Crossing the digital divide: A middle years teacher’s reflective journey

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ABSTRACT

This article provides insights into one middle years teacher’s use of technology in the classroom and highlights some of the opportunities and challenges that followed. Drawing on the teacher’s reflections, the article provides a narrative of her use of two approaches, one project-based and the other tool-based.

Introduction

Utilising technology has become an expected part of teaching and learning at most schools. Whether the school chooses to implement a 1:1 laptop or tablet program or a Bring Your Own Device (BYOD) program, challenges exist for teachers regarding the purposeful implementation and use of such technology. One of these challenges is how to bridge the digital divide between the pedagogies of the past and those required for the future. Hayes-Jacobs (2013) describes three different types of pedagogies: antiquated, classical and century21. She challenges today’s teachers to critically assess their current pedagogies in light of the technological tools available to them and to upgrade the aspects of their pedagogy which may be ‘antiquated’. If technology is simply used to reinforce existing practices, rather than assist the adoption of new pedagogies, then the possibilities of pedagogical change that technology presents become lost (Wilder & Dressman, 2006). This reflective paper narrates the digital journey of one teacher in one school and the steps taken to bridge the digital divide in literacy pedagogies.

The school context

Sheldon College is an independent, non-denominational P–12 College located in Brisbane’s Redlands region. The College consists of students in Early Learning (Kindergarten and Prep), Junior College (Years 1–4), Middle College (Years 5–8) and Senior College (Years 9–12).

The College is currently trialling the possibility of a BYOD option to enhance access to technology. The trial has purposefully involved key teachers to investigate and it has endeavoured to action research the opportunities and the challenges these reforms bring for teachers and leaders across the College. The trial to date has not involved one set of standard tools to be utilised by all students, although students do have easy access to PCs and laptops. This deliberate lack of structure presents the opportunity for teachers to explore a range of tools and incorporate students’ prior technology literacies, gained from outside the classroom, into literacy across the curriculum.

Sheldon College undertook a Digital Pedagogies Project with a number of identified teachers across the College in 2012. This was assisted by funding from the Australian Government Quality Teacher Program. The purpose of this project was to extend the use of technology across the College and to create a culture of self-direction in professional development amongst the community of teachers. Although I was not initially one of the teachers selected for involvement in this project, I became involved by chance, through a conversation in which I de-privatised an element of my practice.

As a Middle College teacher responsible for teaching Year 6 English and Humanities, I was very
keen to be part of the College’s trial program as I have had the integration of technology into literacy as a focus for a number of years. In the beginning, my explorations were small. Students just brought their devices, mostly iPods which were equipped with useful tools such as a dictionary app and some literacy-based games such as Wordstorm. It was in these early stages that I also purchased an iPad2 and a VGA connector so I could utilise the iPad with a projector in the course of my lessons. This enabled me to share my learning journey on the iPad with my whole class. This worked well, but as time went by I became dissatisfied with this very superficial use of technology in my lessons. What else could I add? How could I better access and tap into my students’ technology literacies from outside the classroom? How could I make my integration of technology into literacy more meaningful?

Through my involvement in the Digital Pedagogies Project, I began integrating technology into literacy in a more meaningful way through a number of specific trials. Over time, I noticed that the way in which I utilised technology fell into two approaches. The first was a project-based approach and the second was a tool-based approach.

2012: A project-based approach

The work undertaken by other teachers in the first round of the Digital Pedagogies Project inspired me to explore opportunities to harness my students’ interest in technology and integrate it into literacy-based learning experiences. My choice of a project-based approach was in response to observing the excitement of my students when they discussed their use of technology outside school. Many of them participated in online gaming, communicated via Skype and used their mobile phones for talking and for text. Anders and Guzzetti (2005) discuss these everyday practices and see the value of incorporating student interest and informal literacy practices into the more formal learning and assessment conducted in schools. I was also conscious of the need to re-evaluate my own perceptions of curriculum and pedagogy and the place of technology in these.

Wilder and Dressman’s (2006) report of Cuban’s findings from a study in California found that ‘the failure of technology to act as an engine for educational transformation [was attributed] to the fact that the underlying epistemological assumptions of the teachers and students with respect to what the curriculum should be or how it should be taught and learned were never challenged or effectively altered’ (p. 207). This suggests that without directed and conscious change in pedagogy, employing technology alone will not result in any meaningful change in students’ learning. Therefore, in order to make best use of a project-based approach, I needed to consider students’ prior technology literacies and the nature of what and how learning needs to take place.

Setting the scene for learning

I asked my Year 6 students to collaboratively research and present a biography of an historical person who was involved in the Federation of Australia. The method of presentation was their choice and, before proceeding, the students developed a proposal for their method of presentation to submit to me for approval. To begin the process, my classes collaboratively planned research questions using Popplet, a graphic mind map app on my iPad, which I shared using a VGA connector. This enabled all students to view our generic questions as we produced them. This app also allowed the images to be printed as a jpeg or pdf. Students then selected from a list of key figures involved in the history of Federation of Australia. From a literacy point of view, I used this as an opportunity to review and formatively assess their research skills. I was able to give individual feedback to each student as to their strengths and weaknesses using their note-taking from sources in response to their research questions. After completing this phase of the activity, students then formulated a proposal as to how they were going to present this information. Many of these proposals were obvious choices where they planned to use familiar and easily integrated technology, including PowerPoint presentations, but a number of students surprised and challenged my preconceptions.
Letting go of control

Some students, for example, chose movie programs and apps, including iMovie and video editing software used with a handheld video camera. Some chose to present their information as a television interview, or as a trailer for an upcoming fictional movie through the iMovie trailer capability. One group of students came up with the idea of combining a number of applications in order to create a documentary. It is important to note that I knew very few of their chosen applications and just had to trust that their level of expertise was sufficient to achieve their goal. Another group chose to utilise a video camera and create a talk show, featuring an interview with their chosen historical person. These ideas showed the creativity of my students in a new light and allowed them to utilise their literacies from outside the classroom, in the form of apps and programs as well as their own hardware.

One pair of boys came to me with a proposal which challenged even more of my preconceptions. These two boys were often discussing their online gaming before and after school and wanted to use Minecraft to create their project. Being unfamiliar with the program, and keeping in mind past observations of their work habits both individually and collaboratively, my first response was going to be a negative one. However, I listened and questioned them on elements of their design and decided to let them proceed.

Blurred roles

During the following week, whilst the students were undertaking their projects, something amazing occurred within my classroom. The space went from neatly organised groups of desks to a haphazard arrangement and from quiet industry to animated conversation. Students organised the space as they desired and informally shared ideas with others. They asked each other what programs or apps they were using and how they achieved a particular result. The roles of students and teacher became blurred as I became a critical partner in the learning process, asking questions to redirect or assist in refining, but not imparting knowledge. Students taught me and they taught each other. Learning became informal, fluid and shared in a far more equitable manner than in a traditional classroom and, the further my classroom moved from what a traditional classroom ‘should’ look and sound like, the more exciting the learning became.

Outcomes, reflection and deprivatisation

The end products of the process were varied and exceeded my expectations in every way. Although some presentations lacked polish, the creativity and thought that went into each one was far deeper than if I had restricted them to presenting a poster or a PowerPoint. Students who struggled with producing a written text found their understanding and their communication enhanced by producing a video ‘interview’ with their historical figure, whilst students with greater capabilities in the area of technology produced multimodal texts incorporating a wide variety of literacies.

During the reflection phase of this task, my students and I collaboratively identified what worked well, what didn’t and why, so it could be used in another project-based task utilising technology later in the term. Students reported that their time line and choice of project were at times unrealistic, but they did not see that my lack of knowledge about specific programs or apps to be a hindrance, as they were already familiar with these. Additionally, this approach allowed for a much higher level of differentiated learning, as students were presenting their research in a manner best suited to their own learning style. This was advantageous for students who excelled in the subject as well as students who experienced difficulty with the literacy demands of research. In one particular case, a student who participated in creating the talk show reported that the research she undertook was more meaningful and memorable because she had interacted with the information in a creative, oral manner.

Through the trial process of teacher reflection and the sharing of practice with other teacher participants, I discovered that my approach to using technology in my class was quite different from
2013: A tool-based approach

This year I sought to try a different approach to my use of technology in literacy. I therefore decided to adopt the tool-based approach utilised by a number of other participants in the 2012 project trials. My approach was to experiment with a specific tool, QR Codes. QR Codes appear on many products in our daily lives, but can also be easily generated and used within the classroom. They can provide links to websites, links to email addresses or be plain text. I decided to specifically explore the possibilities in using plain text QR Codes to replace purposefully chosen text in the teaching of literacy. See Figure 1 for examples of QR Codes.

Figure 1. Examples of QR Codes used for spelling activities

Plain text QR Codes are entirely off-line and are therefore not reliant on connection to the internet. My aim in using the codes was not only to increase student engagement through their use, but also to increase engagement by incorporating more movement into lessons. Because many of my students already had an iPod, iPhone or iPad, access to devices was not an issue. Because QR Codes can be read by both Apple and Android technologies, they have the advantage of being accessible to a wide range of devices. I aimed to make this a trial of a range of ways to use QR Codes in literacy in order to explore their usefulness as a tool.

Firstly, I used QR Codes to replace written instructions for independent practice in spelling activities. Ten different individual or pair activities in individual plain QR Codes were generated, which were then laminated and displayed on the classroom walls. Some examples are shown in Figure 1. Students scanned the activity, collected any required materials, and then went to an appropriate space to complete it. The beauty of using codes in this manner is that the nature of the activity is unknown until the code is scanned. It also creates a resource which can be added to and utilised the following year.

Secondly, during practice for the National Assessment Program – Literacy and Numeracy (NAPLAN) tests, I replaced pencil-and-paper tests with plain text QR Codes. Each question from a
Language Conventions practice test was made into a multiple choice plain text QR Code. Figure 2 shows an example worksheet that was used. Students undertook ten questions at a time, individually or in pairs, answering with the letter of their choice on an answer card, which they then self-marked. Some simple data were collected by asking students to place a tick on the whiteboard next to the questions which were marked correct. The discussions between students whilst engaged in this activity centred on the skill being tested in the question and the students’ knowledge of that particular element of grammar or punctuation while they defended their answers to one another.

In my third experiment, I devised a way for groups of students to analyse visual sources through the use of QR Codes. I replaced actual written questions related to interpretation of visual sources with plain text QR Codes. These were displayed with a colour copy of the visual source on an A3 sheet of paper. I used this technique during a History lesson, where students analysed a variety of persuasive posters designed to promote Australia to prospective British migrants after the end of World War 2. This task required students to work in groups, scan one question at a time and answer that specific question together. The questions involved labelling and interpreting the source and the intent of the artist.
One group chose to scan and write all of the questions down first before proceeding to answer the questions. I observed that this group experienced difficulty focusing the attention of the group on a particular question, as some members kept going ahead to answer other questions. As a consequence, the answers generated by this group lacked the depth of thought that was evident in the responses of the other groups. This observation was an interesting and unexpected finding from my trial. It suggests that by obscuring some questions by replacing these with QR Codes, groups of students focus on a single question in more depth and are better able to utilise the higher order thinking skills of the group.

I also developed a way to utilise QR Codes to support my students’ basic reading comprehension skills and increase their independence. This focus led me to create a Reading Comprehension Bookmark using coloured QR Codes. The purpose of this prompt was to enable students to independently access simple instructions about the steps used in Reading Comprehension in our classroom. This need existed because I observed that some of my students who were not performing to their potential in this area were repeatedly missing vital steps in the process of accessing a text and/or written questions. Each bookmark was laminated and affixed to a student desk, and the colours allowed for better tracking through the steps. It also assisted in decreasing reliance on the teacher as the provider of that information.

Finally, I encouraged students to use QR Codes in response to their homework. In one instance, after interacting with a digital resource about the journey of a Vietnamese refugee, students created diary entries to summarise their journey. This was optional and some students chose to use QR Codes. Boys were predominantly the ones who were interested in responding in this manner.

This trial of QR Codes in the literacy classroom was very productive and thought-provoking for me. I discovered that one tool could be utilised in a number of creative ways in my classroom. Placing them in various locations around the classroom increased the incidental movement in the classroom, which particularly assisted the boys in maintaining interest and concentrating. During the analysis of the visual image, the depth of thought and discussion that was evident when students in a group were solely focussed on one question was also of note. This trial has encouraged me to consider the creative possibilities of other technological tools.

Outcomes
There were numerous intended and unintended outcomes of these trials for myself and for my students. These outcomes were positive, increasing the engagement with literacy across English and Humanities through the use of project-based learning and tool-specific learning.

The first of these is the power of utilising technology in literacy. Judicious and purposeful selection of tasks and tools had a profound effect on learning and teaching in my classroom. There was a substantial shift in the roles and relationships of teacher and students during the project-based learning as it excited and energised all participants. One of the realisations that I came to during these trials was that technology in and of itself does not change pedagogy – teachers do. Technology will not change teaching, learning or assessment when it is used in an ‘antiquated’ manner (Hayes-Jacobs, 2013; Wilder & Dressman, 2006).

Secondly, before undertaking the project-based learning, I was hesitant and concerned about my own lack of knowledge of specific hardware and software. However, if the technology employed accesses the students’ literacies from outside their school learning, then they already have most of the knowledge they need. Being able to comfortably say to students, ‘I don’t know. Let’s find the answer together’, was also a way of dealing with any technical issues which arose. Although this approach involved a substantial release of control of the learning as well as risk-taking on my part, the excitement and creativity it inspired in my students was well worth the risk.

Thirdly, there is no one way to approach technology use in literacy. These two ways I have discussed
are not the only ones, and neither is one better than the other; they employ different approaches and different tools for different purposes. Exploring these approaches through my trials has assisted in building my digital toolkit, which I can then apply to a range of different situations and tools in my teaching.

Finally, consideration needs to be given to how and why technology is being used, not just in literacy, but in other areas of learning and teaching. Purposeful selection of the context and tools can result in high quality teaching and learning. It is important to remember that just because a technological solution is available does not necessarily make it the right one for the learning. Older technologies, such as writing by hand and reading from a paper text, are not obsolete due to the availability of a laptop. Regular critical reflection about my praxis has taught me to think about aspects of it which may be ‘antiquated’ as opposed to ‘classical’, and to find ways to replace the antiquated elements with more contemporary techniques and tools (Hayes-Jacobs, 2013).

This is just the beginning of my journey. Through my trials, I have found that technology offers tools and contexts to enable me to bridge the digital divide between students’ out-of-school literacies and more formal in-school learning. Through the Digital Pedagogies Project and the deprivatisation of practice which is occurring at my College, I have had a glimpse of a ‘brave new world’ of possibilities which the use of technology in literacy offers.

References


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