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CHAPTER 6

Using digital technologies with Aboriginal and Torres Strait Islander students

Glenn Auld and Lena Djabibba

My point is not that everything is bad, but that everything is dangerous, which is not exactly the same as bad. If everything is dangerous, then we always have something to do. (Foucault & Rabinow, 1984, p. 343)

Introduction

This chapter navigates the complex issue of how Aboriginal and Torres Strait Islander students negotiate the use of digital technologies in schools and beyond. You will read stories from Lena Djabibba, a respected elder of the Kunibidji community in Arnhem Land, about her thoughts of how digital technologies have mediated her social practices over many years. These stories are in text boxes. The remainder of the chapter is a synthesis of ideas by Glenn Auld who taught children in Lena’s community for over 10 years. During this time Lena and Glenn collaborated to design and introduce a number of programs with digital technologies.

When Foucault suggests everything is dangerous, he is not referring to using digital technology with Aboriginal and Torres Strait Islander students. However, this quote is equally appropriate when considering how these students use digital technologies. To understand the danger, we must first understand the complexity of the context. There are more Aboriginal and Torres Strait Islander people living in metropolitan centres in Australia than are living in remote communities (Fredericks, 2013). Many Aboriginal and Torres Strait Islanders have been forcibly removed from their Country that now manifests in communities, often with contested interests in what is the best way to educate their children.
Even though I live in Maningrida it is not my home. My Country is Nardilmuk and I live with lots of different Aboriginal people in Maningrida.

Given the complex history of Aboriginal and Torres Strait Islander communities you can see it is difficult to identify one approach towards technology that works for all contexts in Australia. Faced with this complexity, we have decided to illustrate issues of ICT use through two stories, located in Lena’s community. From these stories, the dangers of using technology will be identified and understandings of how to use technology effectively will be presented in the later part of this chapter. While these stories originate from out-of-school use of technology, the practise implications for technology in school will be outlined here.

The context of Aboriginal and Torres Strait Islander education is both complex and diverse. Partington (1998) suggests that no simple solution exists for Aboriginal and Torres Strait Islander education. Reading this chapter, you will realise that the stories and particular way technology is used in a remote community are not transferrable to all classrooms with Aboriginal or Torres Strait Islander students. The majority of Aboriginal people in Australia live in urban contexts so there will probably be other issues associated with technology, which teachers need to explore with students from urban contexts. That said, there are understandings in the chapter that will give teachers some guiding principles for teaching with technology for all Aboriginal and Torres Strait Islander students in any school in Australia.

CRITICAL QUESTIONS

- How might digital technologies be dangerous with respect to Aboriginal and Torres Strait Islander knowledge and practices?
- How might teachers approach the use of digital technologies to support learning for Aboriginal and Torres Strait Islander students?

Story 1: The development of Ndjébbana Talking Books

To explore how dangerous technology can be, we will look at an account of how computer technology was rolled out in a particular classroom. While parts of this narrative may seem dated, many of the issues facing Aboriginal and Torres Strait Islander students today are still found in the story.
There are about 300 people in the world who speak Ndjébbana and they belong to the Kunibidji community. They are the traditional owners of the lands and seas around Maningrida. Most Kunibidji children speak Ndjébbana as a fourth language and prefer to learn in Ndjébbana. They learned to read and write in Ndjébbana and then used these concepts of print literacy to learn English. The classrooms were full of books, both in English and Ndjébbana. There was a printing press at school where we made books in Ndjébbana.

When computers came to the school there was a big push from the school management for children to have internet access. However, we quickly realised this approach to learning with the internet might be good for supporting English but it did not really support the learning of Ndjébbana. For example, the students could search all they wanted, but there was no Ndjébbana on the internet. The introduction of computers in the class could be seen as being dangerous as it was a way of assimilating children into learning English without respecting the decision of their community to support bilingual education. While the access to the internet and the learning of English were integral parts of the students’ learning, they were faced with never seeing their stories, images and Country on the computer embedded in their preferred language of communication, Ndjébbana. When students are not allowed to learn in their preferred language of communication, their linguistic human rights are taken from them and ignored (Skutnabb-Kangas, 2000). The motivation for using computers in the classroom was taking away the linguistic human rights of the Kunibidji children, and this could be seen as being dangerous.

We set about changing this by making some Ndjébbana Talking Books. This was done by transferring printed stories into digital stories that had elements of sound, image and printed text for each page. As the page for a text was opened on the computer, the sound for the text was spoken in Ndjébbana and the words were highlighted as each word was spoken. There were buttons at the bottom of the page to turn the pages. After a couple of these texts were created, we took them to a community meeting to get feedback from elders about this use of the computer in the school. An important feature of the Ndjébbana Talking Books was that the computer displayed only Ndjébbana text, images familiar to the children and voices of their community reading the stories.

I went and asked my mother and grandfather and other people to hear if these Ndjébbana Talking Books were a good way to present our language to our children. They were all okay with it and they liked the way the children could open the books and hear the stories even if they could not read. They thought their language going on computers was a good idea. My father wanted to make a book after he saw what I had done. I asked him if he wanted to make a book about the animals and he was naming all the animals and then we recorded him talking. People were telling me it was good because the children will grow up learning our knowledge and their language. When we pass away our knowledge will be there on the computer for them to learn.
At these meetings it was clear to us that the community wanted more talking books and also wanted some ways of accessing these texts and technology outside of school. The community raised another issue of how much control they had over access to new technology 'owned' by the school. One measure of effective Aboriginal and Torres Strait Islander student learning is the partnership between the school and the community. Herbert (2007) suggests: 'Partnership means you have made an unwritten agreement to hear me out, to listen to what I have to say, in good faith and to reflect upon what I have to say, within the framework of your own understandings' (p. 47). One of the dangerous issues with the use of technology in schools could be that teachers and school leaders are designing and implementing programs that are not inclusive of a respectful and trusting partnership as outlined by Herbert, particularly in relation to reflecting on the voice of the community about the direction of the project. As a teacher, Glenn attempted to respect the partnership with Lena and the community so more people could support the learning of the students, both in and out of school.

We made the books as I talked in language and Glenn was writing on the computer in English to make the Ndjébbana Talking Books work. We put it altogether so the computer showed only Ndjébbana. Many people in the community helped to make the books.

We ended up making 96 Ndjébbana Talking Books. The technology supported moving from image to sound to print in the construction of new texts. We would start talking about what might be in the text before collecting images from an excursion or a group experience at school. We would then lay out all the images and select the ones we wanted in the text before capturing some audio that went with each image. Then we would focus on writing the sentence that went with the audio in the child’s first language. Not all books followed this process. Many of the previously constructed printed Ndjébbana texts were made into talking books. This involved recording the voice of different Ndjébbana speakers reading the text.

Some of the old Ndjébbana books were made into talking books. These old books took a long time to make. There were lots of Aboriginal and non-Aboriginal people working to make the books. When we originally made those books, lots of different Balandas (white people) came to help. When we used the new technology, the old books were a part of the talking books and it was good to see how this past work was valued in a new way.

Without knowing it, we were also archiving and valuing the relationships forged between Kunibidji and non-Kunibidji people who had worked in the past to construct the print-based texts for over 20 years. One danger in the use of new media is that all past textual work is ignored and the project has an agenda that is not inclusive of previous collaborations and knowledge. Such projects might not make use of the
community goodwill and networks already established. Such listening and working with established networks ensure Aboriginal and Torres Strait Islander voices are integral to the success of the projects that involve technology.

Another danger is that the work may not be sustainable for a classroom teacher. Once a teacher opens up the door to the community with an innovative project using technology there is an increased workload for them. While the rewards are professionally satisfying, the problem of shared responsibility and time management need to be carefully considered and talked about with the community and school leadership.

There was strong evidence from the community that the children wanted to hear their language, hear their stories being read by members of the community and see their images on the pages of the Ndjébbana Talking Books. When the counters were tallied from three touch screen computers displaying the talking books in the community over a six week period, the pages had been turned over 112,000 times (Auld, 2002).

When Aboriginal and non-Aboriginal people work together there is more knowledge. The Aboriginal people bring knowledge about their culture and language to share. With the talking books non-Aboriginal people brought knowledge about technology and how this can help learning. The children get the best from both cultures. They get the best ideas from our way and the ways of teaching and learning about the Balanda (white people) ways as well. Now our children are learning on their own with mobile phones.

Story 2: The use of mobile phones in a remote community

While the above story involved technology resources provided by the school and teachers and literacy workers, there are other interesting ways the same members of the community appropriate and develop new practices with mobile phones without any formal institutional support.

Interestingly, more Aboriginal and Torres Strait Islanders have access to phones than any other technology (Brady & Dyson, 2009). An important starting point for exploring how technology might be used in the classroom is to look at how it is used outside of school in everyday lives for social purposes. This is a different approach to the previous narrative where the school provided the technology for learning.

In some ways, we use phones just like Balandas. The phone lets me stay in touch with people and I can stay in touch with them. My grandchildren talk to me about who has sent me texts and I ask my grandchildren to text them back. My grandchildren want me to have a phone so they can stay in touch with
me. When the fixed line phone was in the house (before mobile phones) they could only ring me there but now they can talk with me anywhere I go. This is important like when a member of my family might pass away and I need to know as soon as possible to organise things.

In a survey of 95 Aboriginal residents of Maningrida that explored how mobile phones were used in the community, research revealed mobile phones were not used as personalised and private resources. The participants revealed they used phones in a more communal way with over 70 per cent receiving phone calls for friends and/or family, 93 per cent borrowing a phone from family and friends and 81 per cent regularly taking phone calls using the speaker function so other people could be a part of the phone call (Auld, Snyder & Henderson, 2012).

We use mobile phones to keep in touch with family and friends. It is good that it is portable and it goes with me to different places. I can stay in touch. I share my phone with my grandkids when they run out of credit and then they give it back later on.

This is a story where technology has been sought out by Aboriginal people to stay in touch with family and friends and also access entertainment using the multimodal functionality of the phone. Blommaert (2005) suggests that resources such as digital technology can be 'placed' so a resource, such as digital technologies, could be functional in one particular place but becomes dysfunctional as soon as it is moved to another place. Lena and her family have opportunities to place the phones in ways that suit their social and cultural practices. Often Aboriginal and Torres Strait Islander students do not have the same privilege of 'placing' digital technology in the classroom. An example of Aboriginal people having the space to change the practices around technology can be found in Eric Michaels' (1986) research in The Aboriginal invention of television. Michaels is not suggesting Aboriginal people invented the artefact of television but he identifies how the practice of using technology can be innovative when local knowledge is integrated into the new ways of using the media. Michaels gives an example of when elders control the production of a video in a remote community there is synergy between space, roles, language and relationships embedded in the video. So for Aboriginal and Torres Strait Islander people to mediate their deep understandings about the world through technology they need to have control over why and how technology is integrated into their everyday life. One of the unfinished aspects of reconciliation is the socioeconomic challenges that many Aboriginal and Torres Strait Islanders face on a daily basis. For example, issues of mobility and credit history mean that many residents of Maningrida are on pre-paid phone plans and their resulting phone services cost more than if they were on post-paid plans, such as a two-year contract. You can read more about the
socioeconomic factors of technological use in Chapter 5 by Neil Anderson who explores the digital divide and rurality. Many Aboriginal and Torres Strait Islander students who live in remote and rural communities face issues associated with their remoteness and low socioeconomic status.

We share our phones a lot more than Balandas, and we run out of credit. We call up for people to ring back. We take our phones out bush and sometimes we lose them or we need to give the phone to family or friends and then we get a new one.

One of the dangers of using technology in schools is that we are not providing opportunities to maximise the Aboriginal and Torres Strait Islander invention of technology. Students should be provided with opportunities to construct texts where their knowledge and culture are naturally embedded into the final digital product so they have clear understanding of how their world view and the use of technology can be included in the curriculum. Often the technology has been designed for a social purpose, independent of the social practices of the community where it is being used. An example of this is the use of the internet and bilingual education. While there are some Aboriginal and Torres Strait Islander languages on the internet, there are many that are not. Many speakers of these languages do not have access to the internet.

Another danger is the focus on the artefacts of technology in schools. Often the focus is placed on the numbers of artefacts, or on their use, rather than the way students develop their learning with technology. This could be learning through technologies or in collaboration with other students using digital technologies. Researchers such as Leander (2007) highlight the importance of focusing on the social practices as well as the artefacts to develop a space to explore innovative learning.

When I get a new phone my children sort out all the settings and get it all set up. They are always learning new things from each other and they are always talking about how to use the phone.

There could be important ‘inventions’ with respect to technology happening outside of school that provide teachers with insights into how learning could be extended in the classroom. Lena provides an example, ‘inventing’ the phone to fit her needs by relying on a network of support to work out how to use the phone to her advantage. There is a danger that the talking and negotiating is lost when a new artefact enters the classroom. Students might not have the benefit of exploring how the new technology fits a social need, a task or some aspect of learning like Lena did through support from her family.
Strategies to support learning with ICT

The above two stories have identified how using digital technologies with Aboriginal and Torres Strait Islander students can be construed as dangerous. The next section outlines the importance of high expectations for students, respect for and understanding of Indigenous knowledge systems and developing community partnerships in the effective and sustained use of technology by Aboriginal and Torres Strait Islander students in schools.

High expectations

As you have read at the start of this chapter, Aboriginal and Torres Strait Islander students face many barriers to success given reconciliation is an unfinished project in Australia. Chris Sarra has articulated that Aboriginal and Torres Strait Islander students have a right to feel strong and smart about their schooling. He suggests teachers should have high expectations of their students to fully engage in mainstream schooling (Sarra, 2012). Students will still forge their cultural identity at school, but the focus for teachers is how students negotiate the learning in the curriculum to participate fully in Australian society. Sarra (2012) is critical of ‘dumbing down’ experiences for Aboriginal and Torres Strait Islander students and suggests teachers need to give the students the best possible education so they have diverse choices when they complete school.

This idea of high expectations of students drove the development of the Ndjébbana Talking Books.

When we made the talking books we thought all children could read or they wanted to learn. When I walked around, the parents were telling me that it is good to see the children read from the computer and get knowledge. The parents expected the children to be able to read the words and the images and the parents could see how the computers were helping the children learn.

The students were developing understandings of print based literacy through reading familiar stories and group readings of the texts in their preferred language of communication. In this sense, Glenn, Lena and the members of community who made the Ndjébbana Talking Books had high expectations of their children’s learning around the computers.

Indigenous knowledge systems

Many Indigenous academics around the world have voiced their concerns over the way knowledge is structured and how the process of knowledge production marginalises Indigenous ways of knowing and being (Battiste & Henderson, 2000; Rigney, 1997). Indigenous knowledge systems refer to the way knowledge is structured and valued by Indigenous people. There is a strong argument that Indigenous
knowledge systems are not valued in the ways the disciplines of knowledge are arranged in the different learning areas of the curriculum. Rigney (1997, p. 634) suggests that ‘cultural assumptions throughout dominant epistemologies in Australia are oblivious of Indigenous traditions and concerns’. Returning to technology, one could ask of a teacher: are the dominant ways technology is used and appropriated in the classroom respectful of the ways Aboriginal and Torres Strait Islanders theorise about the world? Interestingly Aboriginal and Torres Strait Islanders have been proposing and testing theories of their world for thousands of years, often about the same place, given their continual connectedness to Country.

The Ndjébbana Talking Books mediated some of these theories associated with Country and place through people and relationships. The stories were not just about knowing something about literacy independent of the context. When the children were reading the texts in the community, there were often parents and grandparents sharing their understandings around the computer. In this sense the ‘doing’ of literacy in their first language was connected to ‘being’ a member of the community and ‘knowing’ about their language and culture. Karen Martin (2003) argues that for the Quandamooka people of Stradbroke Island in Queensland, ways of doing are based on understandings of ways of being and ways of knowing.

The connection between doing, knowing and being is what happens with mobile phone use in the community of Maningrida. Members of the Kunibidji community value connectedness to Country and relationships with family and friends. The phones are more than just a way to communicate. Phones are used to reinforce a lived Kunibidji experience of being and knowing, through a valuing of relationships. Digital technology used in schools to complete a task or provide some kind of evidence might not connect to the students’ developing understandings of being and knowing, which is essential for their future membership of an Aboriginal and Torres Strait Islander community.

If there is new technology being used at school I would like them to show me how it is helping the children learn. I want to see how they do the right thing. They need to make sure the kids learn by respecting each other and using the technology to develop their knowledge in both ways, Balandja and Aboriginal.

There are many opportunities for engaging Aboriginal and Torres Strait Islanders in their use of technology in deep and meaningful ways to build on their identities and knowledges. The use of technology can also be a way of reaffirming the importance of students’ ways of seeing the world. Such an approach would see teachers using technology in an integrated way across learning content areas while respecting historical and contemporary knowledge construction of Aboriginal and Torres Strait Islanders.
Partnerships

I have been learning technology all my life. Before I began school I learned Ndjébbana, when I went to school I learned English and then I learned how to read and write Ndjébbana when the Bilingual program came along. They explained to me how the language was pronounced and spelt correctly. When the talking books were made I learned how to record my voice and how children can learn to read through programs on computers. Now I am learning about phones. There are always people around to teach me what to do when I need to learn something new about technology.

Lena's words are powerful. She highlights that technology is not just phones and computers but also language. Lena also indicates that her learning through technology is a social practice. Lena's learning is more about relationships than it is about technology. Lena has surrounded herself with people who not only use technology but are in a position to share how to educate children, something Lena is passionate about.

Partnerships are not just about informing members of the community about what kinds of technology are being used at school. Real partnerships are an integral part of the governance structures in schools so Aboriginal and Torres Strait Islanders can reshape the knowledge construction in schools. This way the collaborative work around designing an ICT program results in Aboriginal and Torres Strait Islander students feeling the theories are valued. In essence, the Aboriginal and Torres Strait Islander partnerships should be empowered to have more say in their children's education. Where parents and caregivers have this control they will have a greater influence over the financial and epistemological decisions about the best way to use technology with their students. The way phones are purchased and shared in Maningrida reflects financial and epistemological control. One can only imagine what schools would be like if Aboriginal and Torres Strait Islanders had more control over school finances to enact their agendas on ICT programs in the school.

Concluding comments

The intent of the above stories is that technology is strongly associated with student agency, bound by cultural and individual identity, as they form relationships to their intellectual traditions. Where the students do not have opportunities to draw on the resources from the theories of their elders, effective classroom teaching and their own knowledge systems, their agentic learning with technology is not maximised. Table 6.1 summarises some key questions in relation to ICT use by teachers and students to support Aboriginal and Torres Strait Islanders. Teachers need to remember that Aboriginal and Torres Strait Islander students are using
digital technologies while living the 'legacy of a very complex and historically layered contemporary knowledge space' (Nakata et al., 2012, p. 132). These questions are designed to support teachers to think about how ICT projects can provide high quality outcomes for Aboriginal and Torres Strait Islander students.

Table 6.1 Possible questions to guide ICT use for Aboriginal and Torres Strait Islander students

| Questions asked by students | How can my use of technology help me to be strong and smart at school? | Where are the opportunities to use technology to connect to my intellectual traditions and aspirations as an Aboriginal and Torres Strait Islander student? | Who in my support network understands the deep learning and theorising I am negotiating with ICT? |
| Questions asked by teachers | How might I use technology to enact high expectations of Aboriginal and Torres Strait Islander students? | What understandings of knowledge do I need to deconstruct to capitalise on technologically mediated Indigenous knowledge systems? | How can I support Aboriginal and Torres Strait Islander governance in the school to inform decisions about ICT program design and purchases? |

Exploring

- Think about the school in which you have been working or you will be working in the future. Use the following link to locate the Aboriginal language/s spoken on the land where your school is located: <http://mgnsw.org.au/media/uploads/images/map_col_highres2.jpg>
- See what resources you can find on the internet that support your teaching of a unit of work using this specific language. Some of these resources might be word lists, people or texts. In groups, discuss the identified Aboriginal and Torres Strait Islander language of your school location and the digital resources you found to support your teaching.
- Thinking about the practices of out-of-school uses of technology, develop a homework task that could support your teaching in school. In developing the task, focus not only on the use of technology out of school
Section 1: Being critical of our assumptions

but explore how the technology is associated with design, power and relationships in the students' life beyond school. Discuss your homework tasks in groups and identify what makes an effective homework task with reference to the lived experiences of technology out of school.

Further information and resources on this topic are available at <www.cambridge.edu.au/academic/teachingdigital>

Further reading


This book explores the diverse ways Indigenous peoples are using digital technologies that reflect the complex ways they negotiate change. The book presents a range of case studies along with chapters that analyse changes in Indigenous practices with digital technologies.


This e-book provides case studies of how Aboriginal and Torres Strait Islander youth are engaged in Learning Spaces over which they have agency and ownership. The authors present eight design principles to guide people to support the oral and written language skills of youth and to engage creatively with digital media.

References


Fredericks, B. (2013). ‘We don’t leave our identities at the city limits’: Aboriginal and Torres Strait Islander people living in urban localities. Australian Aboriginal Studies, 2013(1), 4–16.


