues within a knowledge-sharing workshop. The site will use voices of Aboriginal participants to express the knowledge of their culture in a comparative and affirmative context. An interface for uploading audio and video has been generated to combine example stories from different perspectives. The interactive kinship workshop and Aboriginal voices will then be used in an online game, embedding Aboriginal knowledge and values within different professional learning contexts, such as law, social policy, health, and education.

■ **Keywords:** Indigenous narratives, social constructivist, e-learning

This article describes the process a team of interdisciplinary Aboriginal and non-Aboriginal scholars are undertaking in the creation of an 'Indigenous On-Line Cultural Teaching and Sharing Project'. The project develops a cross-cultural learning experience based on an existing version of the interactive kinship workshop developed by Lynette Riley in 1987. The workshop introduces Aboriginal kinship systems, roles and reciprocal responsibilities via a role-play game that teaches about kinship concepts, and explores relationships through moiety, totem, skin names, and languages within nation, clan and family affiliations. It shows how these elements form relationships with others and individual identity, enabling students to understand the complexity and sophistication of Aboriginal kinship ties and to understand how cultural priorities can often lead to misunderstandings and conflict.

The team has developed the tools to collect a web repository of narratives from Aboriginal community Elders, Aboriginal students and staff at the University of Sydney. These will then be embedded in relevant scenarios within online, single-user interactive games to teach about kinship, focusing on the differing responsibilities in Aboriginal societies and the impact this has on contemporary Aboriginal people.

These games will be used as a teaching resource that embeds Aboriginal cultural experience and values within different professional learning contexts, such as law, social policy, health and education. We are using material on kinship and extending this by researching Aboriginal community members' teaching priorities and Aboriginal students' input on peer teaching needs. This innovative approach will allow for the dissemination of Aboriginal knowledge and values among the broader student body, many of who will work with Aboriginal staff or clients during their professional life.

Rather than presenting a hybrid knowledge system, this project both maintains what Rigney (1997) refers to as distinctly 'Indigenist' space and provides an educational

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experience grounded in Indigenous epistemologies that are co-constructed with the Aboriginal students. In doing so, this project contributes to the decolonisation of, and growing pluralist pedagogical space within, the Western domain of academia in Australia (Dudgeon & Fielder, 2006).

Decolonising the Australian Higher Education Landscape

Universities are for the transmission of knowledge and research of cultural and social systems, both within their established location and of other nations. If we do not see a wide reflection of the diverse cultural foundations of the nation where the university is located, then one could contend that the educational and research transmissions are mono-cultural. While spaces for the teaching of Indigenous studies, including Indigenous knowledge systems and culture, have existed for some time within higher education institutions in Australia, the broader promotion of mainstream learning of Indigenous culture and knowledge from an Indigenous standpoint in Australian higher education is a more recent phenomenon (Dudgeon & Fielder, 2006).

The Australian Higher Education landscape is predominately geared toward improving Aboriginal and Torres Strait Islander accessibility to tertiary education, rather than enhancing the prominence of Indigenous culture and knowledge and studies on campuses across Australia. Yet there has been a shift at the federal policy level in recent years, which can in part be attributed to the work of the Indigenous Higher Education Advisory Council. One of the recommendations in the first strategic plan of the Indigenous Higher Education Advisory Council (2006) was to 'enhance the prominence and status of Indigenous culture, knowledge and studies on campus' (p. 3). It is generally considered that enhancing the prominence and status of Indigenous culture, knowledge and studies on campuses around Australia would also provide non-Indigenous students with understanding and respect for Indigenous knowledge and worldviews and prepare them to work and live more harmoniously in a land owned and occupied by Indigenous people.

The shift in Indigenous Higher Education policy in this regard is reflected in the Department of Education, Employment and Workplace Relations (DEEWR) Indigenous Higher Education website, which states that the Department 'is committed to the Australian Government's target of reducing Indigenous disadvantage [which] includes improving Indigenous higher education outcomes, and enhancing Indigenous culture and knowledge in Australian higher education'. One of the goals of the National Aboriginal and Torres Strait Islander Education Policy is 'to provide all Australians students with an understanding of and respect for Aboriginal and Torres Strait Islander

traditional and contemporary cultures' (Australian Government, 2010).

While the national *Australian Higher Education Support Act* (Australian Government, 2003) states that universities are expected to reflect the whole community and not simply one social or cultural sector, we would contend that the existing university environment in Australia is not consistently providing non-Indigenous students with an understanding and respect for Indigenous knowledge, or preparing non-Indigenous students to work with Indigenous people. Achieving such an outcome within the Australian tertiary education sector would contribute significantly to the decolonisation of this sector, allowing for the experiences of Indigenous peoples to be heard, recognised and accepted (Green, Baldry, & Sherwood, 2008). By utilising digital technologies we aim to share these experiences across New South Wales (NSW).

Digital Technologies and Indigenous Education

New cross-cultural knowledge spaces continue to emerge in the digital world. Yet Aboriginal education is marked by Aboriginal students being denied quality education in the perceived overarching process of 'assimilating' them into the values of the wider non-Aboriginal community (Heitmeyer, 2001). In an age when Information Technology is a vital part of education and employment, we decided to develop a professional tool that enables Aboriginal people to be involved in teaching culture to the wider community, but also maintain control over what they wish to teach and how they wish to impart this knowledge. This involves new skill acquisition for Aboriginal storytellers, including Aboriginal university students who will contribute to the project, to use online tools and design learning environments that suit Indigenous knowledge sharing. As Donovan (2007, p. 99) notes:

> When comparing Aboriginal and ICT pedagogical systems, there are many overlapping commonalities and, when used effectively, many aspects of the ICT pedagogy would work with Aboriginal students.

These overlapping commonalities include the experiential nature of learning; the ability to create an immersive space that is flexible to specific learners and their context; and the ability to combine material from many informants (Donovan, 2007, pp. 99–101).

In keeping with both the philosophy of PEARL (see Mackinlay and Barney in this volume) and social constructivism, digital technologies can also be used to engage more broadly in transformative education. Digital technologies have been used to create an experience of rich, interactive, and scenario-based learning environments. We can use these tools to create performative and political, experiential and engaging, active and anti-colonial, relational and reflective, and lifelong learning environments

in keeping with the PEARL method. Furthermore, by improving our teaching methods and practices through this research, we not only become more skilful in our practice, but our students benefit from our reflective professionalism.

One such emerging, performative cross-cultural knowledge space is digital games and virtual worlds. Fallon (2010) discusses the potential for avatar authoring programs to be used as a digital storytelling and learning tool. In developing the workshop on Aboriginal Territories in Cyberspace Skins into a digital game and virtual world, Lameman and Lewis (2011, p. 55) found that:

1. students were interested in integrating stories from their communities in digital games
2. they respected, but modified or expanded the stories where appropriate, and
3. they were capable of translating those stories through the complex means for developing a video game.

As part of our project, a sharing portal will be developed for Aboriginal people in NSW to incorporate their stories and experiences of cultural, historical and educational issues. The site will use voices of Aboriginal Australian students and Elders to express the knowledge of their historical and educational experiences, and to share aspects of their culture in a comparative and affirmative context. An interface for uploading audio and video has been generated to combine example stories from different perspectives and on different themes. Interactive games will embed Aboriginal knowledge and values in different professional learning context. The first iterations are to be two-dimensional learning spaces, but it is hoped to extend the design to virtual worlds and multi-player systems.

As an e-learning initiative, this project offers an innovative, active and engaging medium for promoting intercultural dialogue, preserving Aboriginal peoples' stories, and training Aboriginal storytellers to improve competency in Information Communication Technology (ICT). As part of the project, workshops will be held with Aboriginal communities and participants will be assisted to record and upload video or audio segments of their narratives. While some of the website usage is specific to this project, story sharing is a developing area of information sharing online (e.g., YouTube). The sections that follow describe the presentation in detail.

Kinship Presentation

The original kinship presentation is of 1.5 hours duration, but the video for online use has been cut down to about 1 hour. In the presentation participants are taken through an explanation of kinship systems, replicating the components of moiety, totem, skin names, languages and reciprocal affiliations, as aligned to individual identity. Through a series of role-plays and discussion, the partici-

pants begin to see why Aboriginal people have particular problems when interacting with the (colonial) Australian social, service delivery agencies and legal systems.

Through this presentation, participants come to:

- understand the complexity and sophistication of Aboriginal kinship systems
- identify differing levels of relationship
- understand how the reciprocal-bonds of relationship work.

The Law Reform Commission of Western Australia Report *Aboriginal Customary Laws* (2006, p. 66) highlighted the importance of kinship to Aboriginal people:

> *Kinship is at the heart of Aboriginal society and underpins the customary law rules and norms . . . Importantly, kinship governs all aspects of a person's social behaviour . . . It is important to note . . . that while the kinship system was an undeniable part of traditional Aboriginal society . . . it is also strongly instilled in contemporary Aboriginal society, including urban Aboriginals . . . certain kinship obligations, such as the duty to accommodate kin, are taken very seriously regardless of urban or remote location.*

The kinship presentation assists understandings of contemporary Aboriginal relationships and their importance in today's social structures. Although the Aboriginal kinship systems throughout Australia are extremely varied and it is not possible in the workshop presentation to examine the differences between them, participants in the presentation gain a new and deeper understanding of how kinship systems operate with a particular emphasis on NSW.

Teaching Process

We describe here some of the aspects of teaching used to develop the online workshop. First, we took an existing kinship presentation, and extended it for the purposes of online interaction. We then focused on providing an immersive narrative learning environment, for sharing Aboriginal knowledge. Finally, we have been meeting with professionals, trainers and community to develop the teaching framework for the final online video sharing and game system.

Topic of Workshop Suitable for Instruction

The kinship presentation has proved to be extremely effective over many years of presentation and has been used as a cross-cultural exercise in community settings, as well as teaching programs in schools, TAFEs and university settings, but is reliant on the availability of one person, Lynette Riley. Hence, we are using online learning to extend the range of this workshop, and online narrative collection to enable more people to add their experiences to this learning experience, for developing games in the form of role plays.

Immersion in Narrative

We have chosen to use a narrative teaching style as this is the process used by Aboriginal teachers within the context of sharing Aboriginal knowledge. This also provides the opportunity to use narratives from Aboriginal students, staff and community members to convey Aboriginal knowledge to non-Aboriginal students. The teaching of culture would be invalid without the contributions of Aboriginal people 'translating' their experiences into the new context (Ramsay & Walker, 2010). In particular, we need to reverse the present 'systemic undervaluing of local knowledge and Aboriginal culture, a deeply ingrained unwillingness to "see" more sophisticated Aboriginal knowledge and processes' (Yunkaporta, 2009, p. 105). Battiste (2002) argues that integrating the voices and experiences of Aboriginal people into mainstream education creates a balanced centre from which to analyse European culture and learning. This supports an online teaching approach that uses storytelling and interactive gaming.

These narratives form an effective way to teach non-Aboriginal students (Egan, 1998; Blakesley, 2010; Andrews, Hull, & De Meester, 2010) and respect traditional storytelling methods (Bradley, 2010). This work is based on a constructivist approach to teaching and learning, which presumes students learn through active construction of their own knowledge rather than by memorising or absorbing ideas from presentations by their teachers (Hanley, 1994). This suggests a student-centred approach based on learning through experimentation, such as interactive games.

Teaching Framework

The aim of this project is to develop a pedagogical framework that takes into account Aboriginal people's epistemology both in methods and content, so that education will be a process that builds on Aboriginal cultures and identity (National Aboriginal Education Committee, 1985). In particular, we are working with Aboriginal students who are 'traversing the cultural interface' (Nakata, 2002, p. 9) and whose stories reveal the consequences of interchanges with Western 'ways of knowing'. We will also incorporate the stories from non-Aboriginal professionals who have learnt from their work experiences. This framework is to be developed through discussion with Aboriginal community members, Aboriginal and non-Aboriginal university teaching staff, and Aboriginal students. This will guide the development of the online workshop and the game scenarios. These scenarios will give students the opportunity to select games relating to a range of service delivery areas, and across a number of Aboriginal communities.

Embedding Indigenous Knowledge in Mainstream Courses

The collection of Aboriginal knowledge is an ongoing project and is particularly relevant to university education.

However, it has always been difficult to use this knowledge in mainstream teaching, possibly for the same reasons it is difficult to incorporate Aboriginal research and researchers there (Wilson, 2008). We are connecting to previous university projects involved in collecting Aboriginal narratives, and extend this work by embedding Aboriginal cultural knowledge in university courses, which is vital if they are to be useful in teaching and learning. We are also using the PEARL teaching strategy to advise our teaching framework for using Aboriginal knowledge as transformative material in game scenarios.

We believe that by providing role-play games for students to navigate the different stories relating to their discipline we will provide a ceremony (Wilson, 2008) and space for Aboriginal cultural sharing. We hope to, in future, develop the games into locations in Second Life or a multi-gaming environment using tools such as Unity.

Need for the Project

The project was designed to provide:

1. cultural diversity in our student perceptions through exposure to alternative experiences

2. long-term change through professional development in all courses. By involving staff across three university faculties, we can collect relevant material in each domain. Teaching staff can use this workshop to stimulate discussion of different ways of knowing, and different knowledge systems.

3. collaboration across different faculties at Sydney University with the Koori Centre and community groups to develop curriculum goals on Aboriginal knowledge sharing, and with staff involved in similar projects across Australia

4. collaboration across four different universities, to develop collegial approaches and sharing of intellectual and academic knowledges

5. online learning that is relevant to Aboriginal students and which incorporates instruction in using the tools to upload their stories and organise their knowledge as a learning resource.

We are providing such material as an online course as this provides broad sharing of this resource and so highlights:

1. the importance of Aboriginal people's experiences in explaining the significance of cultural differences and thus validating the knowledge provided for the course

2. the value of a repository of resources for Aboriginal students to share with non-Aboriginal peers on different approaches to culture within the community, and the need for a regular update of the repository, including real-time interactions in multi-player games

3. the wide range of issues that exist as cultural variations, and the opportunity provided by the web to provide

tools to support course development in such areas (Kutay & Mundine, in press)

4. the need for culturally relevant online resources to include Aboriginal perspectives in online knowledge sharing.

At the same time we acknowledge that the experience of Aboriginal people is highly varied, and that Elders, staff and students will want to present different aspects of this experience. Existing courses in Aboriginal studies for education students have a diverse range of foci across teaching institutions (Craven, Halse, Marsh, HMooney, & Wilson-Miller, 2005) which can be supported by enabling teachers and lecturers to create their own learning scenarios.

Consultation Process

The project involves extensive consultation, through a series of Reference groups: the Technical Reference Group across universities and the Aboriginal Community Reference Group. This consultation is carried out by the project team to clarify the teaching framework and to develop a suitable repository of stories under the teaching themes. We provide here a summary of the process for community engagement, consultation and collaboration as used in this project, which was developed by Riley and Genner (2011).

Phase 1: Clarifying the Focus

The kinship presentation has been taught in face-to-face workshops for many years at TAFEs, schools and universities. A video recording had been made of one of the workshop presentations done for the Department of Education and Community, NSW. This video has been edited by one of the principals involved and was approved for online publication. This provided a focus for the initial online instruction and for collecting stories about kinship and cross-cultural issues.

Phase 2: Building Aboriginal Content (Cultural Knowledge) Through Genuine Partnerships

This builds on phase 1 to ensure that specialists of Aboriginal cultural knowledge within the Aboriginal community are engaged as partners in learning. In this project, this included community Elders around NSW and the Aboriginal students at the university. The following questions provide a focus for initial planning:

1. What area(s) of cultural knowledge will be explored and embedded?

2. Who in the Aboriginal community has the relevant knowledge?

3. How will the knowledge holder(s) be involved in the development, teaching process and evaluation?

4. How can other Aboriginal people and organisations be engaged to assist?

5. What are the protocols to be considered to foster Aboriginal community engagement and embed Aboriginal cultural knowledge across programs?

Phase 3: Implementation — Development of Units of Work and Related Assessment Task

The third phase involves specialists of Aboriginal cultural knowledge or those with experience in cross-cultural issues relating to their professional work. The resource material will be developed collaboratively, using photos of people involved as avatars, and audio or visual recordings so that the end product is a collection of narratives that is delivered as a collaborative work, involving (at a minimum) the cultural knowledge holder, university teacher in that profession and students, with further involvement of Aboriginal community members as required.

Recognising Background Knowledge and Problematic Knowledge. It is important to recognise that Aboriginal and non-Aboriginal students, teachers and professionals bring prior learning and experiences, preconceived ideas and sometimes misconceptions. In the context of the kinship workshop preconceptions are drawn out and discussed in an open manner after the interactive workshop, recognising the problematic nature of knowledge. It is important to build a supportive environment in which people can ask questions and discuss ideas. To recreate this online, we will be using recordings of such discussions and people's comments on these issues, as part of the development of the learning material.

Phase 4: Assessment, Evaluation, Reflection and Celebration

Assessment of the learning outcomes is best done collaboratively, in line with the development and delivery of the kinship workshop material. The process of workshop evaluation involves similar collaboration. A method of recording team members' reflections (video, audio, journal) may be used, as this may be able to be used to extend the material on-line.

Essential Steps in the Process of Embedding Cultural Knowledge

Embedding Aboriginal cultural knowledge is not easy and there is always concern of co-option, misinterpretation and misuse of knowledge. These are the main steps that need to be repeated through each stage of the process.

1. Planning. It was considered essential that the project team develop a planned approach to embedding cultural knowledge (historical, social, political, educational and legal) through considerations such as:

1. selection of staff to be involved — their commitment and availability

2. high level commitment to the project within the university

3. a clear timeframe for embedding cultural content

4. clarification of the cultural knowledge sought and suitable specialists in the university and broader community

5. availability of other online resources to be linked to this project

6. clearly defined stages in the progress of the project

7. implementation of the workshop within the university curriculum

8. assessment of student outcomes and evaluation of the unit

9. sharing the learning through feedback or more resources on the site, where possible.

2. Protocols. It is crucial participants understand general protocols to be followed in working with local Aboriginal communities, both in terms of ensuring suitable people to introduce the project to the community and carrying out any interviews for developing the online material. In particular, the project team needs to consider:

1. introductory processes
2. Elders in the community
3. cultural specialists and knowledge holders in each community
4. different Aboriginal clans and families with authentication of cultural knowledge in NSW
5. cross-protocol issues of working between Aboriginal community protocols and non- Aboriginal protocols.

3. Timeframe. The university courses that are involved in the pilot study need to identify learning opportunities and goals (where the workshop fitted into their course), stakeholder commitments (staff time to plan workshop development online), time constraints of the university, and scheduling community input and feedback. The timeline needs to be both realistic and flexible to fit with demands on the time of community members, staff and students involved.

4. Resources. Kinship presentations were held face-to-face with Aboriginal and non-Aboriginal students prior to the start of the project. Students were asked if they thought we should attempt to construct an online game, and for ideas as to what resources they would like to see linked to the online gaming workshop. For this we had to consider:

1. what resources would be available for online publication
2. cultural restrictions on any material
3. specialist skills and knowledge to prepare resources.

5. Stakeholders Including Cultural Knowledge Holders. In preparation for embedding cultural knowledge within the mainstream curriculum, there is a clear need to determine who will be the technical and cultural stakeholders in the project; what will be their respective roles; their availability and how they will be contacted. For example, many stakeholders could only be contacted through Skype due to their distant location and teaching commitments. We also had to consider how to arrange initial introductory visits to communities, when to run the workshop with the community, then arrange later times to gain feedback on the cultural knowledge and personal narratives to be included in the project's learning and teaching framework.

Teaching Framework

We are designing a teaching framework for the university learning environment that allows Indigenous modes of learning. This teaching framework is based on a social constructivist perspective, with reference to the various aspects of good teaching practice for cross-cultural knowledge sharing embodied in the PEARL acronym. It is being developed in consultation with student and community groups. The former are providing ideas for what other students need to learn from their Aboriginal peers, and the latter are providing the cultural knowledge that they want shared with the students who are the future consultants and employees of Aboriginal communities.

The first step was to define the themes of the kinship workshop video and collect different subthemes within these. The initial subthemes in Table 1 are from a student perspective, and the next stage is to take these to community Elders to discuss how to present these ideas in an appropriate manner to non-Aboriginal students. This also acts as a guide about where to place new stories from workshop participants within relevant themes. We will also be interviewing non-Aboriginal professionals working with communities, on what their experiences have been and what they have learnt that they would like to share.

These stories will be classified according to:

- the relevant area of study: social work, law, education, maybe health
- the professional role they relate to: worker, researcher, policy development, consultation
- whether the story embodies cultural assumptions or cultural knowledge: assumptions experienced by Aboriginal people and made by non-Aboriginal people and how they have corrected these, or expanded their understanding
- whether the contributor is a student, community member or professional, Aboriginal and/or Torres Strait Islander or non-Indigenous.

Thematic Structure of Workshop

The themes presented in video segments are listed in Table 1 below, with the subthemes identified at this stage and some ideas for links or additions that can be made using web resources. This is the first draft and needs to be refined further as the project progresses. This will

TABLE 1

Themes, Subthemes and Suggested Narratives Based on and Arising from Kinship Presentation Developed by Riley (2011)

Themes	Subthemes	Links or narratives
1a. Welcome		
The variety of cultures and languages across Australia, and how people acknowledge each other when entering another land. Many languages. Relationship to people, land.	Acknowledgment and/or Welcome is related to connection to land. Cultural differences are implicit and discussed between nations. What is the knowledge conveyed/significance of a Welcome?	Other Welcomes from Education Department and AECG. NSW Board of Studies Protocols. University of Sydney information. Tindale map.
2. First level of kinship — moiety		
Inheritance of relationship. Establishes foundations for kinship systems. Difference between Aboriginal and non-Aboriginal kinship systems.	What is moiety in other cultures? Compare relationships in contemporary societies. Maintenance of community and family.	Google lookup: Moiety. Other cultural group with similar kinship system and local ones. Stories past and present — ABC Dreamtime Women's and men's business: Daughters of the dreaming.
3. Second Level — totems		
Different levels of totems. Understanding reciprocal responsibilities and bonding with others. Maintaining connections to the environment.	Strengthening ties. Teaching responsibilities that grow with age. Sharing knowledge with those who have skills, between people and language groups.	Stories of peoples relationships — How you follow relationships across clans and generations. Blue Mountains Dreaming book. AIATSIS resources.
4. Third level — skin names		
Skin name gives generation levels and specific relationships. Responsibility to family. Responsibility to community. Defines identity at birth and relations such as grandparents, parents and children.	Stereotypes — breaking these down to recognise diversity of Aboriginal nations, clans and family groups. Understand role of other mothers and fathers for families and implications. Matrilineal and patrilineal inheritance systems. Marriage categories and restrictions.	Stories form history which strengthen identities. Issues relating to land claims and proving link to land for native title Family records (AIATSIS, Link Up) and developing trees: • stories across generations and connections • first contact to now.
5. Language and traditional affiliations		
Marriage requirements are monitored by Elders. Bloodlines support genetic mixing. Communication across language groups for survival and conservation of environmental resources. Need to intimately know country to travel. Need for variety of languages.	Languages for different nations. Knowledge sharing. Diversity of languages. Stereotypes in language. Use of English words for new concepts.	For Aboriginal people — first stage of meeting is to determine relationship with one another (not social level) and reciprocal responsibilities. Stories of ancestors' marriage across groups — inheritance of relationships. Protocols for travelling.
6. Lines of communication		
Track provide route to share resources, knowledge and marriage and route to pass through lands. Protocol for travelling and providing links between nations. Language differences and linkages.	Communication, trade and ceremony and marriage lines. Movement for education of children with others of same totemic responsibility. Learning appropriate to age and responsibility. Boundaries defined by significant features.	Stories of cultural misunderstandings since invasion: • different values and principles • differences in food, art, music, carved trees, and so on.
7. Disconnected lines		
Missions, reserves and stations. Communication broken creating isolation. Victims of massacres, killings and introduced diseases effects family relations across nations. Use of language as control. Issues that arise when institutions close.	Religious division of land into different missionary responsibility. People from different languages/areas forced to moved together and marry against kinship. Taught pidgin English as 'common language' that was a subservient language. Needed translator to enter wider world.	Stories of families and experience in missions, reserves and stations. Story of language reclamation and why. Story of families trying to keep together.

assist us to sort resources and stories into relevant themes that then can be collated into games relating to these themes.

Flash Videos Developed for Role-Play within Workshop Context

At present the main role-play games have not been developed. However, as a trial we are developing simple role-play enactments as flash videos, to be placed in the video sequence where normally face-to-face role-play occurs. There are six sections to the role-play in the original kinship workshop as listed above (excluding the Welcome). We will be adding the face and voice of participants in future workshops to these to add variety. Showing these games will be used to collect some sample stories of the experiences described below.

Table 2

Role-Plays Within Workshop

1. Moiety	Dividing into moiety and introduce yourself to those near you. These are the first level of linkage in relationships.
2. Totem and relationships	Divide into groups with the same name or totem. Note how totems are divided between moiety.
3. Skin names	Divide into skin names or generations. Note relation to different people in other groups.
4. Language and traditional affiliations	While divided into skin names, note who you can marry. Divide whole group into nations or language group. Note how you relate to those in your nations and your neighbouring nations.
5. Lines of communication	Put down lines to link language groups. Note how you will link to those with related responsibilities, those who are marriageable and those with large food resources at different times of year — important for religious ceremonies, conservation of resources and survival.
6. Disconnected lines	Communication lines are removed. Note disconnection in terms of cultural responsibilities and isolation while massacres and so forth still cause havoc across these links. People selected and removed to mixed language settlements. Discuss introduction of common language in these settlements, a pidgin/low-level English. Present a forced marriage. Note cultural affront in these policies.

Implementation

The next stage of the project is to run workshops using the online video. Participants will be interviewed for their stories or narratives that describe their experiences under the various themes. If they wish, they can upload their interviews themselves to link to the appropriate section of the video.

Software Development

The software for running the workshop online has been developed using a simple interface for users to view the kinship workshop video sections. The interface is also able to display flash videos, images, audio segments, and links to other external material. The next stage will involve developing games from the material provided by workshop participants. These games are described at the end of this section.

We acknowledge that for the project to live up to its promise depends upon the technical skills of the team creating the interactive games and the skill of the team at converting relevant aspects of the lived experience of Aboriginal people into the game platform. Hence, we are relying heavily on Aboriginal staff and consultants to advise the design, and using an incremental design to verify each part of the development of the open source software by staff at UNSW.

Collection of Knowledge

While much of the aim of the Australian Government's recent 'Closing the Gap' policy (Australian Government, 2011) in education is to encourage Aboriginal students at tertiary institutions to study mainstream courses, their learning will be enhanced by a better understanding of where their prior cultural learning fits into the broad spectrum of learning styles and cultural practices (Willmot, 2010). We will be collecting student's narratives during computer workshops and we will ask them to explain their experience to non-Aboriginal students through their stories. This process also enables greater respect for the learner as a knowledge holder (Grzega & Schöner, 2008).

The site will be a combination of Aboriginal people's experience, including those of students and staff at the University of Sydney, Koori Centre and Aboriginal Elders, forming a community narrative. Additionally non-Aboriginal academic staff in professional teaching areas are involved in the project to ensure the resources are appropriate for use in their degree structure.

We are aware that the diverse experiences of the many contributors to the project, and Aboriginal people in general, is being collated together to form the games. Part of the idea of developing games from a collection of stories is to enable this diversity of views to be heard directly by the learners, but at the same time we need to ensure the games do not become stereotypical.

Video Introduction as Focus Material

In the first stage of the project, a video of the original kinship workshop provides the main focus for the story narratives to be extended by Aboriginal staff and students' experiences. These new stories are uploaded to the website repository and linked to the original video. We are using Annodex media annotation tools to enable audio and video material to be linked online.

Aboriginal Elders and students will be assisted by staff to investigate how their cultural knowledge relates to the broad spectrum of learning and cultural practices at the university and in those professions. Their stories will initially be linked with segments of the kinship workshop video (see Figure 2), and tagged with aspects such as the author's identity, the location of the story and whether the experience is 'within culture' or 'between cultures'.

The contributors are aware their narratives will be used for teaching others and this has the benefit of validating their expert knowledge and identity (Willmot, 2010; Mooney & Craven, 2006) as their knowledge will be incorporated later within the games. This will help tag and define where the stories fit within the games as they are developed.

FIGURE 1

Embedding Aboriginal cultural content through a consultative engagement process.

Flexible Repository

The first version of the kinship workshop already allows us to insert further information at points in the video, so that the students can view these when they reach that point in the video. This allows us to continually update the focus material from other resources. The final collection of workshop narratives will provide a further repository of material. A teaching handbook will be provided on the site to enable university staff to use the kinship workshop in their teaching and select the stories or comments they wish to make public to their students. They will be provided tools to develop scenarios from a range of options and will assigned selected stories to a scenario game.

Students who participate in the kinship workshop training will be able to enter the scenarios and will traverse these as a game, where the range of comments will inform them of different people's experience relevant to that scenario. The repository of stories can be continually updated so that the stories in each game will be regularly refreshed. We are still designing how to move from narratives linked to the focus material and the games.

Game Format

The development of all user interfaces will use modular designs so that different focus material can be used for implementation within other topic areas. At present, we are focusing on uploading and linking video and audio material to provide the narrative of the original workshop. We can 'clip' and annotate the video so the kinship workshop can be presented online in segments. At the end of each thematic segment, a video or flash version of a small face-to-face role-play is shown online. Then, after watching the kinship workshop, a game will be offered where the student can go through these scenarios interactively.

When playing a game, students will select their thematic interest (at present these are law, education, social work) and be assigned a kinship position. As students navigate this game world with their avatar, they will encounter other users' stories in different kinship roles, and move between various scenarios set up by the trainer (see Figure 3).

For example, a scenario could put the student in the role of starting a job as a legal representative in the community. They would travel to the community, where various stories would be available, and the people they elect to listen to will be recorded by the system. If they fail to see relevant people, or fail to consider pertinent issues, such as 'Does their translator have the right to speak to their client?', they will start to be told 'out of culture' or conflictive stories and realise they will not be able to pursue their work. They will then have to take action or restart the game, to get back into culture and hear the 'cultural stories' to help them carry out their work.

We also hope to extend the game to multi-user format. This will be a feasibility study for future online collaborative workshops, with the potential for Aboriginal communities and students to provide live feedback to non-Aboriginal students on their experiences.

The gaming system has been designed with separate tools for scenario modelling and teacher feedback (see
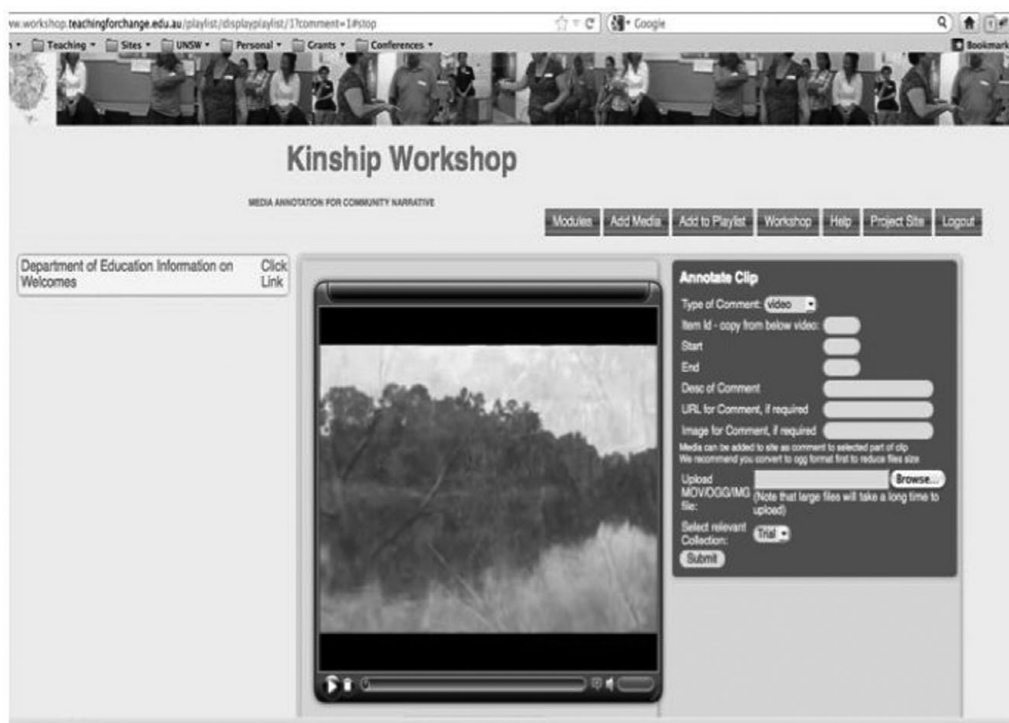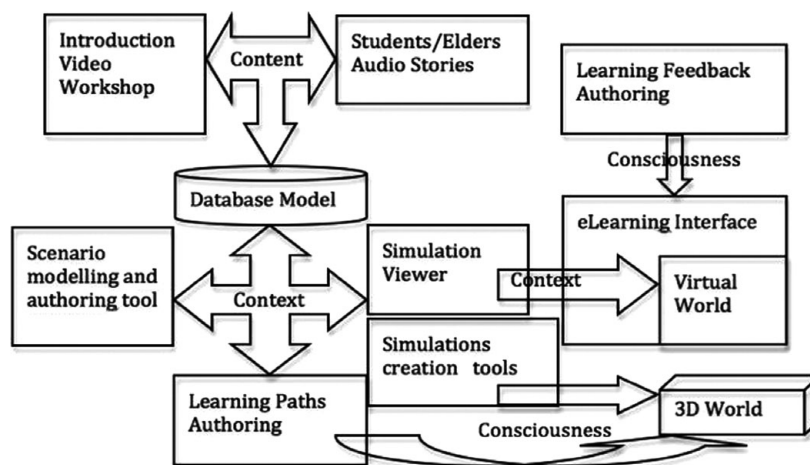
FIGURE 2
Annotation interface for editors showing previously added comments on left.

Figure 2), using the experience from other game based e-learning system such as <e-Adventure> and modular on-line learning and assessment tools such as Adaptive E-Learning (Ben-Naim, Bain, & Marcus, 2008).

Scenarios for Interactive Games

The games are designed to incorporate the stories from Aboriginal contributors, as well as non-Aboriginal professionals working with Aboriginal communities who have learnt from their experiences. The design so far includes:

1. the interface to a map of university buildings that students can select for each of the areas of study, as in the VET Flexible Learning program 'Interactive Ochre'

2. clicking on a building selects themes for stories for that profession from an Aboriginal perspective

3. these stories, with their associated avatar, are then auto-located in a community setting relating to that profession (e.g., a land claims meeting for lawyers)

4. the student is then put into a professional role with the community or with an individual client and the

FIGURE 3
Architecture for learning design with separation into Model View Control (MVC) components.

stories gives them examples of how kinship affects this role. For example, when a lawyer represents a person at court, issues may include:

- interpreter may be related to the victim
- child may be represented by a nonbiological parent, but who is in a kinship relationship to the child, creating legal and cultural conflict.

The aim is to have two scenarios for each profession, where the person may be:

1. given a kinship role (Aboriginal identity) by the computer and then interacting in the professional environment, and finding where conflicts arise from the requirements of the western system.

2. as professionals working in their chosen role.

These scenarios will be repeated for each theme if there are a large variety of contributions.

Evaluation Framework

The project will provide the opportunity to both design and evaluate software developed for e-learning in this domain. This research will provide guidance for others teaching online in the area of cultural studies and Aboriginal knowledge. The process of evaluation is important, as it is an iterative process that enables the software and teaching framework to be developed in close consultation with the partner organisations and community groups. The evaluation of the work will be based on:

- the development of a clear teaching framework as a basis for the modules
- the development of a successful tool for teaching the modules.

This work is being done in consultation with reference groups of technical and cultural advisors as well as an Independent Evaluator, Sandy O'Sullivan from Batchelor Institute in the Northern Territory.

Collaboration

An important aspect of the project is the level of collaboration involved. The main collaboration is between the Koori Centre and academic teaching staff at the University of Sydney and Computer Science and Engineering Staff at the University of New South Wales who specialise in open source web services for learning. This enables us to provide evaluation of the project from both a technical and cultural perspective. We will also collaborate later in the project with other university projects for dissemination of Aboriginal knowledge within their tertiary education programs, ensuring the system is flexible for handling different thematic content. Furthermore, the project involves collaboration between Aboriginal community and university staff, enabling the input from Aboriginal people in the community into the establishment and evaluation of university teaching, where the silence on Aboriginal knowledge and learning is detrimental to the education of all Australians.

Conclusion

While this is a new venture in translating a cultural awareness presentation that focuses on kinship into an interactive online process, it is designed to be extended to any theme in future. It is hoped the games will convey a sense of engagement and understanding of Aboriginal culture in NSW; and ongoing relevance of contact to all Australians, at the same time as providing a voice for Aboriginal Australians through an interactive web service. We believe it is not only a matter of enhancing the prominence of Aboriginal culture and knowledge and Aboriginal studies on campuses across NSW, but it is also important to include Aboriginal cultural knowledge within the university sector in a manner that respects Aboriginal students at university, as keepers of knowledge, and that this should be done in a way that allows all students to benefit from this knowledge. For too long the majority of Australians have been ignorant of the national heritage in this area. Yet, this knowledge, and its teaching, supports the development of respectful relationships between people, animals and the land.

Acknowledgments

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