This paper describes the implementation of an online role-play that provides participants with the opportunity to immerse themselves in the socio-political context of public health on a Victorian Aboriginal settlement between the 1860’s and the mid 1880’s. A powerful innovation in the role-play is electronic access to primary historical sources that inform character development and interaction. Role-play provides strong instructional guidance complemented by exploration and discovery-based learning. Evaluation of the role-play indicated that students experienced the role-play as an efficient, effective and engaging way to learn about the subject matter. Overall, the role-play worked as a powerful learning vehicle to shift student perspectives on Aboriginal health and history.

Teaching and learning challenges in Indigenous public health

This paper describes an online, interactive multimedia role-play that provides participants with the opportunity to immerse themselves in the socio-political context of public health on a Victorian Aboriginal settlement between the 1860’s and the mid 1880’s. This particular pedagogical approach to Aboriginal health responds to a need for greater capacity for social and cultural analysis among public health professionals regarding Aboriginal health disadvantage. It developed as a component of the Public Health Education and Research Program (PHERP) Innovations Project on Indigenous Public Health Curricula Development (2003-2005) that identified the need for an Aboriginal health and history MPH subject (Anderson et al. 2004). In the paper, we describe an online role-play that forms one component of a semester long, face-to-face, seminar series in a postgraduate Aboriginal health and history subject.

Although it is well recognised that public health professionals have a role to “ensure equity in the health system and interventions to promote the health of disadvantaged groups” (NPHP 2002), less recognised are the associated pedagogical challenges. Building workforce in this area requires the development of curriculum materials for Master of Public Health (MPH) students who are already often experienced, mature-age health practitioners. While equity considerations are a challenge regarding a range of population groups, none are more so for students than those regarding Aboriginal Australia where catastrophic health differentials exist compared with other Australians (SCRGSP 2007; ABS & AIHW 2008).

Two critical considerations arise within the teaching of Aboriginal health to mainstream students: first, ways to strengthen awareness within the student of how, inevitably, their own immersion in a broader social context that condones ignorance and prejudice towards Aboriginal Australians has shaped their own perspectives; second, how to provide students with a framework to critically analyse the abundant social commentary and political discourse that influences observer and practitioner understandings regarding the challenges of Aboriginal public health.

The public health professions and public health institutions with their respective communities’-of-practice and organisational cultures have specific histories and, not infrequently, particular sets of attributed meanings and patterned responses to Aboriginal health (Hunter 1991; Rasmussen 2001). For these reasons, there is a fundamental need to shift perspectives, strengthen practitioner awareness and build a capacity among public health professionals for self-reflexivity. A self-reflexive practitioner in this context has a capacity to engage in critical inquiry regarding their professional practice and locate themself ethically, socially, culturally and politically with respect to particular dilemmas encountered in the work (Walker et al 2000). Whilst the ‘self-reflexive practitioner’ is an ideal endpoint, without like-minded
professional peers with whom to engage in challenging questions of practice, it is often difficult to extract oneself from the social environment and reflect on how and why one forms a particular view. From a pedagogical perspective, the challenge is how to develop engaging, effective and efficient curriculum materials that are challenging enough to shift perspectives, maintain a vibrant learning community and maintain a safe and structured learning environment.

**Promoting engaging, effective and efficient learning**

There is substantial agreement with the view that promoting effective and efficient learning depends on immersing learners in educational activities that are situated in a meaningful and relevant context, or better still in a context in which learners currently are or will be living and working (Brown, Collins, & Duguid, 1989). Learning designs that adopt and promote this view of learning abound (see Cognition and Technology Group at Vanderbilt, 1990; 1993).

Such learning designs aim to engage learners in problem solving and learning by doing individually and collaboratively in whole-task settings that reflect the complexity of real life settings (Merrill, 2007). While engaged in problem solving, in such learning designs learners have access to guidance from their teachers, tutors and also assistance from their peers (see Collins, Brown, & Newman, 1989).

While this is increasingly the case, there is a growing concern among educators that leaving learners and especially novice learners alone to explore and discover information and derive knowledge for themselves in educational settings with only minimal structure and guidance is in fact, not a desirable thing to do (Kirschner, Sweller, & Clark, 2006). This view is leading to a growing call from educators for a greater degree of structure and guidance in learning designs. While this is the case, debate still rages on how much and what kind of structure and guidance is enough for optimal learning to take place (see Clark, in press).

**How much and what kind of guidance**

Instructional guidance involves providing novice learners with a complete set of procedural information and attendant declarative information that is needed for the successful performance of a task or execution of a skill. Normally, instructional guidance in educational settings appears in the form of a variety of instructional tasks, strategies and methods. For it to be effective, instructional guidance must provide, among other things, a complete example of the targeted skill or activity, with opportunity for learners to practice, and in the presence of corrective feedback (see Clark, in press).

Proponents of this kind of approach to teaching argue that leaving students to discover information and derive knowledge for themselves not only increases undesirable mental effort (i.e., cognitive load) for the learner, but that it is also less effective and efficient than providing learners with explicit instruction on how to complete a learning activity or task (Kirschner, Sweller, & Clark, 2006).

Constructivist thinkers, on the other hand, and especially the more radical ones argue that the teachers’ role should be to guide the learners in their learning. Their goal ought not to be to direct or proceduralise learners’ thinking, or to dictate to them what and how they ought to be learning (see Savery & Duffy, 2001).

In fact, most advocates of constructivist approaches to learning (bar the radical constructivists) agree with the need for strong instructional guidance in learning and especially for novice learners. This would include strategies such as demonstrating and modelling of best practices as well as providing learners with authentic problems that closely reflect the complexity of real life settings (see Clark, in press).

Where there are differences of opinion over more structure and strong instructional guidance and greater exploratory or discovery-based approaches, these have to do with getting the mixture right between structure and guidance and discovery methods. The most effective and efficient learning designs would be the ones that have the right amount of structure and guidance for the type of learners (novices or advanced), for a particular subject matter domain or content and the intended learning task or skill.

**Role play**

Role play is one of those learning designs that promote both strong instructional guidance as well as exploratory and discovery-based strategies. It has been widely used as a method of teaching and learning
in a wide variety of educational settings. In higher education settings, some of its applications have been in the areas of conflict resolution and negotiation skills (Naidu, Ip, & Linser, 2000).

Iterations of role play as an instructional method differ slightly. On the whole though, role play involves placing learners in situations where they are required to play out the roles of particular characters. In order to do so, players have to study, explore and understand information on their character profiles which might be available in a variety of places and resources. The playing out of these roles may have a direct purpose within the context of a learning scenario or problem. When this is the case, a role play may be described as “goal-based” (see Schank 1997). When the role play is continuously evolving according to changing circumstances, it may be described as “dynamic goal-based” role play (see Naidu, Ip, & Linser, 2000).

Whatever its form and format, a role play is a powerful instructional method which incorporates strong instructional guidance and ample opportunities for exploration and discovery learning. Strong instructional guidance in a role play may come in the form of specific information on character profiles and how the characters are supposed to project that in the role play. How and when they are supposed to act can also be choreographed in great detail. In the instance of an online role play, this will involve specific guidelines on the frequency and nature of that communication among the players. At the same time though, the strength and vigour with which players choose to act out their roles is left unto them and their ability and willingness to get immersed in their character, and get the most out of the learning opportunity that the role play affords.

In the end that is what a role play is all about. It is a learning opportunity which enables learners to learn by doing, and by immersing themselves in the context and culture of an instructional setting under the strong guidance and support of their teachers and tutors (expert practitioners) as well as their colleagues and peers.

Developing the role-play

What kind of a role-play is required to achieve the learning outcomes desired? First, with regard to any analysis of the social determinants of Aboriginal health, history is paramount. Particularly problematic in drawing upon the legacies of history with regard to Aboriginal health is the fact that the history regarding Aboriginal people is so contested. Popular conceptions of "black-armband" history as opposed to "white blindfold" history, are at the centre of the so-called "history wars" in Australia (MacIntyre & Clark 2004). In developing a role-play, we decided to situate the students in an early historical period in order for them to engage interactively with a whole set of pre-determining factors that have shaped Aboriginal health status today.

Moreover, we were keen to situate the role-play learning activities in a context meaningful and relevant to the lives of these mostly urban health practitioners living and working in Melbourne (Victoria, Australia). Of particular interest regarding the history of Melbourne is its fabulous early wealth, evident in the magnificent facades of the public buildings built during the 1850s gold rushes, which seemingly did nothing to offset the impoverishment of the original owners of the land. Enhancing the understandings of students about the little known story of the Aboriginal people local to their own place of birth, experiences of childhood and later life seemed to hold some revelatory promise.

Structuring the learning: Developing the narrative, characters and events

"Rebellion at Coranderrk" (Barwick 1998) told the story of the formation of the first official Aboriginal settlement in Victoria established in 1862 at Healesville. The late Diane Barwick, the author and anthropologist, had meticulously researched archival materials documenting the history of the Coranderrk settlement and the struggles of the Aboriginal residents with officialdom and others to maintain their hard won refuge after, for most, being reduced to penury on the streets of Melbourne. Remarkably, the story of the first twenty years of Coranderrk pre-empted and encapsulated sentinel historic experiences for many Aboriginal people Australia wide. We used this book as our guide to a unique collection of primary historical materials documenting the history of Coranderrk including letters, newspaper articles, photographs, government reports and Hansard transcripts. By converting these archives into digital files we provided students with access to primary historical documents at the click of a mouse thereby bypassing all the interpretations of historians and so the "history wars". Importantly, the book also provided a caste of remarkable historical characters, an exciting and relevant narrative and series of key events around which to group a range of interactive learning activities.
Altogether, the role-play has six characters including an Aboriginal leader, an Aboriginal resident, the local member of parliament, a settler ally to the Aboriginal residents, the settlement manager and an archetypal bureaucrat with provision for multiple numbers of students to play one character together. Each character has a different set of background learning resources to inform their engagement in each of the four learning scenarios focused upon a specific event. Each scenario lasts two weeks, a total of eight weeks overall. Each learning scenario has a set of specific learning tasks. Up-front for each scenario is an "Outline of the Learning Scenario" providing some background to maintain the narrative and introduce the central event, the scenario learning objectives, key questions and a summary outline of tasks. Generally, it is the event that is the basis of the role-play learning tasks. For example, historically a public meeting occurred at Healesville regarding access to medical care by Coranderrk residents at which the residents gave evidence. This meeting is recreated in the role-play, with students able to voice the standpoint of their particular character and embellish it somewhat through their own interpretation.

Commencing each learning scenario, the first task for a participant is to locate the central event on the timeline in terms of a chronology of preceding events. The timeline further reveals the narrative structure. The second task in each learning scenario is engagement with a unique set of learning resources that inform each role play character in more detail about the context of the scenario event and their own character's (sometimes a composite of more than one actual historical character) likely response. While some learning resources will be the same as other characters, others will be different. For this reason, the perspective adopted by each character toward events at the centre of the learning activity will be somewhat unique. After engaging with the timeline and learning resources, the participant engages a series of learning tasks focused on the event at the centre of the learning scenario.

**Learning resources: An historical archive at the click of the mouse**

Learning resources within the role-play are of four types. These are resources that provide information about the role-play, that introduce participants to the context of the role-play, that introduce participants to their role-play character and those that inform the responses of characters to key events. The latter three include brief excerpts of Barwick's (1998) account and digital historical archives.

The archives are linked to the introduction of each character’s role, and embedded in particular tasks within each learning scenario. They include photographs and accounts of and by settlers, officials, newspaper commentators, the Aboriginal residents of Coranderrk and their sympathisers in multiple formats. They include:

- photographs of people, places and events from public exhibitions and private albums;
- prints of lithographs of people, places and events from newspapers from the period;
- copies of actual letters between the key characters or between characters and government officials;
- newspaper articles;
- newspaper "Letters to the Editor";
- officially transcribed testimony from two public inquiries;
- officially transcribed testimony from a Royal Commission;
- Aborigines Protection Board annual reports, minutes, newspaper reports and correspondence;
- Hansard records of parliamentary proceedings of the period.

**Description of the learning tasks**

As indicated above, the role-play engages the participants in four sequenced separate learning scenarios comprising six or seven learning tasks subsequent to their initial engagement with learning resources that provide them with general information about the role-play, that introduce them to the broader context and that introduce them to their role-play character. The initial engagement with these resources is "out-of-role." The learning tasks within the role-play include those performed "in-role" and those performed "out-of-role".

"Out-of-role" tasks within the learning scenarios (in order) include:

- reading and interpreting the timeline of preceding historical events;
- accessing and observing archival photographs;
- reading archival newspaper articles, archival letters; archival reports and short excerpts of Barwick (1998);
- collaborating with other role-play participants to devise in-character interaction;
- writing personal reflections on the role-play events and interaction in an online personal journal.
The activities performed "in-role" within each learning scenario generally occur subsequent to collaborations with other role-play participants and prior to entering reflections in the personal journal. The "in-role" activities include:

- writing letters to other characters;
- writing letters to the editor of the newspaper;
- developing agenda's for public meetings;
- posting public notices in the newspaper;
- participating in public meetings (forums);
- caucusing with other characters.

The engagement in the learning tasks, particular immersion in the "in-role" tasks is supported by the graphical interface of the online format. Specific graphical effects to enhance immersion include:

- individual character letterheads for letters in typefaces consonant with the historical context;
- newspaper banners for "Press Releases" and "Letters to the Editor" with graphics and typefaces consonant with the historical context;
- a graphical screen surround with photographs of the period and existing and emergent text on faux parchment screens.

While the online reflective journal was the key focus of student reflection, computer lab sessions and the weekly seminars provided further opportunities for students to reflect on their engagement together and debrief.

**The technology and the tools**

A series of functionality components are used to fulfil the requirements for this role-play.

**User management**

Users are separated into user groups who enact a particular role play character. Members of a character user group have access to content and resources that are unique to their role. Within the role-play, user groups are the vehicle used in assigning differential content to role-play participants portraying different characters.

**Emergent content**

In the role-play, users create new content to share within their user groups, such as, speeches, letters and newspaper articles. Each participant in a user group can create new content to share with other participants in the user group. User groups collaborate to determine the final content to be submitted on behalf of their character, such as, personal letters, letters to the editor, input to forums, private meetings with other specific characters or public meetings that include all characters.

**Document templates**

Document templates are used to establish a common interface for the documents that users groups create. These include letterheads with historical fonts, newspaper banners incorporating classic fonts and artwork and insignias heading up press releases.

**Customised interfaces**

Document templates allow for customised interfaces by allowing the administrator to determine the look and feel of content elements on a web page. Cascading Style Sheets (CSS) are used for formatting these content elements. The administrator determines the position of these elements. Although these elements are editable by the author, only the administrator can specify their position. Document content can include text, uploaded files and images.

**Communicating in the role play**

In the role-play, communication is possible either in-role or out-of-role. In-role communication means that users communicate while in the character of their role, while out-of-role communication is in the persona of student or role play participant. In this role-play, the vehicles of communication while users
are “in-role” are public forums, personal letters, press releases and letters to the editor of the newspaper. “Out-of-role” vehicle so communication embedded within the role-play are user group forums and a user-group chat function. Users can select with whom they share their content with by selecting recipients. The role-play is set up so that users select only certain recipients according to their character. When a document is created, all members of a user group assigned by the authoring character will have viewing access. In order to identify individual users, an ‘avatar’ is displayed next to each post. An ‘avatar’ is a small image which is the digital representation of the character.

**Task list**

The four learning scenarios unfold chronologically on a time released basis so that students complete one scenario before beginning another. Within each learning scenario is a task list, a schedule of activities that a student is required to complete. Each task on the list contains a link to a resource and instructions. If a task requires students to read material, the link will forward users to that folder. If a task requires students to collaborate in a forum, the link will forward users to that forum. If a task requires students to write a newspaper article, the link will forward users to a form with letterheads of the newspaper to create an article. The first two activities in each learning scenario are engaged out of role and provide background information.

**Digitising and web-enabled resources**

Historical resources used within the role-play include images and text content. These are photographed at high resolution and web-enabled by embedding them on web pages. Images that are available in a series are organised into a slideshow.

**Evaluation of role play**

An online questionnaire was used to gather students’ perceptions regarding the role-play’s effectiveness, efficiency and value. This questionnaire focused on the following:

- the effectiveness of the role play in influencing their perspectives on Aboriginal health;
- the efficiency of the role-play as a vehicle for meeting the learning objectives;
- the value of the role-play in understanding the relationship between aboriginal people, their administrators and its implications for aboriginal health

Respondents were also given the opportunity to offer extended written comments online on any item in the questionnaire. Thirteen of fourteen students in the class completed this questionnaire. The survey results were as follows.

**Effectiveness of attributes of the role play in influencing students’ perspectives on Aboriginal health**

We were interested in ascertaining the effectiveness of attributes of the role play in influencing students’ perspectives on Aboriginal health. We asked students to indicate on a scale of very effective to ineffective, how effective were the following attributes of the role-play in influencing their perspectives on Aboriginal health.

Q 1. Enacting an actual historical character by walking in their shoes.
Q 2. Dialogue with other students regarding your character’s responses.
Q 3. Dialogue with other role-based characters within role play forums.
Q 4. Clearly stated learning objectives for the sequenced activities within each role play scenario.
Q 5. The requirement to journal my personal experiences in the role play.
Q 6. Using layout and design to immerse characters in the historical context

Most of the respondents judged as effective, clearly stated objectives of the role play, and their ability to act out the role of an actual historical character, and also dialogue with other students about their character and other characters. Students did not find as effective the requirement to journal their experiences.

With regard to the online journal, in a focus group discussion about the role play, it was suggested that some students need encouragement earlier on in the semester about engaging the online journal. Some
Effectiveness of attributes of the role play in influencing students' perspectives on Aboriginal health

students found they were taking notes in hardcopy on their reflections as they were reading the online materials, adding other articles of interest to this portfolio, and then having to transfer their text into the online format of the journal. Few students were engaging the journal in the way envisaged. It was suggested that a certain number of journal entries should be required evidence of participation and that this input should be either assessed directly (in terms of quantity) or become a hurdle requirement for submission of other assessment materials. This was preferred to using the background surveillance function of the software to monitor the journal. Other students indicated it was the lack of confidentiality of the journal that discouraged it use.

While some students were not too enamoured about the use of layout and design in the website to immerse the characters in the historical context, others found the graphical interface interesting and helpful,

Original documents supported the role. By seeing original handwritten letters and reading about treatment of different people through the local media had a very familiarising feeling which helped to relate to the time and place.

Efficiency of the role play in supporting learning about Aboriginal health

While a role play is widely acknowledged as a powerful learning and teaching strategy, we wanted to know from our students how easy it has been for them to undertake the learning related activities in the Koori Wellbeing at Coranderrk role play. These tasks included:

Q 1. Following sequenced learning tasks that guided my participation in the role-play;
Q 2. Accessing historical documents that could be viewed online at any time, at my own pace and from anywhere;
Q 3. Communicating with other students in my character at any time, at my own pace and from anywhere;
Q 4. Communicating with other role-based characters at any time, at my own pace and from anywhere.
On a scale of very easy to very difficult, the majority of our students found it very easy or easy to carry out the critical tasks associated with this role play, suggesting that the role play worked well for them. Some participants suggested that communicating with other participants was difficult and in the case of one student it was not done at all. Part of the difficulty was that some students had a greater commitment to the role-play than others and when their colleagues failed to respond to collaborative overtures, disappointment ensued. The following student comments are revealing in this respect,

Communication with others was often difficult and as I tend to do things early rather than late I felt I was doing it unassisted.

I think due to the independent nature of the role play and the preparation for each session meant that there was little motivation for students to engage with each other outside of the forum or in the lab. Again, having more face-to-face interactions I think would be useful.

Communicating with other students in my role play was mostly done via email.

It was hard to communicate with my partner as everyone has different scheduled time for study. We found it easiest in the end to basically take it in turns responding as our character, rather than collaborating on each task. However, this probably did lead to a loss of flow, and therefore of understanding, for me.

Did not use the chat function - was easier to communicate with group members via email.

Due to each character being based on the collaboration of a group of students, interactions between characters, where students did not share the task between them, was left to one student representing the composite character.

**Value of the role-play in understanding the relationship between aboriginal people their administrators and its implications for aboriginal health**

On an issue related to the efficiency of this role play, we sought to ascertain the value to students of the following role play related activities:
Q 1. Enacting an actual historical character by walking in their shoes.
Q 2. Accessing original historical documents that could be viewed online at any time, at my own pace and from anywhere.
Q 3. Interacting with other students regarding your role-based character's responses.
Q 4. Interacting in an online forum with other historical role-based characters.

Figure 3: Value of the role-play in understanding the relationship between aboriginal people their administrators and its implications for aboriginal health

On a scale of valuable to of no value, the majority of the students rated the activities of the role play essential or very valuable. No one found any of these tasks “of no value”. As indicated above, interacting with other characters in role was undertaken by one student representing the composite input of all students in the role. Where this activity was not shared, those not engaged may well have found it “optional”.

Conclusion

A key learning objective for students engaged within the role-play is to be able to “critically analyse [their] own standpoint as an informed ethical public health practitioner and explain implications for own professional practice.” The extent to which both the students themselves and outside observers can detect a shift in their standpoint or perspective regarding public issues concerned with Aboriginal Australians due to exposure to the role-play will indicate the extent to which claims can be made about such effects of the role-play.

The following student comments indicate that overall participation in the role play has led to an overall shift in perspective,

The course so far has given me a greater appreciation of the need to question my thoughts and my opinions in regards to indigenous issues and to examine how history and my interpretations of truth have contributed to these conclusions.
To watch things develop chronologically have a very evocative effect . . . we became immersed in the gestalt of the experience . . . it is one thing to know something intellectually. It is another to realise, feel and comprehend the same situation.

Learning about forced labor, stolen wages and abuses that have occurred within my lifetime hardly register as a history of oppression. The two Koori women who have been kind enough to speak to our class about their lives have reinforced my sense of the immediate, living impact of this history, the way it affected those who lived it and the way the burden is still carried by their children . . . The forum of discussion through the role-play provided a very confronting format for learning the different perspectives, agendas and motivations for the events at Coranderrk and has made me challenge my own perspectives, motives and understandings on many issues.

It was a joy to be able to realise and develop . . . a greater feeling for the Aboriginal people of Coranderrk as 'real' people, active in various ways in their everyday lives, rather than as a "concept" of a race of people . . . in other words, through facilitating a personal and experiential virtual reality, the role-play encourages greater understanding of Aboriginals as accessible, ordinary (and important) people.

The evaluation exercise indicates a number of ways the functionality of this role play can be improved. Nevertheless, through the use of online primary historical sources, students are able to engage, live and experience the way history unfolded over time in relation to one particular group of Indigenous Australians. Immersion in this role play provides a powerful learning tool to shift perspectives of future public practitioners and provide them with a deep insight into how history has shaped the social determinants of Aboriginal health and its terrible legacy.

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