A teacher's voice: Embracing change to make a difference

Marilyn Blakeney-Williams

Faculty of Education, University of Waikato, Hamilton

email: marilynb@waikato.ac.nz

Abstract

The challenge to understand the impact and demands of new forms of literacy for teachers with considerable expertise is intensified when making sense of multiple forms of texts. This paper examines how an experienced teacher made changes to her literacy pedagogy when faced with a class problem for which she felt unprepared. The story is told predominantly through the voice of the teacher using her reflective journal. An example of Web 2.0 technology, specifically the construction of a wiki, is planned and implemented to reflect the teacher's changing views of literacy. The key focus is how this teacher will transition her practice to meet the new demands of literacy teaching, what critical moves are required of her in order to do this and how does she shift from the traditional role of facilitator to designer of online learning. Through such analysis it is proposed that it is possible for an experienced teacher to theorise, implement and adopt a stance that encompasses a broader view of literacy and literacy instruction.

Introduction

Technologies emerge in specific historical contexts to become part of the diverse social fabric of everyday life. Literacy learning is placed in social spaces and places that rely on effective communication and interpersonal relationships. Web 2.0 technology, as opposed to Web 1.0, has developed social networking opportunities for peer and collaborative learning. In this way "students' cognitive, affective and social interactions are developed" (Wright, 2010, p. ii).

When using Web 2.0 tools the importance of teachers' active presence and roles in classrooms is the key influence on quality learning outcomes for students (Ministry of Education, 2003 & 2006; Walsh, 2010). Digital tools can motivate and engage students' learning, but of greater significance is how teacher support precipitates effective learning relationships. "While young people are technologically literate regarding networking as everyday tools, they may still be neophytes when it comes to understanding how to use them in purposeful and educationally oriented ways" (Wright, 2010, p.20).

Today teachers are challenged to guide students' learning within information environments that are richer and more complex than traditional print media offers (Moreillon, 2001). Teachers cannot be locked into traditional print-based models in response to different forms of communication and communities as they evolve (Walsh, 2010). For teachers with expertise in print-based texts, the advent of Web 2.0 technology increasingly presents a challenge on a daily basis.

Teachers, especially those who are very experienced, may tend toward the low end of a scale ranging from functional (technical skills) to transformational (applications in new contexts) when looking at new technologies (Prensky, 2005). For those teachers who embrace digital technology, design is pivotal within the range of tasks that students engage in. The design of activities will require students to move between print and digital modes that are content-rich, high interest and relevant, informative, and visually engaging. Such learning experiences will present "an integrated focus on visual, tactile, gestural, sound, and kinaesthetic modes, and a cohesive merging of traditional and digital activities and texts" (Walsh, 2008, p.105).

Literacy is thus more than a basic set of reading and writing skills and must be seen as a process of engaging with other people in communicative interactions and social settings. There are multiple ways to show understanding of what it means to be literate within a technology-mediated classroom (Education Queensland, 2000; Lankshear & Knobel, 2003; Merchant, 2009).

This paper outlines a case study of a New Zealand primary school teacher with more than 20 years' teaching; a teacher who has considerable expertise with print-based literacy. The research evolved from a conversation between a university lecturer in language and literacy (myself) visiting the school and the teacher (Sharon) while discussing a literacy problem that had occurred in the classroom. The teacher expressed a willingness to reflect and review her literacy pedagogy as she attempted to respond to that problem. Both of us recognised an

opportunity to work together, although we had no idea where the journey would take us. However, we did realise this would involve print-based literacy and some form of information and communication technology.

Methodology

This project incorporated professional learning development with collaboration and investigation to reflect changing views of literacy. The teacher worked collaboratively with the researcher who provided input and support at different stages through the project. The research undertaken had a qualitative focus and was documented through a range of data collection techniques.

Data sources and analysis involved non-participant observation by the researcher in the classroom, interviews, video recordings, and field notes. Specific sessions were timetabled to fit within the regular class programme. Other sources included data from two teacher release days, interpretations of professional articles and the teacher's personal journal.

During the analysis of the data it became evident that the teacher's weekly journal was significant in reflecting critical change and shifts in thinking. In effect, the journal became the voice of the teacher; the dialogic tool for collaborative discussion around key issues, personal response, and exploration of incidences as identified and highlighted by the teacher. This paper follows the teacher's journey predominantly through entries in her journal. Some interview and observation by the researcher is also provided. A subsequent article with greater depth on the students' responses and understandings will follow.

Formulating the questions

Given Sharon's belief that it is the teacher's strategic use of instruction that makes the difference to student outcomes, we formulated three focus questions.

1. How will this teacher transition her practice to meet the new demands of literacy teaching?

2. What critical changes are required of her in order to do this?

3. How does she shift from the traditional role of facilitator to designer of online instructional learning?

Evidence of six areas of critical change over the ten weeks of the research project are discussed: Choosing the tool, re-examining theories of literacy, adopting a blended approach, design as an integral factor, professional identity and change, collaborative practice. The data emerged at several levels with each stage informing the next.

The context

The context of the study arose from discussions which began in the Year 5-6 class (9-10 year olds) about the forthcoming 125th School and District Jubilee. Initial research forays were underway to find out about the school's history from 1884 onwards using the internet as a major source of information. An extract from the teacher's journal identifies the problem:

> After two days of searching the internet the class declared, "There's nothing about the history of our school except for the school webpage." I acknowledged the problem and began to discuss what the class could do. I suggested they could become historical researchers and put the information on the internet themselves. *But how?* I asked myself. I have no idea how to put the history of the school on the internet.

The task of meeting the students' needs with some sort of technological tool became apparent but Sharon felt uncertain and apprehensive; a feeling that was quite disconcerting for a teacher with so much experience. In her journal, Sharon recorded, "I felt immediate panic."

Choosing the tool

Seeking advice from a technology facilitator, the most appropriate tool seemed to be the construction of a class wiki. Sharon's journal reveals her feelings:

> I did not want to make a wiki, I did not want to do all the work myself and teach the students the process at the same time. I asked myself 'what is a wiki?'. I was angry there was little technical help, but I also wanted to put the school history on the net. If we needed a wiki then that's what we would have!' BUT I needed to understand more about the purpose – why this might be a useful tool and what benefits were there? Did this fit with my beliefs about literacy and literacy teaching? I wasn't sure and felt uncertainty creeping up on me.

Computers in New Zealand Schools : Learning, teaching, technology. Vol.23 No.1. 2011

4

Wikis are rapidly being appropriated in educational contexts as promoting connectivity of context, learning and teaching approaches (Thorne & Payne, 2005). In this sense, a wiki is a collaborative online planning and design tool that allows for innovation through collaborative writing and presentation (Thorne, 2008). A wiki site is easily accessed as a hyperlinked collection of individual pages with approved authors/group users. "There is no distinction between 'author' and 'audience' per se, since readers of the wiki can spontaneously opt to become authors" (Thorne & Payne, 2005, p.384). Because a wiki works best in an asynchronous manner, the teacher can keep track of individual and collaborative student sharing of resources and content (Lockyen et al, 2002). This has certain advantages for the teacher.

With these understandings in mind and two hours of intensive training , scanning through existing wikis and some discussion/critique, the teacher felt able to begin – well maybe. She still needed to reflect on how the use of a wiki fitted with her underlying theories of learning and literacy; and if her pedagogical knowledge was adequate to enable her to make the transfer from print based texts (for example, a class book) to digital technology.

Re-examining theories of literacy

It is at this stage that we (the researcher and teacher) began to work together to explore theories of language and literacy and to determine Sharon's current views. A teacher release day was organised in which we discussed and developed ideas, made plans and links to the national curriculum. There was also an informal interview as an initial data gathering procedure.

Discussion centred on the changing nature of language and literacy practice. Sharon believed that literacy and learning do not consist of isolated pieces of information that have no clear meaning, purpose or intent. Lankshear & Knobel (2003) see this as bringing together varied resources at the time of need to complete a goal. Sharon saw literacy as an active process, where the learner integrates skills and strategies to interpret information and create independent personal meaning. She recognised the changing practice of teachers in how they provide opportunities for interacting with new text formats and new skills, whether on paper or screen. For example, we related this to reading information from reference books, selecting facts, and searching the internet. We concluded that teachers need to be able to understand, use, and combine different modes of learning such as reading and viewing, talking and

writing. Discussion did not arise on processes such as modes of gestural, image, sound and movement but literacy was valued within multiple forms and uses (Anstey & Bull, 2006).

Sharon acknowledged literacy is situated within specific contexts, shaped by social and cultural influences and closely tied to identity. Ideas were shared about out-of-school internet practices that students engage in, such as, email, texting, and online games, but the conversation did not extend into the qualities of social networking communication or the collaborative nature of learning. Researchers such as Lankshear & Knobel (2003) have suggested that, in some instances, more awareness of interactive social practices of home and community may lead to greater success at school.

Sharon's theories and experiences seemed to be predominantly based on pedagogy of print-based instructional approaches. Some aspects of digital technology and ICT were included, but as independent activities rather than an integral part of her literacy programme. Kress (2003) writes that print and books may still dominate, even when views of literacy have expanded to include a range of modes mediated by new technologies.

During discussion Sharon said:

> Yes, I have changed my view on literacy but probably I haven't changed enough because I am still bound by the traditional. Do your reading, do your writing, and even if we publish on the webpage or whatever, it's still just putting print-based writing on the internet.

Furthermore, her perceptions were:

> I like to be explicit. They [students] still need the basic toolkit, of reading and writing skills before they move onto the web work. I do allow the children to use the internet for searching when tasks are clearly directed. These are often independent reading activities.

The key competency of thinking as determined by the Ministry of Education [MoE] (2007) was raised in regard to changing views of literacy. Sharon expressed her concerns about what strategies the students would need in order to use inferential and higher order thinking skills when linked to critical literacy. We concluded that students would need to be able to screen, analyse, evaluate, and critique potential sources of information they have available. In addition, they would have to know the teacher was there to give support when they didn't

have the expertise or prior knowledge necessary to judge the credibility of sources. Based on the current literacy class problem, a wiki would require them to use information to create and recreate their own versions or interpretations of texts for their web pages.

As the day progressed previously distributed professional readings were discussed and interpreted. The research of Walsh (2006; 2007), based on an integrated approach to literacy, seemed to strike the right chord with the teacher. Walsh advocates 'blending' paper-based and new technologies together. Sharon recognised the relationship between this approach and the English learning area statement in MoE (2007), where literacy teaching and learning is promoted as "making and creating meaning through oral, written and visual language" (p.18).

As she revisited her current understandings of literacy and learning, the connections between print and digital texts became less obscure, and became more about a transition from one mode to another. Conversation centred on multiple forms of texts (multiliteracies) and ways of communicating that might be encountered in the designing of a wiki. As Anstey & Bull (2010) state there are "multiple modes of literacy learning and communication: linguistic, visual, auditory, gestural, and spatial" (p.2). Sharon realised that her teaching was primarily within linguistic and visual modes of literacy communication. She had not previously heard of 'multimodality' and was very interested in how this might fit with her current literacy pedagogy, whether traditionally based or involving new communication technologies.

The key question of how might these traditional strategies and skills transfer to digital communication technologies became critical. How might she do this? What would this involve? What would the planning and application look like?

Adopting a blended approach

Sharon decided to adopt a blended approach to resolve the class problem by integrating digital content (the wiki) into the traditional literacy programme. This approach would recognise multimodality as the simultaneous reading, processing and/or producing of various modes of literacy (Anstey & Bull, 2006; Walsh, 2007). Sharon was thinking well beyond traditional paper-based literacy. She was keen to build on her understandings of multimodal literacy and to think about what the students would need to know in order to construct a wiki and design the web pages.

Sharon embedded her thoughts in authentic practice. "I kept thinking of a wiki as an example of a real world textual practice, just another form of communication but for a wider audience than our school." She was ready to begin putting the history of the school on to the internet organised within pre-selected decades of time.

Illustrative example 1 (Lesson observation and teacher reflections)

Objectives: Explanation of what is a wiki, make links between the paper projects and digital technology, activate prior knowledge of skills useful for constructing a wiki, decide on a formatting theme.

Sharon brought the wiki up on the Smartboard (interactive whiteboard) for all the students to see and signed in. There was just one webpage at this point. She asked the students, *"Do you know what a wiki is?"* The students had very few ideas. After a brief explanation by the teacher the following sequence of teaching took place.

T: What skills might you need to put your decade project onto this wikispace?

CH: We could just scan the whole project.

CH: We could type it and scan some photos.

(She opened another tab and opened the school webpage so they could see it to prompt further ideas).

T: What is the purpose of putting our school history onto the internet? (Not many ideas offered).

T: Who sees your work on the school website?

CH: Our parents, our grandparents, our friends here and family in other countries.

T: Who will be able to see your work on the wikispace?

CH: Everybody – it is a worldwide audience.

T: Who will be able to see your paper projects?

CH: Only the people who come to the Jubilee, anyone who comes in the classroom.

T: So how can we make sure that the parents find the wikispace?

CH: We could link from the school webpage to the wikispace and from the wikispace to the webpage and then lots of people would see our work. (The teacher asked the question again).

T: What skills might we need to put a print-based project onto the wiki?

CH: Upload digital photos, how to make a timeline, upload videos…

Subsequent reflections in Sharon's journal registered her astonishment:

In spite of all their computer skills and use the students were generally locked into a print-based mode. At first word-processing was all they could think about. I had to find a way to tap into their existing thoughts and understandings about print-based and digital technologies. This proved to be the school website and the cluster map with the visitor counter and lists of countries. Hurrah, after that they could see the relevant purpose.

Sharon also wrote:

We were finally getting somewhere, photos, videos, animations, slideshows, hyperlinks, tabs, menus, copy and paste and being able to change work easily were all suggestions but what to do first was the big question. Students realised they were not restricted by the internet environment as they were by the 2D environment of an A2 piece of paper.

Design becomes an integral factor

At this point involving students in multimodal composition and the design of learning experiences became her focus. Prensky's research (2001) called on teachers to use technology in ways that meaningfully engage students, rather than 'turn them off.' The teacher was anxious that she was not turning 'old wine into new bottles'. She wanted to acknowledge, model and facilitate learning through creative and participatory practices.

During the initial release day the teacher had come to realise that the process of composing on paper and on screen have a number of differences, for instance, how media can be easily manipulated, the use of audio and video clips, and greater flexibility for layout and design. These realisations parallel the work of researchers such as Snyder (2003) and Kress (2003) who state an expansion in the use and range of electronic texts has led to a reconsideration of

the process of composition. As Kress argues, "the screen is a qualitatively different space for writing than the page" (Kress, 2003, cited in Burnett & Myers, 2006, p.2). Sharon wanted the students to understand how easy it is to alter and manipulate screen-based texts, words and images, video, hyperlinks, and sound as opposed to paper-based texts. She also needed to consider how print-based texts and online resources the children had already experienced might be directly applied to the screen.

Sharon wanted the students to articulate what they were doing as an overt constructive process of "assembling according to the design" (Kress, 2003, cited in Burnett & Myers, 2006, p.3). This meant being aware of the visual impact of their work, working for joint composition/authorship and having a strong sense of audience. By requiring them to settle on a design format (whether intentional or not) the teacher prompted them to consider layout (the notebook theme) first before focusing on words. A simple design helped the teacher to cope with set requirements, as listed in her planning. In this instance, design allowed the teacher to maintain a technicist approach and control over the task of constructing the wiki and to explain and demonstrate how to do this (Burnett & Myers, 2006).

When designing Web 2.0 tools, reading, viewing, writing, responding to and producing texts for particular purposes and audiences, are integral processes. "Design may be the factor that will assist teachers in the future as they need to incorporate traditional with multimedia and digital communication" (Walsh, 2006, p.28).

Professional identity and change

The wiki continued to take shape with the researcher conducting in-class observations and video recordings on a regular basis. On these days, the researcher and the teacher discussed and used the field notes, but not the video recordings. In order to be less intrusive these were given to the teacher for personal analysis. In week 6 a second teacher release day was arranged primarily for active reflection and resetting of goals based on progress of the wiki. Specific attention to the video recordings was an important feature of conversation and became a significant impetus for change to literacy teaching pedagogy and practice. Sharon wrote:

> I was shocked and horrified when I took home the videos. What an awful
> voice I have and I can't believe how much talking I do AT THE KIDS! Do I
> do this all the time? How important is this if I'm using web 2.0 tools –

collaborative and social? What do I do next about sorting out our roles? How important is it to get them to articulate?

In attempting to introduce a wiki to the students the teacher had centred her ideas within situated practice and meaningful engagement, but within a transmission model. She was clearly dominant in how she used the interactive whiteboard as her modelling tool to introduce the various skills/processes she considered the students required. Based on her planning, she was successfully teaching the required skills, albeit through explicit instruction. The students were involved in discussion however, through a directed approach. Social collaboration was limited to teacher decisions without many opportunities for independent learning. Problem-solving tasks were provided by the teacher rather than the children. She was literally running around the pod of children, working with them as individuals at their laptops. The idea of being a historical researcher was not a role being successfully employed, or at least it was not child-initiated.

While it is natural for experienced teachers to plan and teach with an initial focus on the transfer of skills, this must lead to transformed practice in order to be considered a success. Transformed practice occurs when students work on existing resources of meaning (available designs) to produce new meanings (the re-designed) (Cope & Kalantzis, 2000). When the web pages were developed the teacher wanted to see the students explaining what they were doing, to see the purposes of different functions/skills and to apply this knowledge to their own individual web pages. Instead they waited for guidance at every step of the process. They were not being critical of each other or using their initiative unless directed to do so. She also wanted them to keep the intended audience in mind. They were, however, predominantly focussed on the photographs and less interested in providing supporting written information for the people who might view the wiki. She had not yet shifted away from teacher-centred, 'old' knowledge-based approaches, to student-centred, 'new' knowledge-based approaches (Wright, 2010, p.21).

Although there was no formal analysis, the video recordings became an impetus for change. These formed an important component of the conversation in changing the teacher's view. Sharon was ready to make the link between her use of ICT learning experiences and her own pedagogical practice. There had been glimpses of children taking over the tasks, for example, scanning and uploading photos for resizing, but these processes had been demonstrated through step-by-step guidance in a formal manner. She wanted to encourage more

Computers in New Zealand Schools : Learning, teaching, technology. Vol.23 No.1. 2011

11

spontaneous, interactive forms of learning. It was time to reassess goals for planning and implementation. The teacher was ready for the next critical shift from functional to transformational literacy teaching (Durrant & Green, 2000; Makin et al, 2007), within her blended approach to literacy learning.

The teacher began to think more critically about the social and cultural practices of the classroom; about the communities of learners in joint activities where her role was still mentor and designer of learning processes but where she was less obvious as the 'source of all knowledge' (Wenger, 2004). She could see that she needed to continue to provide context-specific knowledge domains and practices, but not as drills and skills. She would need to shift her conscious understanding of meaning and design from being the one with the expertise to the students becoming the knowledgeable ones. The scaffolds she was providing would then require the learners to build their conscious awareness and control over what was being learned, from a range of perspectives.

Observation and greater attention to the prior knowledge of children were to become key aspects of how this might be achieved. This would involve observation of children at work, their interactions and the language they used in relation to wikis. Alongside this, more attention would be given to identify what students' out-of-school discourses were and how these might be harnessed to link with the knowledge required for constructing a wiki. She was now thinking more strategically on a continuum moving from facilitator to designer of instructional online learning.

Collaborative practice

The professional development session assisted the teacher to set a major goal of how to transfer the cluster of skills to informed mentorship. She began immediately upon her return to the classroom to implement her changing perspective.

Her journal is reflective of a changing perspective: *"We (students) revisited all the skills… It was interesting to verbalise and reflect on the process that has taken place over the last few weeks."*

The teacher continued to break the construction into smaller steps but allowed the students *to* become the experts. The interactive whiteboard was still a crucial tool but used to extend the students' verbal and visual skills. She attempted to avoid being teacher-pupil-teacher

dominant (MoE, 2009) for setting the topic, purpose and audience, but rather to encourage and support child-to-child focus whenever possible. She became increasingly aware of how body stance, gestures, ways of positioning herself invited discussion, and how the use of pause and wait-time influenced interactive and collaborative learning.

> As the journal states: "I was questioning and encouraging the children to problem solve the new processes, rather than showing them".

She was constantly seeking information on why and how to shift from print-based to online technology communication. Finally, she was bringing to the forefront an understanding of the multimodal nature of texts. Her observations confirmed that students' greater engagement and achievement were based on the co-construction of learning as evident in this journal entry:

> I feel so much better now that most of the technical skills are introduced and we have begun to work together with less dominance from me. I am making a conscious effort to be collegial rather than dogmatic. The tool no longer directs my thoughts and actions.

There was a greater emphasis on inclusive language and group interactivity. The following illustrates a more socially collaborative approach to further construction of the wiki.

Illustrative example 2: Embedding a hyperlink (observation and teacher's journal)

Objectives: Embed an external link to a web page called **Paperspast** and put the link on the correct decade with a descriptor so internet viewers can connect.

On the smartboard Sharon opened the wikispace and, in a separate tab, opened Google and googled Paperspast which brought up the national library site for past newspapers.

Her journal records the process with an emphasis on 'we' and 'us.' An inclusive, supportive approach is clearly evident.

> Once we were on the Paperspast site I asked the students to talk me through where they thought we should navigate on the page to find the information we needed. They all knew our local paper but we discovered that there were only past copies from 1874-1886. It took a while to refine our search so only articles about our school and community came up. On the laptops the students

opened the two pages and with one year each searched a whole year of articles and then specifically found the snippet from the paper, copied the URL address and went through the process on the wiki space to embed an external link. The students discussed the process amongst themselves and helped each other. There were not many newspaper articles written about our district but we found one reporting that the school had been open for 2 weeks and another one about the village having a cheese factory. They can keep searching. Over the next few weeks the students will keep adding to each page.

Discussion

"New affordances have led to learners using the Web in ways that necessitate shifts in research practice to explore the Web's current and potential roles in education" (Wright, 2010, p.21). This teacher seized the opportunity to locate herself in literacy and new literacies pedagogy. In addition, she was able to evaluate what had gone on in terms of her own professional development.

This project follows the process the teacher went through in reflecting on her current views of literacy and learning, and the subsequent critical moves she made in order to introduce web 2.0 technologies in her classroom as a response to a class problem that needed to be resolved. The research is largely reported through the voice of the teacher from entries in her journal. It is undoubtedly the willingness of the teacher to reflect on her current literacy and technology pedagogy that made the difference. Also evident was her goal to co-create the classroom experience with her students. The key questions were: How will this teacher transition her practice to meet the new demands of literacy teaching, what critical changes are required of her in order to do this and how does she shift from the traditional role of facilitator to designer of online instructional learning?

Responses to these questions resulted in six critical and significant teacher realisations. Initially the teacher employed an operational style of teaching as evident in Illustrative Example 1. Operational refers to competency with language and technical mechanical skills of multiliteracies grounded in meaningful and realistic situations (Durrant & Green, 2000). Eventually she became more inclusive, creating opportunities for greater innovation and participation from the students.

Being given the time to reflect on current views of literacy and learning pedagogy accompanied with professional reading, collegial discussion and audio-visual evidence, the teacher was able to examine assumptions and beliefs about print-based and digital technologies and record her thoughts in a personal journal. By having the opportunity to articulate her theories she developed confidence in her abilities and access to knowledge. She was able to set goals and to meet these without feelings of inadequacy. A key factor was to acknowledge there was a problem to solve, rather than put this into the 'too-hard basket' or bury her head in the sand.

Guided teaching may harness traditional concepts and content in conjunction with new technologies to support learners but the strength of co-constructive classroom practice "promotes increasing collaboration and a more dynamic relationship between students and teachers" (Wright, 2010, p.20). Sharon shows developing awareness of this in Illustrative Example 2 and further revealed in this subsequent journal entry.

> They do problem solve, search through menus, websites… Paperspast is an example of this when they had to discern what information was relevant and what was not. The wiki will make a difference in terms of the school's history. They can use the skills with confidence now so hopefully they will transfer them to another web 2.0 opportunity.

Limitations

When a teacher lacks expertise with the new technological tool being introduced then ascertaining prior knowledge of the students and/or noting individual difference is very difficult. Learners' responses and prior knowledge can vary quite significantly from each other in their actions. In this study, individual difference was noticed, but greater observation during the initial phases may have made this easier for some, and more challenging for others. Secondly, the students did not seem to develop a design concept before starting work beyond the notebook theme, even though they had paper-based resources to refer to. This may or may not have intruded on their creativity. Once they realised how easy it was to present work so others may view this, they gave little attention to the writing process and more to the visual. Perhaps they required greater opportunities to reflect and critique the process of composition and the decisions they made. Thirdly, the design of the wiki does not necessarily create learners as communities who can transfer what they are learning to a new

situation. The making of another wiki independent of their teacher would demonstrate if and how they might apply this knowledge or subsequent web pages without teacher guidance.

Conclusion

Despite the small scale of this research, the findings here do concur with other studies which have suggested technological changes inherent in reading, writing, and producing on-screen compared with reading and writing print-based texts, are significant (Anstey & Bull, 2010; Walsh,2010). As a result, it is paramount to embrace the social, collaborative practices of literacy as part of the continued development of Web 2.0 technologies. Without the observation, discussion and reflection that the teacher engaged in, the final product may have been limited to the development of the skills and understandings the students were capable of.

Final comments from Sharon demonstrate a changing perspective.

> I'm much more aware of learning to step back, to accept my students for who they are and what they can bring to the discourse of the classroom and learning contexts. It's not that I haven't been conscious of this but in terms of online technologies I no longer feel I am 'keeper of all knowledge'. I can sit back and relax to a certain extent. I have enjoyed reflecting on my theories of literacy beyond the traditional reading and writing practices I am so familiar with.

I'm really concerned about how I design the tasks for internet use and how to encourage more talk around the language that goes with ICT. The professional reading is thought-provoking and gave me the opportunity to read, think and discuss other people's ideas.

This case study facilitated a pedagogical shift from traditional teacher-centred instructional approaches to student-oriented, constructive learning and, ultimately, to student self-sufficiency and motivation. The orientation does not preclude knowledge transmission or skills teaching, but operates within it. According to these approaches, teachers and children collaborate as joint investigators seeking to develop understandings together. "Teachers can transform their teaching role through the deliberate and considered use of ICT" (MoE, 2006.

p.10). The affordances of information and web-based communications technologies allow for the exploration of innovative approaches to supporting the teaching practice experience.

References

Anstey, M., & Bull, G. (2006). *Teaching and learning multiliteracies: Changing times, changing literacies.*Newark.DE: International Reading Association.

Anstey, M., & Bull, G. (2010). *Evolving pedagogies: Reading and writing in a multimodal world.* Curriculum Press: Education Services Australia Ltd.

Burnett, C. & Myers, J. (2006). From observing children writing on screen: Exploring the process of multi-modal composition. *Journal of language and literacy in education 8 (2)* 1-30.

Cope, B. & Kalantzis, M. (Eds.). (2000). *Multiliteracies: Literacy learning and the design of social futures.* London: Routledge.

Durrant, C. & Green, B. (2000). Literacy and the new technologies in school education: Meeting the L(IT)teracy Challenge? *Australian Journal of Language and Literacy, 23(2)*, 89-108.

Education Queensland. (2000). *Literacy futures: Report of the literacy review for Queensland state schools.* Brisbane: State of Queensland, Department of Education.

Heafner, T.L., & Friedman, A.M. (2008). Wikis and constructivism in secondary social studies: Fostering a deeper understanding. *Computers in the Schools, 25* (3), 288-302. Doi: 10.1080/07380560802371003

Kress, G. (2003*). Literacy in a new media age*. London: Routledge.

Lankshear, C. & Knobel, M. (2003). New literacies: Changing knowledge and classroom learning. *Journal of Early Childhood Literacy*, 3, *(1),* 59-82.

Lockyen, Lori; Patterson, John; Rowland, Gregg; Hearne, Doug (2002) Online mentoring and peer support: Using learning technologies to facilitate entry into a community of practice. *The Association for Learning Technology Journal* 10 (1), 24 – 31.

Makin, L., Diaz, C.J., & McLachlan, C. (2007). *Literacies in childhood: Changing views, challenging practice.* Victoria: Elsevier.

Merchant, G. (2009). Web 2.0, new literacies, and the idea of learning through participation. *English Teaching: Practice and Critique, 8* (3), 107-122.

McDowall, S. (2010). Literacy teaching and learning in e-Learning contexts. Research project by CORE Education and New Zealand Council for Educational Research. Report for Ministry of Education. Retrieved: www.educationcounts.govt.nz/publications

Moreillon, J.(2001). What does technology have to do with it? Integrating electronic tools into a children's literature course. *Reading online, 5* (2).

Ministry of Education, (2003). *Digital horizons: Learning through ICT*. Revised edition. Wellington: Ministry of Education.

Ministry of Education. (2006). *Enabling the 21st century learner: An e-learning action plan for schools 2006-2010.* Wellington: Learning Media.

Ministry of Education (2007). *The New Zealand Curriculum.* Wellington: Learning Media.

Ministry of Education. (2009). *Learning through talk: Oral language in Years 1-3.* Wellington: Learning Media.

Prensky, M. (2001). Digital natives, digital immigrants. *On the horizon. 9* (5). 1-6.

Prensky, M. (2005). Engage me or enrage me: What today's learners demand. EDUCAUSE Retrieved: http://www.educause.edu/ir/library/pdf/erm0553.pdf

Snyder, I. (Ed.). (2003). Silicon literacies: Communication, innovation and education in the electronic age. London: Routledge.

Thorne, S. L. (2008). Mediating technologies and second language learning. *Handbook of Research on New Literacies.* USA: Lawrence Erlbaum Associates.

Thorne, S.L., & Payne, J.S. (2005). Evolutionary trajectories, Internet-mediated expression, and language education. *CALICO, 22*(3), 371-397.

Walsh, M. (2006). The 'textual shift': Examining the reading process with print, visual and multimodal texts. *Australian Journal of Language and Literacy, 29 (1),* 24-37.

Walsh, M. (2007). *Literacy for E-learning and multimodal classroom contexts 2006.* Project report for Catholic Education Office Sydney and School of Education (NSW), Australian Catholic University.

Walsh, M. (2008). Worlds have collided and modes have merged: Classroom evidence of changed literacy practices. *Literacy 42 (2)* 101-108.

Walsh, M. (2010). Multimodal literacy: What does it mean for classroom practice? *Australian Journal of Language and Literacy, 33* (3), 211-239.

Wenger, E. (2004). Communities of Practice: A brief introduction. Retrieved: http://www.ewenger.com/theory/index.htm

Wright, N. (2010). E-learning and implications for New Zealand schools: a literature review. *Report to the Ministry of Education: Research & Evaluation.* Retrieved: www.educationcounts.govt.nz/publications