Chapter III
Pedagogic Potentials of Multimodal Literacy

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ABSTRACT

This chapter discusses the changed nature of literacy within new communication contexts, the literacy that is needed for reading, viewing, responding to and producing multimodal and digital texts. Potentials for redesigning literacy pedagogy within new modes of communication are demonstrated for educational contexts. As a basis for this discussion, the author analyses classroom evidence using examples of three case studies from a research project conducted in primary schools in Sydney, Australia. In the research project teachers in several primary schools worked with the author/researcher to consider ways of redesigning literacy pedagogy within e-learning and multimodal classroom contexts. Interesting and significant changes occurred in their classroom practice. Teachers developed programs that incorporated a range of technology, including Web 2.0, and were able to maintain a balance between print-based and new literacies. Examples are presented and discussed to highlight the differences in pedagogy needed for ‘multimodal literacy’ combined with traditional literacy practices.

INTRODUCTION

There is now an acceptance of the textual shift that has occurred for today’s students whose environment is filled with visual, electronic and digital texts. The terms ‘multiliteracies’ (Cope & Kalantzis, 2000; Unsworth, 2001), ‘new literacies’ (Lankshear, C. & Knobel, M. 2003), ‘multimodal texts’, ‘multimodal discourse’ and ‘multimodality’ (Kress & van Leeuwen, 1996, 2001, 2006) represent attempts to describe the textual shift that has occurred and to conceptualise the changed learning paradigm that is fundamental for literacy and learning in an age of increased digital communication.

Students of today quickly learn the range of technology that allows them to multi-task with a variety of digital media and mobile technology to surf the internet, send a text message or photo to a friend, play a digital game while listening
to music, or create their own multimedia texts through hybrid texts such as weblogs. ‘Texting’ or SMS messaging is part of what has been termed the new ‘textual landscape’ (Carrington, 2005) that has expanded rapidly with the introduction of Web 2.0 technology. The multi-tasking involved in texting, that may incorporate rapid use of abbreviated spelling, numbers, photos, graphics and icons, is a skill needed for activities such as blogs, wikis, podcasting or gaming. Moreover, this multi-tasking itself incorporates the merging and synchronising of text, images, sound and movement. Do we really know how such multi-tasking and morphing is affecting the way children learn? Are the processes involved in activities such as texting, blogging, or communicating online developing different cognitive abilities than those required for reading and writing traditional print-based texts? Or are these new modes of communication merely requiring traditional literacy skills to be applied to new types of texts?

Such questions are currently being investigated by many researchers worldwide. We are in a time of transition with new theories and new pedagogy evolving while at the same time newer forms of digital communication are emerging. There are arguments that classrooms are in danger of becoming redundant unless significant changes are made to curriculum and assessment practices. A recent report in the United Kingdom (Bearne et al, 2007) has shown that children of all ages are more likely to access digital rather than print-based texts outside school. This research has implications for the use of texts inside school. We need to consider what type of pedagogical shift is needed to incorporate the textual shift that has occurred and the underlying digital cultures that are embedded within multimodal communication. There are many reasons why schools cannot be expected to replicate the multimedia experiences that students engage in outside school. However we do need to examine how new modes of communication can be integral to classroom communication.

Curriculum documents and assessment requirements for reading and writing are based on established theories around the reading and writing of print-based texts. These theories have determined specific approaches and strategies for teaching reading and writing to assist learners at all stages of learning. We need ongoing research to theorise the interactions that occur as readers process various visual, aural, spatial and textual modes, separately or simultaneously, in digital texts. Do students read digital texts for meaning in the same way as they read print-based texts? What digital reading strategies need to be developed for deeper levels of inferential, analytical, critical and evaluative understandings? What differences are there between the process of sending a text message and handwriting a message on paper? How do we incorporate the possibilities of imaginative design and production possible for a website, blog or DVD into the writing curriculum?

If we consider the types of digital texts that students may access from the perspective of literacy education, it is evident that such texts involve much more than the traditional processes of reading and writing print-based texts. Often ‘reading’ may involve viewing, listening and responding, while ‘writing’ may involve talking, listening, designing and producing. In fact the traditional ideas of texts are blurred, as are the processes of literacy. Many texts have become hybrid texts that may involve an interchange of modalities and processes. For example, a blog is designed, produced and written for a screen to function online. It may include written text, images, graphics, video and sound and can be read, listened to and responded to by others with text, images, video or sound. The increased popularity of social networking sites like YouTube, MySpace, Facebook and Second Life, where people can participate with information about themselves or with a different identity, demonstrates that people are responding to the need to participate, create and produce their own texts for communication. Brun (2007) has highlighted this trend and has...
developed a theoretical framework around “producers” to encapsulate the practices and cultures that have developed around user-led environments of the Web, especially Web 2.0. People are not just viewing and engaging with the Web but using and producing their own versions of texts and/or participating in the texts of others. They are designing, creating and authoring their own work on the web in various ways. This is the digital environment that students of today are able to access and participate in.

While we may acknowledge this changed paradigm, we are a long way from understanding how these changes can be realised pedagogically. We need to investigate the way meaning is constructed through multimodal texts and different semiotic systems. The synchronous functioning of the modes of image, movement, colour, gesture, 3D objects, music and sound on a digital screen require a different type of ‘reading’ or ‘writing’, a literacy that entails non-linear and simultaneous processing. We need to understand the impact and demands of new forms of literacy mediated through more varied technologies including digital communication devices, internet search engines, social networking, interactive gaming, digital imaging, film and video. In addition to understanding how these are influencing students’ motivation and learning, we need to know how to develop classroom learning experiences that are appropriate for both conventional and new forms of literacy.

Several studies in recent years have investigated specific aspects of this complex area emphasising the importance of teachers knowing how to use multimodal texts and how to develop multimodal learning environments to enhance student learning. Kress, Jewitt, Ogborn, & Tsatsarelis (2001) have looked at the multimodal environments of Science classrooms while Jewitt (2002) has examined these environments in English classrooms. Bearne (2003) has examined students’ production of their own multimodal texts, demonstrating how they need to be incorporated in literacy assessment. Callow and Zammitt (2002), Unsworth (2003) and Walsh (2006) have examined the different types of reading needed for multimodal texts. Several ongoing studies are providing insight into the way the literacy curriculum needs be reframed for new modes of communication. For example, Unsworth, Thomas & Bush (2004) have investigated the way images are used in standardised tests while Simpson (2005) has analysed the pedagogy of online communication through ‘Book Raps’. Several researchers in the UK are investigating different aspects of digital literacies. For example, Marsh (2007) has been researching Primary school student’s use of blogs within the literacy curriculum. More recently Kalantis and Cope (2005) and Healy (2008) have been developing and applying a ‘Learning by Design’ curriculum that extends further on Cope & Kalantzis’ (2000) ‘multiliteracies framework’, and Walsh (2008) is analysing classroom examples to theorise the exact nature of multimodal literacy within classrooms.

This chapter now presents an analysis of three examples of case studies from a recent research project to demonstrate the potential for changed pedagogy. The three examples are from a large study conducted in several primary schools in the metropolitan area of Sydney, Australia. Each of the schools had large numbers of students from language backgrounds other than English and from a range of home languages. Although only three out of seven case studies are described here, they represent patterns and interactions that were typical of all the case studies across the different classes and schools.

THE STUDY

The aim of the research project was to consider the pedagogical applications of new modes of communication within classroom contexts. The project’s research focus was designed to investigate two questions:
i. What are the literacy strategies that students need for reading, using and producing multimodal texts?

ii. What is the relevant and explicit pedagogy appropriate for integrating multimodal literacy with conventional literacy practices?

The design of the study was an incorporation of professional learning and research, therefore collaborative and investigative on a number of levels. Teachers were engaged in learning to review theories of literacy within new communicative or multimodal environments while considering current research in the area. They worked collaboratively with the researcher who provided input and support at different stages through the project. Teachers in many of the schools worked in a team and this collegial process was reinforced by the meetings with the whole group at different times throughout the year. The research undertaken was qualitative, using a multiple case study focus. Each case study involved one or more teacher or, in some cases, students from different classes across the years of primary school. Data consisted of teachers’ programs, video tapes of classroom episodes, teachers’ notes, observations of students by researcher and teachers, and samples of students’ work in print and digital mode.

The project involved teachers and students in primary classes ranging from Kindergarten (first year of school) to Year 6 (11 to 12 year olds). A wide variety of programs were planned by the teachers so that they addressed a range of outcomes across different Curriculum areas, such as Mathematics, Human Society and Its Environment (HSIE), Science and Technology and Creative and Practical Arts (CPA). The study entailed progressive stages that involved three full day meetings with all the teachers. In these meetings teachers were given detailed information about the purpose of the project, guidelines and procedures, their role as ‘teacher researchers’ and further professional development regarding current theories and research on visual and multimodal literacy. Ethics approval was obtained from the researcher’s university and appropriate procedures were followed according to the guidelines to obtain consent from principals, teachers, parents and students to maintain confidentiality and privacy. At the end of the project, the teachers demonstrated, discussed and reflected on the outcomes of their work. Teachers produced their own written and/or digital reports and a DVD with examples of classroom episodes was produced. Some teachers have since presented at conferences with the researcher.

A rich range of data was obtained and analysed in relation to the two research questions. While each case study involved students of different ages and topics, consistency was maintained through the analysis which coded data to identify specific aspects of literacy and Information and Communications Technology (ICT) skills used within the learning experiences. Specific aspects of literacy that were identified were talking, listening, reading and writing. In talking and listening experiences, we identified where students were using talking and listening to learn, to respond to texts, to problem solve, to collaborate, and to develop metalanguage of the literacy/learning process itself or of the content area. For reading, we used Luke and Freebody’s (2002) reading practices (coding practice, semantic practice, pragmatic practice and critical practice) to identify various aspects of decoding, comprehending and responding to texts. For writing, we identified knowledge of text genre, structure and language that was needed for particular tasks. All of the literacy criteria were not identified in all tasks but they provided a consistent framework for analysis. Similarly we identified where students used different ICT skills and strategies as they worked with digital texts.

The ensuing discussion shows some of the analysis with reference to three examples from the research project. The examples demonstrate how, through the analysis, we examined ICT skills that were linked to literacy processes. Through this...
analysis we were considering whether the use and production of digital texts was changing the nature of literacy itself, and to what extent pedagogy needs to be redesigned for such changes.

THE LITERACY STRATEGIES
STUDENTS NEED FOR READING, USING AND PRODUCING MULTIMODAL TEXTS

In each of the case studies, the teachers embedded digital technology into their literacy program thereby creating multimodal environments where students worked with and incorporated different modes of print-based and digital texts within curriculum tasks. There were many literacy strategies that were used by the students that could be described as ‘the same’ as those used with traditional classroom texts in English and other Curriculum areas. Aspects of literacy that are defined in current curricula, i.e. talking, listening, reading and writing occurred with various levels of meaning-making. There were, however, a number of ‘differences’ in the way these aspects were operating. These differences have been identified in the data as related to the convergence and interrelationship between modes of spoken and written language, sound, image and gesture. This convergence will be examined in the following discussion, using several examples from the learning episodes that students were engaged in.

Example 1. Convergence of the modes of sound and image with traditional writing

Podcasting is a development within Web 2.0 technology and it enables a range of modes to be used in the production of a multimedia experience. Example 1 illustrates a teacher’s work with a class of Year 3 (8 year old) students who produced podcasts. The students were engaged in a range of literacy tasks of researching, planning and writing texts for broadcasting while learning about the technology of using audio and video files to produce their podcasts. In pairs, students were required to plan, develop, draft, produce and edit a 5-8 minute podcast suitable for sharing with a broad audience. The final podcasts were uploaded to iTunes as well as onto the School’s website. Table 1 summarises the learning experiences that students were engaged in.

The description in Table 1 is a summary of detailed work that occurred over a number of weeks with the teacher modelling and scaffolding different stages of the process. The students’ work was linked to curriculum outcomes and assessed within this rich learning environment that incorporated those aspects of literacy identified in curriculum documents as talking, listening, reading and writing along with aspects of digital technology. Table 2 shows an analysis of the literacy processes within these learning experiences, considering those processes that would normally be considered ‘literacy’ and those that

Table 1. Learning experiences with podcasting, integrating English, Science, Mathematics and Human Society and Its Environment (HSIE)

- Teachers and students examined the components of a podcast and the technology needed. Students listened to examples of other podcasts and the teacher explained the stages of the podcast that students would produce: Title, Greeting, Introduction, Information Report (Spider), Narrative Episode, Conclusion.
- In pairs students planned different parts of their podcast with the additional criteria of combining words, pictures, music and sound effects.
- Students wrote storyboards for each section, took digital photos, saved and varied these using ‘Comic Strip’/Photo story software, used graphics, pictures, artwork and learnt how to combine these into the podcast files.
- Students practised recording in pairs with microphone and edited their recordings; added and edited sound and music using Garage Band software.
- Students evaluated each other’s podcasts then podcasts were uploaded to iTunes.
are ‘different’ because of the incorporation of
digital technology. The left hand column shows
those literacy practices defined in current English/
Literacy curriculum documents. The right hand
column shows processes that are now identified
as ‘different’, different because they suggest
changed literacy and learning practices that occur
within digital communication. Although viewing
has been included in some English curricula in
Australia for some time, aspects of viewing are
included in the right hand column as it is less
related to traditional views of literacy. While the
columns are separated for the purpose of analysis,
these processes were usually occurring together as
indicated by the arrow at the top of the table. It is
this integration of processes that can be defined as
a new type of literacy or multimodal literacy.

The differences in literacy practices evident
in the right-hand column are not just the result
of the use or integration of technology. Students
were engaged in processes that combine tradi-
tional aspects of literacy with other modalities
and **semiotic systems**. These processes involve
multimodality, which is a convergence, or an in-
terconnection and interdependence between the
modalities of written text, image and sound. In
the **podcast** the mode of sound was predominant
as students incorporated written text and visuals
into the audio production that included their use
of voice with simultaneous integration of music
and sound effects. There was the further visual
process of the editing of the recording, music and
sound occurring on the screen along with images
and graphics. All of these needed to be synchro-
nised into the final product that would be logged
as audio and visual files onto a website.

If we consider our first research question, **What
are the literacy strategies that students need for
reading, using and producing multimodal texts?**,
the answer has to include traditional literacy
strategies combined with the use of different mo-
dalities and semiotic systems. These modalities
have always existed but have not had the potential
within communication that now exists within
many aspects of everyday communication. As stu-
dents combine different modalities it is essential
that they understand them. For example, in the
podcasting text the mode of sound was predomi-
nant so students needed to learn to use aspects
of tone, intonation, pause, pitch, modulation and
stress in their voices as they prepared their text.
Our observations showed that they became very
conscious of their enunciation and of the effect
of their voice on the listener/audience. Music and

### Table 2. Analysis of literacy practices

<table>
<thead>
<tr>
<th>Literacy processes</th>
<th>‘Different’ processes</th>
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<tbody>
<tr>
<td>Reading: use of coding, semantic and pragmatic practice - linking of students’ background to new knowledge, understanding the purpose of different types of texts and audience.</td>
<td>Teachers and students learning together: using and learning ‘Web 2.0’ the technology of podcasting.</td>
</tr>
<tr>
<td>Researching and reading for information across other content areas. Integration of different content areas.</td>
<td>Understanding combined use of audio and video files.</td>
</tr>
<tr>
<td>At relevant times, teacher modelled and scaffolded the overall podcast genre with the different text types: information report and narrative, including concept of ‘serialised’ version or ‘chapters’ of narrative.</td>
<td>Viewing and designing.</td>
</tr>
<tr>
<td>Students planned and wrote different text types needed.</td>
<td>Awareness of elements of sound production through voice, sound effects, music and timing with visuals - use of laptops and iPods.</td>
</tr>
<tr>
<td>Peer collaboration and support essential throughout with teacher demonstration and scaffolding. Talking and listening occurred throughout.</td>
<td>Production of ‘storyboards’ for both information report and narrative using digital photos, graphics or drawings.</td>
</tr>
<tr>
<td>Varied use of ‘voice’ for different sections.</td>
<td>Combination of visual, written and audio modes - students composed and designed, read and recorded programs within a time limit with sound and music.</td>
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<tr>
<td></td>
<td>Used different ICT software, web protocols with associated metalanguage.</td>
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<tr>
<td></td>
<td>Visual and digital modes combined with text.</td>
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<tr>
<td></td>
<td>Viewing, designing, producing combined with talking, listening, reading, writing: all used in an interdependent process.</td>
</tr>
<tr>
<td></td>
<td>Developed a sense of an audience - ‘authentic task’.</td>
</tr>
</tbody>
</table>
sound effects were integrated while producing a text on screen and these were synchronised with visual modes. At the same time the use of written text was integral as a dominant mode since the students had to write each text-type, or genre, and plan the sequencing of the language for their audio production. This whole process demonstrates a different literacy where modes converge. It was evident that these 8 year old students achieved a depth of literacy and learning about information reports and narratives along with the design and production of the podcasting process. Engagement of students was high, particularly of the boys whom the teacher had found were often disengaged from classroom learning. There was a cohesion in the literacy and learning that occurred. This was indeed a multimodal learning environment that involved students working together: talking, listening, planning, reading, researching, designing, writing and producing. Example 2 demonstrates how multimodal literacy was being developed in a different way with Kindergarten students (first year of school).

Example 2. Interactivity of visual and gestural modes with reading and writing

One of the predominant features of an Interactive White Board (IWB) is its interactivity and this interactivity has been established by other researchers (e.g. Munns et al, 2006). IWBs were used in two different Kindergarten classes in this project and teachers spoke of the IWB as a most motivating, challenging and successful learning tool. Students enjoyed the speed, colour and movement of the texts and the kinaesthetic opportunities that the technology provided. Example 2 demonstrates where visual and gestural modes combined both literacy and learning in other content areas. In this case the school librarian and Kindergarten teacher planned a unit of work using an IWB within a unit of work on the theme of ‘Healthy Eating’, integrating the subjects English, Mathematics and Human Society and Its Environment (HSIE). Table 3 summarises these integrated learning experiences.

In this program the teachers used a variety of multimodal texts and concrete materials to engage their young students in developing concepts of print for reading, understanding of a literary narrative, shapes for mathematics and concepts of healthy food types. The tasks were based around the mathematical concepts of shapes found in the environment. Teachers aimed to relate these to the students’ life experiences and integrated the mathematical manipulatives with Science and Technology, focusing on both healthy eating and farm animals. Story reading and concrete experiences were combined with use of the IWB, digital photography, interactive computer programs and

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### Table 3. Kindergarten students working with the theme of ‘Healthy Eating’

- Teachers developed shared reading and reading activities with picture book *The Very Hungry Caterpillar*, including phonics, word recognition and comprehension activities.
- Students were encouraged to consider concepts of food types and healthy food.
- Shapes of food that represented healthy eating were examined as well as other shapes. Concrete objects were used to reinforce shapes e.g. an orange cut in half with discussion of what the shape looked like.
- Teacher modelled correct computer/mathematical terminology for the students.
- Students used a Tangram computer program to manipulate shapes. 2 & 3 dimensional shapes were made with playdough then on a geoboard. Students worked in groups to identify and make patterns with different shapes, then created an image of piece of fruit with Microsoft Paint.
- Students used interactive website - ‘The Salad Factory’ - making a healthy salad [shapes/colours].
- Visual identification and digital photography were used as students explored playground/local environment to identify shapes in a ‘shape hunt’. Students found a shape, took a digital photo, downloaded it on to the computer and IWB. Digital photos were categorised and highlighted to identify shapes. The IWB was used to transfer photos of shapes and work with these.
- Students used blocks to make the shapes that they could see on the IWB.
Photo Story software. The differences between literacy practices with print and digital texts are displayed in the two columns in Table 4.

Table 4 demonstrates that a variety of rich literacy and learning experiences occurred for these young students across different curriculum areas. It is evident that the teachers continually scaffolded students’ learning as they segued between prior knowledge and new experiences, concrete and abstract learning, and print and digital modes. In this case the modalities that were used to accompany traditional literacy and learning were principally visual and gestural, with gestural linked to both tactile and kinaesthetic senses. These modalities were operating as students identified and made different concrete shapes that were transferred into digital interactions either with computers or the IWB. These interactions involved visual recognition of images and gestural aspects that included the physical movement of using the mouse to click on icons or hypertexts and students pointing to significant images or shapes as well as using and manipulating the IWB board marker on the board.

Visual, tactile and kinaesthetic senses have always been important for learning, particularly for young learners. However the differences that were occurring in this example, and in other cases in the project, were in the way these sense experiences were used with and transferred into digital modes. In one way we could argue that this is traditional learning being enhanced by new technologies, however we need to acknowledge the possibility that a different process of learning is occurring in the way modalities are merging. This interdependence of print and digital modes, with the dominance of visual, sound or other modes together with the immediacy of technology, provides the potential for establishing classroom literacy and learning experiences that are dynamic and cohesive. Clearly the IWB technology engaged students’ attention so that they were motivated and interested in their learning. As one Kindergarten teacher commented, “Students are motivated by being able to touch something on the screen and move it around.”

The main differences in literacy processes while using the IWB were that activities were occurring within a digital mode using the electronic screen, windows and facilities of a computer and its software. This is quite different from the traditional reading lesson for young students

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**Table 4. Analysis of literacy practices for Example 2**

<table>
<thead>
<tr>
<th>Literacy processes</th>
<th>‘Different’ processes</th>
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<tbody>
<tr>
<td>Talking and listening were essential and ongoing for these young learners throughout. Language for students was continually modelled and scaffolded. For example, teachers encouraged students when they were outside and modelled language e.g. “Can you see something around here that is a triangle?” “I can see a rectangle over there. That is a window”. “How many triangles can you see?” “Why are the wheels round?”</td>
<td>Manipulation of shapes on screen. Tangram computer program - flipping, sliding, rotating, tessellating and discussion of shapes/features.</td>
</tr>
<tr>
<td>Reading and writing: concepts of print, word-picture recognition, understanding of a narrative.</td>
<td>Transfer of concrete and visual 3D knowledge to 2D in digital mode.</td>
</tr>
<tr>
<td>Integrated with mathematical concept of shapes, building shapes, development of tessellations with concrete materials and on screen.</td>
<td>Visual, graphic mode with animation and sound. Students used visual and audio skills to make a healthy salad.</td>
</tr>
<tr>
<td>Concrete manipulation of 3D shapes to 2D representations.</td>
<td>Visual, tactile and gestural modes. Reinforcement of 3D shapes then 2D - digital mode used to take photos of different shapes from playground.</td>
</tr>
<tr>
<td>Use of positional language, e.g. “flipping and sliding”.</td>
<td>ICT skills: students used tool bar and navigated the IWB- used a highlighter to examine the shapes found in the photograph on the screen. Students needed to correctly identify icon and use the tool bar to access the next photo.</td>
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<tr>
<td></td>
<td>Using the downloaded photos, students highlighted the shapes using the IWB pen, e.g. rectangle.</td>
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</table>
where a teacher might demonstrate reading with print-based texts using a large book or text on a conventional board or an overhead projector. The facility of the IWB for teaching reading, for example, meant that the whole class could easily view and manipulate the ‘reading text’ on a screen that had the same components and files as a computer. Teacher and students were simultaneously identifying and moving the words within a digital text. The obvious advantages were the facilities for displaying different aspects of the text easily, speed for completion and potentials for self-correction. Obvious questions that arise are, how do we ensure that students are not becoming dependent on the screen if they are not writing the words themselves? Are the same ‘reading/learning processes’ occurring as previously? The analysis of the data from this project is demonstrating that there are differences in the processing of modes and in the affordances that technology provides for simultaneous articulation of these modes (Kress, 2003; Walsh, 2006). One teacher commented on how she would not like to revert to a classroom without technology, saying, “I’ve become used to just dragging things across, making them easy that way. I would have to go back to pen and paper method… photocopying things and sticking it up on the board to draw the children in that way. I would find it very difficult.”

At the other end of the spectrum Example 3 shows the results of work by older students in Year 6. The teacher, who was initially nervous about using new technology, engaged her students in highly productive and innovative learning in a unit of work. This teacher created opportunities for students to read, write, view, design and produce in both print and digital modes so that there was a continual articulation between written and digital modes.

**Example 3. Articulation between written and digital modes**

This Year 6 class consisted of high ability students so the teacher developed the content to provide for students to work on material that required higher levels of abstraction and complexity. The unit of work was on the theme of ‘Change’. It integrated English, HSIE, CPA and Technology. There was a strong focus on creative thinking, group problem solving and divergent thinking. Within the theme of ‘Change’ the focus was on the Australian Gold Rush but students were required to research and report on information using a variety of resources, including the library and the internet. Table 5 summarises the learning experiences that occurred.

All tasks planned for this unit were product orientated and students were able to present their work to the rest of the class and, in the case of the movies, to other classes and parents. It was expected that students would demonstrate their

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**Table 5. Year 6 filming and editing within the theme of ‘Change’**

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<th>Task</th>
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<tr>
<td>- Within the theme of ‘Change’ students researched the history of gold and gold rushes: ancient civilisations, legends, fables and language about gold. They developed a timeline of events in Australia from 1700-2006; gathered information, identified and reported on an individual or group involved in the discovery of gold.</td>
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<tr>
<td>- Students examined the impact of the discovery of gold on the Australian Aboriginal community and used statistics to graph the population increase at the time and evaluate the reporting process.</td>
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<td>- Excursion to Bathurst assisted them to understand the experience of life on the Goldfields; compared different perspectives of life on the Goldfields; evaluated the influence these events had on the growth of Australia as a nation.</td>
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<td>- Students categorised the effects the goldrush and current mining techniques have on the environment.</td>
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<tr>
<td>- Concept of Change was further explored through literature and film e.g.: Reading the novel “Jeremy, Jeremiah”; viewing the film: “Fairytale, A True Story”. Guided reading from websites was based on topics from the movie.</td>
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<td>- Students researched the Holtermann Nugget and developed a mind map to plan a group film which was to be a narrative from the perspective of an individual effected by the discovery of the Holtermann Nugget.</td>
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<td>- Students used storyboarding on Comic Life as a narrative scaffold &amp; iLife; wrote a script as a narrative, set up scenes and costumes; dramatised the script, filmed &amp; edited it using GarageBand to import music and sound effects.</td>
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abilities to produce creative projects that exemplified the growth of their higher order thinking skills. Students were able to select from a wide range of products, both written and oral, to present their individual and group tasks. Opportunities were provided for short term and long term projects. The teacher commented, “The depth to which they undertook each task was far beyond my original expectations. It was interesting to observe the group task of movie making in particular and to note the ability of different members of the group to cooperate, negotiate and lead.” This unit had very little emphasis on teacher talk and indeed even discussions after viewing the movie and during Guided Reading rarely had the teacher in a central role, as the teacher said, “I enjoyed this aspect of the unit and found myself learning alongside the students. They responded to this in a positive manner and were eager to share their knowledge, not just with me but also with their peers. It was almost as if the classroom became a level playing field.” Table 6 shows that the literacy practices were occurring more often with digital than print-based texts.

Some students found the flexibility of structure a little difficult at first and struggled to work independently, but as the unit unfolded and the students observed their peers, they were able to engage in the tasks. When asked about the film study and listening to the story read aloud, many commented on the fact that all were sharing the same experience simultaneously so discussion and clarification of ideas could be shared together as opposed to individually reading a novel whereby students read at their own pace. The group included some reluctant readers who found it very difficult to settle to prolonged independent reading. In this work a rather quiet student became the class expert on all things to do with camerawork and editing. The teacher had to open the classroom at lunchtimes to have the movies completed and most students attended these extra sessions. Before the teacher could call in an expert to demonstrate the iMovie application, the students had taught themselves and were teaching other class members. Students taught themselves how to use GarageBand to add music and sound effects to the movies. All movies contained authentic details of life on the goldfields and some used the narrative technique of a time slip, as was used in the novel read aloud to them. Parents attended the premiere and were very supportive of the learning their children had been involved in.

The three examples presented have demonstrated that the merging and interdependence, or convergence of modes, that occurs within

<table>
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<th>Table 6. Analysis of literacy practices for Example 3</th>
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<tbody>
<tr>
<td><strong>Literacy processes</strong></td>
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<tr>
<td>- Talking listening &amp; reading throughout: research skills, working individually and in groups.</td>
</tr>
<tr>
<td>- Reading: semantic, pragmatic and critical reading practice occurred with various developments of inferential and evaluative comprehension needed.</td>
</tr>
<tr>
<td>- Writing and talking: students presented a report on their research to the class.</td>
</tr>
<tr>
<td>- Understanding the difference between information texts and narratives.</td>
</tr>
<tr>
<td>- Understanding and writing narratives.</td>
</tr>
<tr>
<td>- Understanding narratives in print compared with film.</td>
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<tr>
<td>- Narrative aspects of novel and film compared - print and digital texts. Used factual events and settings as basis [the Holtermann Nugget].</td>
</tr>
<tr>
<td>- Students wrote narrative scripts for film as a collaborative project, using the same narrative from different perspectives.</td>
</tr>
<tr>
<td>- Reading ‘contract’ applied to reading of film.</td>
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</tbody>
</table>
multimodal literacy and learning experiences involves a different literacy that many researchers are still attempting to theorise. In the podcasting example the process of the students’ writing being produced in audio and video files on to a website for others to access digitally is what Kress (2003) has referred to as “transduction”. Transduction is “…a process in which something which has been configured or shaped in one or more modes is reconfigured, reshaped according to the affordances of a quite different mode” (p.47). This transduction process is one aspect of multimodality. Alternatively there are other aspects that can occur within multimodality such as the interaction between visual and gestural modes that occurred in Example 2. Sometimes it is not transduction that occurs but a simultaneity and interdependence as different modes are processed together as in the modes of image, sound, gesture and movement that occur in a movie or in other combinations of modes. Currently other researchers are developing different terms, for example, “intersemiosis” (O’Halloran, 2003) and “co-articulation” (Martin, 2007), to further theorise the interrelationship between modes in a multimodal text or activity. Much more research and theorising are needed for us to understand such processes and to consider their educational applications. Nevertheless the classroom experiences that occurred through this project provide evidence of a variety of ways in which students were making interconnections or transitions between traditional aspects of reading and writing within visual and digital modes.

Further examples of a multimodal process occurred in other tasks where students were working with combinations of print-based texts and digital texts. For example, various activities on the IWB required students to identify information, drag across the appropriate text or visuals, enlarge items and change colour or size. These actions entailed simultaneous processing of visual and tactile modes, sometimes with sound effects along with aspects of reading, spelling or writing. In conjunction with this enthusiasm was a willingness to learn the metalanguage of computers. Teachers in the case study schools were conscious of encouraging its use. One Kindergarten teacher said children moved from

‘I am pushing on X’ to ‘should I close the window?’ ‘Do you want me to minimize or maximize this?’” Children were able to explain their processes to others: “We get the pictures ‘from [the] file ... from the desktop ... we’re using Max Paint.”

These three examples demonstrate that teachers were finding significant ways to integrate multimodal with traditional literacy practices and that all the teachers were involved in combining these in a variety of ways. Through their planning teachers were engaged in reframing pedagogy and this reframing is discussed in the next section.

THE RELEVANT, EXPLICIT PEDAGOGY APPROPRIATE FOR INTEGRATING MULTIMODAL LITERACY WITH CONVENTIONAL LITERACY PRACTICES

As with the cohesive learning illustrated through Examples 1, 2 and 3, other case studies revealed teacher approaches to pedagogy that incorporated both print-based and digital texts, integrated different curriculum areas, and focused on learning through different modalities, especially by transferring concrete experiences to digital modes. Teacher planning demonstrated that teachers were considering how to incorporate digital technology within one or more curriculum area in order to maximise students’ literacy and learning while using a combination of traditional, print-based texts as well as digital texts. Each teacher’s plan showed extreme detail that considered aspects such as the background knowledge and literacy ability of individual learners as well as the learning content needed for one or more curriculum area. There was effective integration of content
learning together with the strategies and skills that would be needed for researching, reading, writing and/or using ICT. Assessment was planned to be integral to the work and related to the relevant Syllabus requirements.

Innovative features of planning and multimodality occurred. There were significant changes that teachers made that were different from previous approaches to their teaching. These changes demonstrated that teachers were developing multimodal learning environments in their classrooms in various ways to allow for the stage of their learners and the resources available. One aspect that emerged through the data was the predominance of design within the reading and production of digital and multimodal texts.

**Design within the Literacy/English Curriculum**

Design in the school curriculum is usually associated with the curriculum areas of Science and Technology or Visual Arts. It is significant that design emerged as an integral process in all of the seven case studies. The potentials of digital technology provide facilities for photographs, film, graphics and sound to be incorporated in a text, including easier access and variation for layout, fonts and publishing forms. In recent years literacy theorists, particularly the New London Group (Cope and Kalantzis, 2000), Kress (2003) and Christie (2005), have stressed the importance of design within new modes of communication. As previously mentioned, Kalantzis & Cope (2005) and Healy (2008) are applying a new learning pedagogy of design within the context of multiliteracies. Such a focus on design within new pedagogy confirms Kress’s (2003) explication that design is a link between old and new media of communication, stating that:

*The world of communication is now constituted in ways that make it imperative to highlight the concept of design, rather than of concepts such as acquisition, or competence, or critique.*” He adds: “In multimodal communication, the concept of design is the sine qua non of informed, reflective and productive practice.” (pp.36-37)

Our data supports Kress’s contention, as design was predominant through all the case studies so that ‘informed, reflective and productive practice’ was occurring for teachers and students alike.

Design was integral within the literacy processes and learning experiences of students throughout the project. To read and respond to multimodal texts students often need to navigate and manipulate, as well as understand, the relationship between images, text, sound and other modes that may occur. They need to understand how the affordances of particular modes are constructing meaning separately or combined with other modes, particularly through photography, animation, film and the effect of hypermedia. Design was central within one of the case studies, for example, where the teachers developed a unit of work on fairytales using literature, drama, art and craft. Activities led to the design and creation of concrete as well as digital products so there was a cohesive merging of print-based and digital texts within the fairytale theme. Students produced a story in a print version and then a digital version with claymation, using props and puppets they had made.

In another example students in a Year 6 class produced e-narratives for Kindergarten students. Design was pivotal to this process. Within the development of narratives in digital form, along with filming and sequencing, students needed to understand the relationships between image and words, the colour and size of image and text, the importance of volume, pace and tone in the use of voice and sound to accompany the narrative. Through this process the teacher encouraged students to visualise what they thought was happening in their story. Once again this example shows that design was an essential feature of students producing a digital product for their
younger audience. Students needed to understand the whole design of pages on screen, visual and digital metalanguage, along with the technology needed to create narrative in digital form, e.g. loading photography, storyboarding, scanning, filming, recording and editing. When creating screen segments, students consistently requested other students to critique the effectiveness of their images in relation to their text. Evidence, from all the case studies, confirms that design is an important element that needs to be considered for literacy in all curriculum areas, particularly the subject English itself, where multimodal texts are being read or produced. Thus the conceptual understanding of design may assist teachers in redesigning pedagogy.

CONCLUSION

The data from this research project provides classroom evidence that enables closer theorising about multimodal literacy, particularly in relation to our two research questions. In response to the first question, What are the literacy strategies that students need for reading, using and producing multimodal texts?, significant conclusions can be drawn. To read and produce multimodal texts, students need to be able to combine traditional literacy practices with the understanding, design and manipulation of different modes of image, graphics, sound and movement with text. The case studies have shown that this combining of traditional literacy with new technology can incorporate a range of variations. Sometimes there will be a transference between written and digital modes that transforms the product. At other times there will be interactivity between modes, at other times a convergence of modes. This may be a simultaneous process or a particular mode, such as written text, image or sound, may be dominant. Then there is the consideration of how particular modes, for example sound or visual, are constructing meaning and being processed. While researchers may still be searching for the exact terminology, there is an articulation and interdependence that occurs when multiple modes are processed. This processing is quite different from our traditional theories of the processes involved in reading and writing print-based texts.

For the range of communication needed in their future lives students need to be able to understand, use and combine these different modes as well as being able to communicate with print-based and multimodal texts that combine these modes. While students may be adept at the skills for using and combining different modalities outside school, it is essential that they learn the meaning-making potential of these modes within different curriculum areas and learn to evaluate and critique these. Proficiency in literacy indeed requires multimodal literacy, that is the practices of talking, listening, reading and writing together with processing the modes of image, sound and movement. As the varied examples in our case studies have shown, there was cohesiveness in teacher planning and student learning when these were developed carefully with different stages that scaffolded the particular literacy or learning required.

In response to our second question, What is the relevant, explicit pedagogy appropriate for integrating multimodal literacy with conventional literacy practices?, each of the case studies contributed to the ways in which theory can be realised in practice. Each case study demonstrated how teachers planned units of work that drew on the potentials of multimodal texts or digital technology in innovative ways. Teachers constructed learning experiences with multiple layers of learning ensembles, combining concrete experiences and print-based texts with digital texts. There was a strong focus on teachers’ modelling and scaffolding students’ learning with all types of texts used and produced. Rich learning experiences were developed and these experiences enabled the gradual development of metalanguage and metacognition. The common
elements of the learning experiences were peer collaboration in investigating, reading, writing and producing multimodal texts as well as learning the content and skills needed for specific curriculum areas. The innovative approaches to cross-age grouping or learning were a result of teachers being given the opportunity to plan creatively to engage learners and to utilise the potentials of technology resources.

Although the term and process of design was not a focus in the initial briefing and planning of the teachers, the data reveals that it is an essential feature for multimodal literacy. The potential of design being considered within literacy pedagogy provides scope for understanding and planning with multimodality. If we consider the processes involved in reading, critically evaluating texts, writing and producing texts for particular purposes and audiences, then design is an integral factor. Design may be the significant factor that will assist teachers in the future as they need to incorporate traditional with multimedia and digital communication.

While a great deal of further research is needed, this research study has illustrated the potential for change in classroom practice in ways that can be beneficial for both teachers and students. Different aspects of literacy and pedagogy have been demonstrated and these have implications for new theories of literacy and for future pedagogy. Dynamic and cohesive learning experiences occurred without radical changes, within current Syllabus requirements and in ways that can be sustained. Teachers developed multimodal environments that were appropriate for our multi-media age but within the realities of their schools’ resources and students’ development. The case studies are evidence that classrooms can be places where print-based texts and digital texts are read, viewed, responded to, designed and produced. Such approaches can engender a holistic literacy and learning that involves listening, reading, viewing, talking and interacting with texts and with others. In this project teachers and students explored and demonstrated the potentials for literacy and learning in a new age.

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KEY TERMS AND DEFINITIONS

Multimodality: Refers to the simultaneous reading, processing and/or producing and interacting with various modes of print, image, movement, graphics, animation, sound, music and gesture. These modes, as well as language, are often referred to as different semiotic resources (Kress & van Leeuwen, 2001) in that they each are symbol systems for communicating meaning.

Multimodal Texts: Those texts that have more than one mode, such as print and image or print, image, sound and movement. A multimodal text is often a digital text but can be a book, such as picture book, information text or graphic text. Multimodal texts require the processing of more than one mode and the recognition of the interconnections between modes. This process is different from the linear reading of print-based texts.

Multimodal Literacy: Refers to meaning-making that occurs at different levels through the reading, viewing, understanding, responding to, producing and interacting with multimodal texts and multimodal communication (Kress & Jewitt, 2003). It may include listening, talking and dramatising as well as the writing, designing and producing of such texts.

Multimodal Learning: Environments refer to classroom environments where teachers and students are using and interacting with different types of texts and tasks across a range of curriculum areas. Literacy and learning may occur as cohesive processes in the interchange between texts and learners.

ENDNOTE

1 Definitions: ‘multimodality’, ‘multimodal texts’, ‘multimodal literacy’ and ‘multimodal learning environments’ Different terms have been used to describe literacy for new forms of communication, for example ‘new literacies’ (Lankshear & Knobel, 2000, 2003, 2006), ‘multiliteracies’ (Cope & Kalantzis, 2001; Unsworth, 2001, 2006) and various terms such as ‘digital literacy’, ‘information literacy’ or ‘e-literacy’. While these are all valid, the following terms are maintained within this study because of the theoretical and research base of multimodality within the field of literacy education (e.g. Kress & van Leeuwen, 1996, 2001, 2006; Kress, 2003).