

Factors to consider when planning to submit a digital thesis

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Abstract

Emerging technologies offer new possibilities for text production. Consequently there are important implications for submitting a digitalised thesis. This paper reflects upon some of the issues associated with the digitalisation of the thesis entitled “The literacy practices of Kunibídjí children: Text, technology and transformation”. This PhD thesis was submitted in a multimedia format on a DVD and reported on the literacy practices of a group of Indigenous Australian children who spoke a minority Indigenous Australian language. Factors to consider when digitalising a thesis include the social possibilities of emerging technologies. These are explored with reference to the purpose of research in changing times. The opportunities to integrate a number of texts in the submitted thesis are demonstrated. The use of multimodal texts to improve the validity of the research is discussed using examples of digital video and interactive texts in a minority Indigenous Australian language context. This paper concludes that the digitisation of a thesis should be guided by the possibilities for conceptualising and reporting new knowledge while upholding an ethic of respect for the participants.

Introduction

The reporting of educational research is usually limited due to the journals or publications having specific requirements for authors to follow. Thus the reporting of educational research is usually part of the research design that is not explored by ethics committees or in research methodologies. When I began authoring my thesis I challenged the way educational research is presented in a thesis for pragmatic and ideological reasons. In a time of changing technologies, it would appear only natural to explore how the reporting of educational research can be enhanced using new technologies. This paper reflects upon some of the factors to consider when digitising a thesis in an attempt to promote a dialogue amongst the academic research community about the research possibilities of reporting educational research using emerging technologies.

I will attempt to illustrate the points I am making in reference to my own thesis. An important feature of this thesis was that it was conducted in a remote Indigenous Australian community. The participants in my research were members of the Kunibídjí community who spoke Ndjébbana as their preferred mode of communication. As a non-Indigenous Australian early childhood teacher I was interested in identifying the literacy practices (the beliefs and attitudes) of Kunibídjí children towards reading digital Ndjébbana texts on computers at home.

I did not enter this study planning to digitise my thesis. My research journey explored the possibility of presenting digital video of the children’s interactions with the computers and each other as a way of overcoming some issues concerning transcribing and translating the children’s discourse.

A thesis can be digitised in a variety of ways. One way is to simply provide a digital copy of the paper bound text to be stored in a library or digital thesis database. In this paper, I am concerned with digitising a thesis in ways that require literacies besides those associated with print based texts. The concern of this paper is to discuss the meaningful inclusion of multimedia components in a thesis.

The respect for the participants, the multimodality of the texts and the different approaches to examining a thesis are explored in this paper. I will also discuss the approaches to research, technology and literacy that might be of some use when considering reporting educational research on a digital thesis.

Respect for the participants

Smith (1999, p120) suggests that all sound participatory research practice should be based on a sense of 'respect'. Providing Kunibíjji children with access to Ndjébbana texts at home is based on my respect for the participants in this study. I respected their right to access texts in their preferred language of communication. I realised that the participants in the study should also have the same right to access a report about the main findings of a study in which they participated. One way to demonstrate a respect for the participants' linguistic and cultural backgrounds, is to provide them with a report about the main findings of the research in their preferred language of communication.

Respect for the participants was also upheld when I consulted with them to use their representations in the thesis. The participant's permission to use videos and texts created in this study was never taken for granted. I considered myself fortunate to have had a long standing relationship with the study's participants which helped the process of consultation. From my perspective, the participants and their families provided me with permission to use their images and texts in the thesis as a celebration of their desire to want to read texts in their preferred language at home. As researchers we need to be open to the ways that respect for the participants might call for inclusion or exclusion of their representations in the final report.

I included images sounds and videos of the participants of this study in my thesis, with their approval. By doing so I provided readers of the thesis access to the raw data. When the arguments developed in the thesis are presented with the raw data, the reader needs to be convinced of the academic argument with more rigour than if the reader has access only to the researcher's interpretation of the raw data. Access to the raw data provides the reader with more space to question the integrity and benefits of the research from the perspective of the participant. Egan (1996) argues that including data in the final texts gives readers the same opportunity to read and interpret the evidence upon which arguments are based. Readers of this thesis can refer to my raw data and come to their own understandings about my proposed literacy practices. The report that I have provided to the participants used the same data sets that are in the academic thesis. My inclusion of the participants' images in my thesis supports the integrity and validity of this study.

The researcher would still have the power to select the raw data and frame it in ways they wanted. Outsiders to the participant community would be reading what the researcher considered to be everyday examples of 'authentic cultural representation' (LeCompte and Schensul 1999, p.181) in the text. The robust nature of the research will be tested as the participants have access to the ways they have been represented and when their voice about the validity of these representations is heard. Having access to the data in a form that is meaningful and purposeful to the participants is of critical importance to this process

of supporting a participant critique of the thesis. In order to understand how the representations of the participants might be constructed in a thesis, it is useful to explore the concept of multimodality.

The possibilities of multimodality

Kress and Van Leeuwen (2001) have suggested that the four elements of multimodality are discourse, design, production and distribution. These elements of multimodality provide a useful lens through which a thesis can be viewed. A multimodal thesis on a DVD challenges the discourse, design, production and distribution that are normally associated with a thesis. When I came to construct my thesis on a DVD, I found there were no protocols for design as there were for a paper bound thesis. A multimedia thesis connects texts for academic and non-academic audiences as part of the discourse of the thesis.

Zammit and Downes (2002, p.25) suggest that a feature of multimodal texts is their interconnectedness with the form, content and the possibilities of learning. Instead of a singular linear text, a digital text can draw on a range of texts that are all linked through some common concept or understanding. My thesis was composed of three linked texts. There was an academic text that fulfilled the requirements of the thesis examination. There was a plain English statement for people who wanted to read about the main findings of the thesis but were not academically literate. As previously mentioned there was a report in a minority Indigenous Australian language to the participants of this research. The common concept that linked the texts in my thesis was the intent to report the research findings to a range of audiences. The same videos of the children reading the texts and the texts that were constructed for this study were used in all of the reports in the thesis. The three reports in this thesis were connected by their purpose as well as the data used to illustrate the research findings in each report.

May and Aikman (2003, p.139) have suggested that the voices of Indigenous writers can be included in academic reports when there is a departure from academic conventions. The thesis on Kunibidji literacy practices provided opportunities to include actual voices of members of the Kunibidji community who do not have the skills of western academic discourses. A digital thesis has the capacity to 'situate western academic discourse, and its conventions, as only one of a number of epistemological traditions' (May and Aikman 2003, p.139). The search for new forms of texts that encompass traditional western academic discourse and Indigenous knowledge systems is an important area of research. Transforming an English academic thesis to multimodal hybrid form would be an important step in accommodating the variety of Indigenous knowledge systems.

Including a range of texts linked around the same data would be difficult to match using print based technology. The text that was designed for the participants in my study, for example, was an oral narrative of the research findings. This was designed with the majority of the participants in mind who could not read print in any language. The multimodal texts used in this thesis represented my tinkering with new technological literacies to improve access to the educational report by interested readers who might not be academically literate.

As well as providing improved access to the thesis by a range of reading audiences, a multimodal thesis accommodates complex social interactions that would be difficult to report in a paper bound thesis. In some instances in my thesis for example, I recorded more than ten children's interactions simultaneously while reading the stories on the

computer. I was able to present these complex interactions as a video embedded in the texts of the thesis.

Multimodality can be effectively used in a thesis to describe the complex phenomena that often arise in quantitative educational research. In order to demonstrate the complexity of the children's first language in my thesis, I was able to provide the reader with the 96 digital texts that were used by the participants. These texts provided the reader with windows into the complexity of the children's everyday social practices in a remote Indigenous Australian community.

Miles and Huberman (1984, p.56) have suggested that words are fatter than numbers when presenting the findings of research to the reader. In my opinion, the video representations of the participant interactions, are fatter than words. The multiple channels of communication do a better job of describing an event and transforming the reader to the context of the study than is possibly the case with a print bound text.

Transformation of thesis examination procedures

The possibility of transforming a thesis from a single academic text to group of linked texts is one that needs more exploration. Educational research would be disseminated to a wider audience if this were promoted. Stronger connections between the research findings and classroom practices could be made if teachers had access to plain English statements about the main findings of the study. The authoring of multiple texts would connect the academic work to everyday practices of the participants, teaching practices in classrooms and theoretical understandings of other research. A greater connectedness between these different community of learners might be facilitated if the authoring of multimodal texts associated with a thesis were examined by the people who were experts in each text.

I found it interesting that the report to the participants in their minority Indigenous Australian language was not a requirement of the examination procedure. The members of the community were well positioned to determine if I had acted ethically throughout my research journey. If included as part of the examination they would have been able to comment with authority on how representative the results of my research were in relation to their everyday social practices.

A useful way to frame this argument is to refer to Gee's ideas of discourse. Gee distinguishes between 'Discourse' and 'discourse'. There is a 'discourse' of 'connected stretches of language that make sense' (Gee 1996a, p.127) and a 'Discourse' of 'ways of displaying membership in a particular social group' (Gee 1996a, p.128). When the discourse of the thesis is changed from academic printed text to include multimedia elements, the Discourse of the thesis will change as well. The membership with the texts will change as the readership of the thesis broadens. Unless academics are experts in all of the 'discourses' used in the multimodal thesis, it would be logical to confer with experts outside the academy that might provide important insights in the ethical conduct and research validity of the thesis.

Gee's (1996b) concept of texts is useful to explore at this point. Gee (1996b, p.3) suggests that texts are 'lived, talked, enacted, value and belief laden practices carried out in specific places at specific times'. Building on the concept of multimodality, a digital thesis has the capacity to represent the enacted literacy practices of the participants in the study with more accuracy than if these practices were to be represented as a written textual description. Where the participants have access to multimodal representations of the texts

in the study, the thesis becomes a site of exploring how these new representations can best be included in a range of reports.

This is important for research that is conducted in an Indigenous Australian context as the members of the community are positioned not only as the participants but also the experts in their own language and social practices. As the text of a thesis changes to allow more of the discourses of the participants to be included, their examination of at least part of the Discourse of a thesis would appear a logical next step.

An important feature to consider in the digitising of a thesis is that the rules of the 'discourse' of a thesis would change. At present the 'discourse' of the thesis governs the 'Discourse' of the thesis. With the digitisation of a thesis, allows for a reexamination of the discourse. This would move the discussion of a thesis beyond formatting to one of membership with the readers. I often still ponder on the implications of authoring academic reports about participants in a form they cannot read as part of an ethical research methodology.

A critical approach to research

The possibilities of including multimodal texts in a thesis and redesigning a thesis to make a connectedness to the readers of these texts, forms the basis of a critical approach to research. The approach to research is an important factor to consider when digitising a thesis. Critical ethnography 'does not just describe research, it uses research to redefine social theory' (Carspeckan 1996, p.3). Foley (2002) suggests that critical ethnographers use theory to disrupt reality instead of mapping it. The digitisation of a thesis provides a new set of tools to support the disruption of reality in the reporting phase of the research. Digitising a thesis has the potential to disrupt the reality of the participants' exclusion from access to the final report. I have outlined how the participants' exclusion from accessing the thesis can be disrupted using multimodal digital technology. Other people might also be

Indigenous academics are another group of people who might use a similar approach to reporting educational research conducted in Indigenous Australian communities. Recently there has been a call by Indigenous academics to create and control an Indigenous research agenda (Smith 1999; Nakata 2000; Foley 2000; Tsey 2001; Collard & Pickwick 1999). Presenting the thesis on a DVD will hopefully encourage more participation, collaboration, debate and criticism (Collard & Pickwick 1999) of my research by Indigenous Academics. This is possible because of the transparency of the progression from tool development to its testing and evaluation in my research. Presented in a digital form, my research has the capacity to provide contextual multimedia examples that explicitly demonstrate how I have drawn my conclusions. Indigenous academics will be able to critically examine my research findings with reference to my raw data and the research methodologies embedded in my thesis. Indigenous academics might find some of the methodologies associated with digitising of a thesis useful to employ as they create and control an emerging research agenda.

The critical approach to research fits well with transformational approaches to technology to support a 'time for challenge and a time for experiment' (Kellner 2002, p.166). Unfortunately this has not happened in the way most thesis are reported.

Using digital technologies to report research on digital epistemologies

Another factor to consider in the digitisation of a thesis is that the form might be the most appropriate way at present to report research concerning digital epistemologies. Academics reading through the proceedings of this conference about some emerging technology would be all too familiar with this example. The presentation at the conference most likely incorporated a range of digital tools while the paper that is archived as a print based version. People who have attended the conference can make a connectedness between the concepts that were presented and the digital storytelling that went with those concepts using a range of multimedia applications. The use of digital mediums to present educational research is even more critical when the research investigates digital epistemologies. Kessels and Korthagen (2001) note that research needs to link abstract rules and generalisations to faces, actions and voices. Reporting digital epistemological research as a paper bound text makes it difficult to exemplify or describe the ways of knowing that were demonstrated by the participants in the study.

A similar argument could be used with the digitisation of a thesis. Where the participants have provided permission for multimedia representations of their interactions to be included in the thesis, the thesis connects the abstract theoretical concepts to the reality of the research context. The digitisation of a thesis is the most appropriate way to present the findings of the use of digital technologies by the participants.

Maurial (1999, p.63) has suggested that Indigenous knowledge can be constructed by its local interactions between families and communities, its holistic integrated world view and its use of a strong and complex oral tradition through which knowledge is transmitted. An important factor to consider when digitising a thesis is how Indigenous knowledge systems can be constructed in a thesis using multimodal semiotic systems. Nathan (2000) has suggested that the one-directional form of communication found in print makes knowledge cold and unchangeable to Indigenous people. A digital thesis provides opportunities to match Indigenous epistemological understandings with a form that makes the text accommodating to many Indigenous readers.

Approaches to Technology

The approach towards technology taken by potential authors of a digital thesis is important. There are two significant approaches to technology that are useful to consider when embarking on the digitisation of thesis. The first is a deterministic approach towards technology. A deterministic or substantive theory of technology suggests that the social world is being restructured as an object of technological control that constitutes a new cultural system (Heidegger 1977, p.17). Humans are seen to serve the artefacts of technology in a substantive approach to technology. According to Ellul (1964), a deterministic approach to technology 'continues to subjugate our humanity and determines how we behave'. Supporters of a deterministic approach to technology often overlook the complex social environment that frame the access and use of technology by people.

One of the problems with adopting a deterministic approach to the text of the thesis is that the humanising praxis embedded in the thesis is often subjugated by the form dictated by an academic board. The form of a thesis is dictated by a group of academics who are in the main removed from the realities of the everyday social practices of Indigenous Australians in remote communities. The form of the thesis is assumed to fit the realities of the everyday social practices of the members of an academic board rather than the Indigenous Australians who often make sacrifices to participate in research projects. A deterministic approach to technology can often lead to a strong disconnectedness between the events experienced by the participants and the way these events are

represented to fit a set of rules that uphold the technological determinism of a thesis. This is often the case when researching issues dealing with minority Indigenous Australian languages. The diverse ways these languages are being represented (Laughren 2000, p.1) in the face of social change is often difficult to represent in a paper based English academic text.

An important aspect of the deterministic approach to the text of a thesis is the expectation that of a social transformation to fit the reading of the text. Part of my learning the ways of being an academic is to learn how to consume and produce academic texts. In many instances, Indigenous Australians have other sets of epistemological understandings leaving deconstruction of academic texts outside their everyday social practices. Another approach to the digitisation of a thesis is to challenge the deterministic nature of academic texts and experiment with technological transformations of academic texts to fit the social context of the research. Instead of focusing on the production of a text and upholding the status quo of the form of a thesis, the digitisation of a thesis should explore the possibilities of technological transformations to make the research more accessible to a variety of readers. The opportunities in digitising a thesis should not be 'led purely by the capabilities of the latest technical innovation' (Levy 1997, p.xi).

A critical approach to technology is an alternative to the deterministic approach outlined above. A critical approach to technology highlights the social values placed on the design, not just use, of technological systems (Feenberg 2002, p.14). I attempted to integrate my understandings of the ways of being of the participants, their social practices, and the multiple ways their first language can be represented using different technologies. The reasons for digitising my thesis were to overcome the issues facing Indigenous research assistants when transcribing and translating large amounts of text in their first language. The use of videos with English subtitles was a negotiated solution to the problem of presenting the research. This solution also respects the way members of the participant community co-constructed knowledge in their everyday social practices.

A critical approach to technology appears to be a useful theoretical perspective to guide the digitisation of a thesis. The motivation for digitisation of a thesis should be the social possibilities and consequences that empower a community of learners rather than subjugating them. The emergence of the participants' designs of meaning in theses would be a logical consequence of a critical approach to technology. This would lead to a hybridity of participant and academic designs and content in the thesis.

Hybridity of voice

Digitising a thesis provides the opportunity to represent the participant voices in ways that are not possible in a paper bound thesis. In my thesis, I was able to literally include the voices of the community in the texts they made and the videos of their interactions with these texts. With these images, sounds and videos of the everyday social practices of the participants in my thesis, new opportunities to hybridise the voices of the participants with the one of the researcher were presented in the digital thesis.

Although the academic content is mine, I feel a strong sense of obligation to the members of the community who have included their voice to the final report. Many aspects of the heritage of the participant community are embedded in this thesis. Daes (1993) has explained that giving and receiving heritage can form the basis of an ethical relationship between givers and receivers of knowledge.

Heritage can never be alienated, surrendered or sold, except for conditional use. Sharing therefore creates a relationship between the givers and receivers of knowledge. The givers retain the authority to ensure that knowledge is used properly and the receivers continue to recognise and repay the gift (Daes 1993).

I am greatly indebted to the contributions from the participants in this study and will be repaying their gift with the royalties from any future DVD publication of my thesis.

Conclusion

In this paper I have outlined the issues I considered when digitising my thesis. I am not suggesting thesis should be digitised using new multimodal forms of communication just because the technology is available to create such texts. I have presented these ideas from a perspective of exploring the new social possibilities of reporting educational research. I am suggesting that just as the examination procedures of a thesis must have changed as thesis moved from hand written manuscripts to printed texts, a new set of protocols could be developed to include multimodal elements of a thesis. These protocols should provide for the possibilities of a thesis being multiple texts that engage readers beyond the academic community. The participants would not be excluded from accessing the thesis in which they were integral in the development of the text.

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