Multiliteracies and the early years
Evaluation of Mapping Multiliteracies: a professional learning resource
Acknowledgements

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# Contents

Acknowledgements................................................................................................................. 2

Chapter 1................................................................................................................................. 5
  Executive summary.................................................................................................................. 5
  Introduction ............................................................................................................................ 5
  The evaluation findings .......................................................................................................... 6
  Future directions .................................................................................................................... 9
  Recommendations ............................................................................................................... 11

Chapter 2................................................................................................................................ 12
  The changing nature of literacy ......................................................................................... 12
  Mapping Multiliteracies: a professional learning resource ................................................ 13
  The increasing importance of visual texts ........................................................................ 15
  Multimodal texts .................................................................................................................. 16
  Taking a wide lens to view literacy .................................................................................... 17
  Literacy as representation .............................................................................................. 17
  Literacy as social practice ............................................................................................... 18
  Literacy as representation and practice ........................................................................ 19
  Summary .............................................................................................................................. 19

Chapter 3................................................................................................................................ 21
  Mapping Multiliteracies - the professional development resource .................................... 21
  Workshop 1 – The Multiliteracies Map ............................................................................. 22
  Workshop 2 – Community connections .......................................................................... 23
  Workshop 3—Reading and writing multiliteracies .............................................................. 24
  Workshop 4—New times, new learning ........................................................................... 25

Chapter 4................................................................................................................................ 26
  Evaluation methodology ................................................................................................... 26
  Case studies ......................................................................................................................... 27
  Electronic survey to Multiliteracies Facilitators ............................................................... 27
  Participants response survey: pre and post workshops .................................................... 27
  Summary .............................................................................................................................. 29

Chapter 5................................................................................................................................ 30
  Analysing the participants’ surveys: early childhood teachers .......................................... 30
  Early childhood teacher participants ............................................................................... 30
  What was surprising about children’s use of multiliteracies? ........................................... 39
  As a result of the program I will ..................................................................................... 41
The workshop model .......................................................................................................................... 41
The effectiveness of the professional development model ................................................................. 42
Summary ........................................................................................................................................... 43
Chapter 6 ........................................................................................................................................... 45
Responses from MM facilitators ........................................................................................................ 45
The Mapping Multiliteracies Facilitators ............................................................................................ 46
Summary ........................................................................................................................................... 50
Chapter 7 ........................................................................................................................................... 51
Case Studies ....................................................................................................................................... 51
Case study one: Creating multimodal texts in the first years of school ........................................... 51
Summary ........................................................................................................................................... 60
Case study two: Preschoolers born to a cyber world ......................................................................... 62
Summary ........................................................................................................................................... 72
Case study three: Working collaboratively - Every child has the right to play ................................. 73
Summary ........................................................................................................................................... 78
Case study four: Multiliteracies through the library ......................................................................... 80
Summary ........................................................................................................................................... 92
Chapter 8 ........................................................................................................................................... 93
Future directions—critical analyser and transformer ....................................................................... 93
Critical analyser of picture books ...................................................................................................... 94
Frameworks for critical analysis and transformer ............................................................................ 96
Critically analysing information texts ............................................................................................... 97
Summary ........................................................................................................................................... 101
Chapter 9 ........................................................................................................................................... 103
Summary of findings .......................................................................................................................... 103
Future directions ............................................................................................................................... 107
APPENDIX A ...................................................................................................................................... 110
APPENDIX B ...................................................................................................................................... 112
APPENDIX C ...................................................................................................................................... 114
APPENDIX D ...................................................................................................................................... 116
APPENDIX E ...................................................................................................................................... 119
APPENDIX F Example of using the Multiliteracies Map ................................................................. 130
References .......................................................................................................................................... 151
Chapter 1

Executive summary

Introduction
The Mapping Multiliteracies: a professional learning resource was developed as a result of the Children of the New Millennium research project conducted jointly by DECS and UniSA from 2002-2004. The evaluation of Mapping Multiliteracies: a professional learning resource was based on the following questions:

- How effective was the implementation model?
- In what ways did the Mapping Multiliteracies: a professional learning resource meet the desired outcomes to develop early childhood teachers’ understandings of multiliteracies and ways in which technology impacts on learning?
- What are some future directions for using multiliteracies in early childhood classrooms?

In 2006-2007 over 1200 early years’ teachers attended the Mapping Multiliteracies: a professional learning resource, a professional development program which was conducted either as four modules or two half day modules at school sites in a range of districts (see Appendices A and B). School and preschool-based facilitators conducted the workshop sessions. The module of implementation was a collaborative, locally based teacher mentoring approach where participants volunteered to attend, rather than a centralized mandated training by the department. The workshop materials were dynamic and designed so that the facilitators could change the materials and add their own examples.

The program’s underlying philosophy about teaching and learning was social constructivism; emphasizing the importance of culture and context in understanding what occurs in society and constructing knowledge based on this. Learning was viewed as a social process where meaningful learning occurs when individuals are engaged in social activities and higher order functions develop out of social interaction. Participatory action research was implemented. This type of research involves all relevant parties examining current practices with the goal of changing areas of concern to see improvement.

Along with the guiding philosophy of teachers’ active construction of knowledge was a need for an evidence-based approach to gather ongoing evaluative information regarding effectiveness of the program and possible future developments. The evaluation investigated the effectiveness of the program to develop early childhood teachers’ understandings of ways in which technology impacts on learning in homes and communities. To evaluate the effectiveness of the program multiple methods of data collection were used including teacher participant surveys both pre and post workshop sessions, interviews, observations and the compilation of case studies. The evaluation also investigated the use of the Multiliteracies Map (see Figure 1), a framework developed by teacher-researchers in the original Children of the New Millennium project which was used to plan and assess children’s literacy experiences.
The Multiliteracies Map framework provides a lens to view the operational or functional skills needed in literacy, understanding the meanings of different texts types, critical analysis of text intent and transforming what has been learned in new ways.

**The evaluation findings**

The evaluation found in a survey of preschool teachers and school age teachers, that the professional development was successful and there was a reported increase in early childhood teachers’ confident use of technology. In the initial survey 35% commented that they strongly agreed that they were confident users of technology and in the final survey 53% stated they viewed themselves as confident users. On the initial survey 20% indicated they agreed with the statement ‘I have a clear understanding of multiliteracies’. On the final survey the corresponding figure was 76%. Teachers were invited to comment on their understanding of the Multiliteracies Map. At the outset the level of agreement was 14% and on the final survey the figure was 70%.

The participants were invited to comment on the question ‘What has been surprising about children’s use of multiliteracies?’ Almost all of the responses noted the ease and confidence that young children demonstrated when using multiliteracies. Teachers also commented on the many different uses of technology in the home. Several teachers noted that home access was not equal.

In the teachers’ responses there was a strong theme about respecting and finding out more about what children already knew about technology. Teachers commented ‘giving children more ownership of their learning’ and ‘having children teach me more about their use of technology’. These responses were linked to teachers’ statements about how amazed they
were about how much young children knew about playfully creating texts when they started school. Teachers also wanted more training and development and on-going support for using new technologies. Most teachers (74%) agreed that the professional learning model was effective and commented on the skill and the enthusiasm of the local district based facilitators as well as the materials.

Some teachers commented that they wanted more ‘hands on’ experiences with computers and this may highlight the need for different forms of professional development. In fact the range of experiences mirrored the quadrants in the Multiliteracies Map, as some teachers were at the functional level needing to learn how to access various sites and use software while others were planning, critiquing curriculum and supporting children as they created and transformed texts into all kinds of digital texts. This professional development program only involved a very small group of early childhood teachers and there may be a large percentage of teachers who are not confident about using digital communication familiar to young children.

The 60 teacher facilitators were also surveyed and commented that the professional development materials were flexible yet supportive and they valued the training available to them as well as the release time to prepare workshops. The local district based workshops meant that schools could set up networks, links and continue to share ideas. There was also less travel involved as teachers went to local schools where they could also learn about how other preschools and schools organised early years teaching and learning. The facilitators co-presented often with one preschool and one junior primary facilitator and this crossing of school and preschool boundaries worked to enhance communication. The facilitators were at varying levels of development with new technologies and some facilitators had very sophisticated skills and some facilitators were learning along with the participants.

According to the facilitators, the Multiliteracies Map framework encouraged teachers to be functional users, meaning makers, critical analysers and transformers. This meant that teachers could focus on developing functional technical skills if required. Teachers also thought about the meanings communicated in children’s homes and communities using a range of different texts as well as honing their critical analysis skills in understanding authors’ intentions. Teachers could also transform ideas by generating new texts; applying them in different contexts sometimes using print based text and sometimes electronic text types. The Multiliteracies Map emphasises the importance of integrating all aspects—from function use, meaning making, critically analysing and transforming ideas, and this worked well in implementing the workshop sessions for participants as it did not let the technology take over and situated new technology, new texts, as part of literacy.

The case studies highlighted the value of the Multiliteracies Map as a framework for planning for learning in literacy and also for assessment. In the first case study six and seven year old children used a range of software to move between print based and multi modal texts. The children were carefully scaffolded to achieve success and the teacher modeled how to critically analyse the elements of various narrative texts. After learning how to critically analyse numerous texts for narrative features they then used these features to create new texts. First they created a new fairy tale in written language format. Then they made a visual story board with six frames and created three dimensional plasticene
sculptured figures of the story characters. Next they photographed the characters in various settings and moved the photographed Jpegs into PhotoStory software in the correct sequence. They applied a voice over and music creating a multimodal text.

The Multiliteracies Map provided the overall framework for the teacher to develop the unit of work. The Multiliteracies Map was also used with the children to help them understand that they were functional users, meaning makers, critical analysers and transformers and this framework was used in assessing the unit of work. For example, in functional user the children were learning the code or conventions of written and spoken narrative texts plus learning to use software for digital cameras in a PhotoStory. In meaning maker the children focused on comprehending the literal, interpretive and inferential meanings about the actual text which could be print or video and how a text connects and impacts on the audience or readers’ emotions. In critical analyser, critical thinking and analysis skills about accuracy, authenticity and the author’s message or intentions were analysed for values or moral purpose. In addition children compared and contrasted versions of stories and why these stories have been told to children for many years. In transformer the children were creating texts by combining the structure or elements of text and creating new texts using a range of different communication modes.

The Multiliteracies Map intersects with other frameworks and taxonomies with which teachers are familiar and draw on for planning literacy projects or units of work. For example, inquiry based learning, Bloom’s taxonomy and the notion of multiple intelligences and dispositions towards learning.

In case study two the preschool serves a community where email and digital photographs are the preferred way to communicate with friends and other family members. Children use digital cameras, sophisticated software and go online to find information at home and at school. At this preschool connections between home and school are facilitated by technology.

The preschool teachers had received ongoing professional development in a range of new software and enjoy learning about what technology can do, alongside the children. The preschool children moved easily between digital and print based texts and they enjoy print based books as well as multimodal texts. For these four to five year old children technology is an everyday tool for communication as when many of the preschoolers were born, their world was already an electronic, cyber world.

Two important issues were raised in the preschool case study. Firstly, the children tended to believe that everything online is accurate and the truth. Secondly, the children at home are familiar with high speed computers and it is a challenge for preschools to keep pace with the speed of development in new technology as the cost of upgrading every few years can be prohibitive.

In case study three a program for children who are new arrivals to Australia was implemented. There was an underlying framework of cooperative learning where children were encouraged to work collaboratively. The children developed a range of texts based on their own experiences at school and the use of cooperative skills meant that social skills as
well as communication skills were used as children learned to use the English language and related conventions. The use of cooperative learning strategies to randomly select group members and also group roles ensured that the children had to work together to complete the tasks. The children developed the rules for taking care of the digital camera and ways to analyse the effectiveness of the photographs.

The children worked in groups to mentor each other and this led to an increase in English language use for real purposes. The chance to work in randomly selected groups and in pairs or as individuals provided choices about collaborative and individual work, reduced the behavior management issues and encouraged children to work together rather than in opposition to each other. This freed the teacher and allowed her to work with children who required additional support.

The tasks of compiling power point presentations to show other teachers and parents engaged the children in all aspects of the Multiliteracies Map. The children used functional skills, meaning maker, critical analyser of photographs and transformer to create their products.

In case study four, the teacher-librarian and the teachers worked collaboratively demonstrating to children how to learn online and to create new texts with technology. The expectations for five year olds at the school were that they would develop the functional skills to use a range of software from Kidpix, PowerPoint, PhotoStory to FrontPage. The children engaged in all aspects of the Multiliteracies Map, critically analyzing information from web sites and the texts they produced. The teacher used an inquiry based learning approach to challenge and engage the children. The children have functional, meaning making, critical analysis and the skills to creatively transform a range of multimodal texts.

**Future directions**

Electronic communication and access to knowledge and entertainment is changing rapidly. Email messages are instantaneous and text messaging is an even more condensed immediate form of communication. Many people no longer print out emails preferring to answer on screen as quickly as possible as the response is expected to be immediate or at least within a day or so. Although paper letters are still used, there is an expectation that they take a lot of time to prepare. Books are read, however teachers commented that the reference books in libraries need to be culled as much of the information is out of date. New online ways of communicating are developing, for example Facebook is growing faster than MySpace as its audience has more than doubled since last year. We don’t know how many young children are engaged in reading and pasting photos and messages on Facebook. However we do know that more and more children are going online for information and it is difficult to protect young children from accessing all manner of sites.

In the early childhood years young children are playing computer games, surfing the internet for school related work and for leisure activities and this includes accessing chat rooms. It is paramount that learning to be a critical analyzer becomes central to curriculum in early childhood. Learning to be a critical analyser in a fast moving information world is of crucial importance. To develop as critical analysers children need the vocabulary to describe
and analyse the techniques used in these texts. In addition, critical analysts need to actively create their own texts as only by doing this will they understand the choices that authors have in creating texts that shape ideas, knowledge, values and beliefs.

Young children learn to be critical analysers by exploring the images and words in a range of texts. In picture books the images and words can be explored using vocabulary to describe how colour, perspective, vectors, foreground and background create meaning. In multimodal texts children can explore how visual design features, composition and auditory design features work to create meaning. In information texts several elements combine to communicate meaning. In addition, information texts add another layer of complexity as students have to learn how to locate information in table of contents, glossaries, indexes, titles, references, appendixes, author information, captions, labels, body text and text boxes.

The new forms of communication are exciting and the case studies revealed that many teachers are incorporating multiliteracies into their literacy program by using new technology as a way to create and transform new texts in reading and writing. They are carefully scaffolding children’s learning to move between print based and multimodal texts. They are finding content online and working with the Mapping Multiliteracies framework to support children to develop functional skills using software, creating and saving files. Children are creating new texts and are engaged in meaning making as they search for information on a variety of sites and as they create texts using software such as KidPix and PowerPoint.

The four case studies highlighted the value of the Multiliteracies Map as a framework for planning for learning in literacy and also for assessment and the case studies built upon the media habitus (Bourdieu, 1986) of the children and infused children’s access to new technologies into the curriculum.

Three of the case studies were conducted in schools or preschools serving high income communities and one case study took place in a school with a large percentage of new arrivals and children who were refugees. The preschool case study highlighted a widening gap or digital divide between young children’s homes with high speed new technologies and older, slower computers in the preschool. This digital divide between high income communities and their access to technology and the resources in the preschool points to a possible greater equity divide between communities who may not have access to computers and a divide between educators who have not engaged with professional development in the area. In addition we cannot assume that all families have skills to access to high speed technology and the time to support their children’s learning. Further research into the home-school equity and access to new technologies for four, five and six year old children is urgently required.

In early childhood there is a dynamic, integrated relationship between content, technology and pedagogy. How teachers integrate the three areas of pedagogy, technology and content presents interesting tensions in the field of study. For example new technology can create ‘technocentric’ learning focusing on the latest hardware or software programs and omitting consideration of how content and pedagogy and technology can be integrated. There is also
tension around the content of many early years’ policy documents particularly where literacy refers to print-based texts and popular culture, media and new technologies are dismissed.

Early childhood teachers in the workshops responded well to the face-to-face communication with other teachers and their colleagues as mentors presenting information. With the increasing use of new forms of literacy it is paramount that teacher professional development continues. This dynamic, creative professional development program is an effective model in that it provided a useful framework to develop and assess new knowledge and the information was local and developed in classrooms collaboratively with the expertise of university researchers and teacher-researchers.

**Recommendations**

- Further participatory action research for teachers into both home and school equity and access to new technologies for four, five and six year old children is urgently required.

- There needs to be continuing professional development for all early years’ teachers in the area of new literacies to keep pace with children’s access to the creative, electronic world in their homes and communities.

- Further professional development in the area of new forms of literacy is required using the elements of collegial mentoring, peer learning and networking, locally conducted workshops, facilitator training and a set of clear, comprehensive yet open-ended resource materials.

- To build expertise with new forms of communication, early years’ teachers require exemplars of innovative practice on how other teachers and children engage with new technologies.

- It is imperative that professional development is expanded to generate resources to support young children to develop as critical analysers and transformers of a range of texts in all curriculum areas.

- To generate new knowledge about children’s learning there needs to be ongoing collaborative research partnerships between Universities and Departments of Education.

- Professional development in the early years needs to involve educators in the prior to school area as well as educators in the first years of school in order to strengthen communication in all aspects of early childhood education.

- Combine program development with research and evaluation evidence which can confirm or disconfirm the success of various programs and be used in planning future initiatives.
Chapter 2

The context surrounding the evaluation of Mapping Multiliteracies: a professional learning resource

The evaluation of *Mapping Multiliteracies: a professional learning resource* occurred at a time when the digital era was developing very quickly and teachers in the early years were excited about the possibilities of what new technology could achieve in early years’ education. This chapter briefly summarizes the structure of the evaluation and then describes research projects which influenced the content and processes of *Mapping Multiliteracies: a professional learning resource*.

The evaluation of the implementation of the program was organized around the following questions:

1. How effective was the implementation model?
   - The model implementation of the *Mapping Multiliteracies: a professional development learning resource* was district based and involved teachers and facilitators conducting professional development for their colleagues.

2. In what ways did the Mapping Multiliteracies: a professional learning resource meet the desired outcomes?
   - The expected broad outcomes for four workshop sessions were to:
     - develop early childhood teachers’ understandings of multiliteracies and ways in which technology impacts on learning;
     - develop teachers’ understandings of multiliteracies’ use in homes and communities;
     - develop teachers’ understandings of how children read and write multimodal texts;
     - use the Multiliteracies Map to plan literacy experiences.

3. What are some future directions for using multiliteracies in early childhood classrooms?

The changing nature of literacy

The *Mapping Multiliteracies: a professional learning resource* grew out of a teacher-research project titled *Children of the New Millennium* research project conducted jointly by DECS and UniSA from 2002-2004 (Hill, 2005). The findings of the *Children of the New Millennium* project highlighted the need for teachers to not only develop their own skills using Information and Communication Technologies (ICT), but also to recognise and assess such skills in their students and develop them further.

While the initial research was conducted in 2002-2004, over the past several years there has been an increase in children’s home communicative practices which focus on popular
culture, media and new technologies (Marsh, 2006). In Australia the Australian Bureau of Statistics (2004) revealed that during or outside of school hours, it is estimated that 95% of all children used a computer and 64% accessed the Internet. The survey revealed that 5 - 8 year olds use the internet at home; to play games (68%), for school or educational tasks (65%), browsing for leisure (24%), and using email or chat rooms (23%). Young children aged four and five years of age were born into a cyber world with information available online, online shopping and many forms of multimodal entertainment.

**Mapping Multiliteracies: a professional learning resource**

*Mapping Multiliteracies: a professional learning resource* grew out of an Australian Research Council grant titled the *Children of the New Millennium*. This foundation research study involved twenty teacher-researchers exploring four to eight year old children’s knowledge and understanding of multiliteracies. In the first instance the teachers and researchers undertook a ‘technotour’ of children’s homes that revealed a high level of use of new technologies by children which was far greater than teachers had anticipated.

In most cases the children had access to and could use information and communication technologies (ICT) far in advance of the equipment that existed in many of the schools and preschools. Children were able to go online to websites that were often linked to their favourite television shows, use search engines to find information and often played interactive games online and with game software. New ways of building on the skills and interests from home emerged when teachers engaged some children as coaches or mentors in the classroom and capitalised on children’s ‘funds of knowledge’ by using similar software in school as at home. This was particularly so for children with special learning needs. The pedagogies of the teachers using new technologies were inquiry based and autonomous investigations and problem posing and solving were promoted. The multimedia software supported the creation of animations, movies, slideshows and explorations of digital still photography and video.

A pedagogical framework for mapping the depth and complexity of young children’s learning with multiliteracies was developed (Hill, 2005) and can be seen in Figure 1. The four interrelated dimensions while interrelated provided a lens for teachers to analyse what children knew about multiliteracies and helped reveal the next steps in planning for learning.
Figure 1: The Multiliteracies Map

The Multiliteracies Map provided a conceptual framework with which to examine four interrelated dimensions of multiliteracies.

The functional dimension involves the technical ‘how-to’ knowledge. This involves, for example, the mechanics of how to ‘turn it on’, ‘make it work’, recognise icons, decode sounds and symbols, relate sounds and letters, know how a book works, and read menus.

The meaning making dimension involves understanding how different text types and technologies make meaning in the world and how they may be used for our own and others’ purposes. The focus is on the purpose and the form of text to make meaning.

The critical dimension involves understanding that there is no one universal truth in any story and that what is told and studied is selective. It also involves critical selection of appropriate tools, texts and technology for a task.

The transformative dimension involves using what has been learned in new ways and new situations.

The Children of the New Millennium research showed that children as young as three and four years of age can represent meaning with digital photographs about their learning and they can play with these photographs importing them into slide shows, changing the layout, the colours and the shape (Hill, 2005). They could make books with photographs and their
own art work using a myriad of colours, backgrounds and this can have audio voice and sound effects and animation added to it. The research revealed that the traditional content of reading and writing needs to be broadened to include the use of multiple sign systems that represent meaning. Children in early childhood have always used construction, drawing or illustrations, movement and sound to represent meaning. The newer multimodal technologies merely add to children’s choice of medium to represent ideas and to comprehend the meanings in a range of texts.

It has become evident that digital literacies and print-based literacy are not oppositional concepts; both are required for effective functioning in the 21st century. In fact traditional print-based reading and writing was found to be vitally important for success in digital contexts. Writing was significantly important as a memory tool, for planning, designing and recording ideas and information. Reading was critically important for predicting, scanning, interpreting, analysing and selecting from the abundance of information. Young children are able to switch effortlessly between genres, scanning material for information, following procedures, searching by scrolling through menus, and interpreting icons and written instructions on tool bars. In other words, although reading, writing, listening and speaking are paramount; today’s students must be able to do more, as they decipher, code break, achieve meaning and express ideas through a range of media incorporating design, layout, colour, graphics and animation.

In fact, learning to critique the digital media, and consider whether the information is appropriate or accurate is more important than ever, considering the amount of time children are engaged with the screen. For many children preschool and school is the only place where they can learn to question the values and intentions of the many software programs and numerous websites. Teachers have commented about the need for practical examples of strategies they can use to support children to develop a critical orientation to multiliteracies.

The increasing importance of visual texts

Young children are increasingly bombarded by images, logos and symbols at an early age. They appear to read with ease the symbols, logos, text and colours to access computer programs. Children can access the internet by clicking on the ‘big blue e’. The KidPix icon is different from the WiggleWorks icon. The symbol for closing a program is the letter ‘X’. Arrows, dots, flashing lines, underlined text all represent different things on a computer screen. The browser ‘hand’ is universal in programs and means that this section of work either links to another section or website on the internet.

The visual design of the internet can make it easy for young children to access a huge amount of information. For example in a preschool after finding caterpillars in the yard, children used the internet to classify and find out more information about the ‘mini beast’. They used multimodal web-pages with visual information, text, icons and links to navigate. By searching through various web pages they were able to find pictures to match the caterpillar and were able to find out its scientific name. The use of a visual mode of communication supported this learning. The children took photographs of their caterpillars and made this up into a big book with the teacher’s help. Then they considered layout and
design as well as the visual effects from colour, perspective and close-up shots of the caterpillars. Children are able to quickly locate an enormous amount of resources and material through the use of the information rich internet. The visual aspect of the internet is something that can be a valuable tool to further enhance children’s understanding of their world.

Only since the 1980’s have neurobiologists and physicists begun to grasp how visual images and symbolic interpretations for thinking and expressing meaning, work. As the literacy researcher Shirley Brice Heath (2000, p. 122) writes ‘Simply put what amounts to visual perception carries meaning because the imagistic character of neural activity manages to link up with stored experience that gives coherence and embeddedness to primary sensory images’. When we use the internet and other multimodal literacies we move away from the narrow linear print only expectations of ‘reading’.

**Multimodal texts**

Visual texts are becoming increasingly important and so too are the multimodal components of texts. These multimodal elements combine in a variety of ways to communicate meanings

The following figure (Figure 2) provides a starting point for identifying the critical elements within the multimodal texts.

<table>
<thead>
<tr>
<th>Design element</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linguistic design</td>
<td>Vocabulary</td>
<td>Words used to convey a message</td>
</tr>
<tr>
<td></td>
<td>Metaphor</td>
<td>ICT figurative language ie trash can, window, cut, paste, desktop</td>
</tr>
<tr>
<td></td>
<td>Structure</td>
<td>Organisation of presentation</td>
</tr>
<tr>
<td></td>
<td>Delivery</td>
<td>How the message is conveyed</td>
</tr>
<tr>
<td></td>
<td>Modality</td>
<td>Auditory, print, video, graphics, animation</td>
</tr>
<tr>
<td>Audio design</td>
<td>Voice</td>
<td>Electronic, own voice, natural speech</td>
</tr>
<tr>
<td></td>
<td>Music</td>
<td>Selected or composed music</td>
</tr>
<tr>
<td></td>
<td>Sound effects</td>
<td>Selected or created sounds</td>
</tr>
<tr>
<td>Spatial design</td>
<td>Ecosystem</td>
<td>Interaction of all components</td>
</tr>
<tr>
<td></td>
<td>Geographical</td>
<td>Layout and landscape</td>
</tr>
<tr>
<td></td>
<td>Architectural</td>
<td>Construction, composition and organisation</td>
</tr>
<tr>
<td>Visual design</td>
<td>Colour</td>
<td>Mood and emotion</td>
</tr>
<tr>
<td></td>
<td>Perspective</td>
<td>Cultural significance</td>
</tr>
<tr>
<td></td>
<td>Vectors</td>
<td>Depth and dimension</td>
</tr>
<tr>
<td></td>
<td>Foreground</td>
<td>Point of view</td>
</tr>
<tr>
<td></td>
<td>Background</td>
<td>Directional ‘lines’ to focus attention</td>
</tr>
<tr>
<td>Gestural</td>
<td>Behavioural-action</td>
<td>Gestures</td>
</tr>
<tr>
<td></td>
<td>Sensuality</td>
<td>Creating atmosphere</td>
</tr>
</tbody>
</table>
Body control  |  Positioning and movement  
---|---
Emotion  |  Conveying feelings  
Kinesics  |  Body movements to communicate  

Based on the design elements in Healy & Honan, 2004, p. 21.

**Figure 2:** design elements of multimodal texts

**Taking a wide lens to view literacy**

What is literacy now that children read and write using new technologies? There are two over-arching theoretical constructs that recur in literacy theory and research. These constructs are ‘representation’ and ‘practice’ (Hill & Nichols, 2008).

**Literacy as representation**

Representation is the process of meaning-making using available resources. Traditional definitions of literacy have focused on the production and comprehension of print-based resources (writing and reading). Literacy is currently being redefined in order to encompass the kinds of representational resources that are increasingly supplementing or replacing traditional modes. This new approach is also termed the ‘semiotic’ orientation and can be summed up by the statement ‘text is more than language’ (Kress 1999, p. 468). In the same way that we can ask how individuals and groups use print to make meanings, we can ask how meanings are made and goals accomplished using other ‘semiotic resources’ such as oral language, visual imagery, numerical symbols and music (Lemke, 1990).

Early childhood research has made many important contributions to our understanding of how children make meaning using non-print resources such as drawing and speech. However these have not generally been considered as part of literacy, at least as it is practised by expert users. Rather these non-print representational practices have generally been understood as a necessary precursor to the acquisition of full literacy. While early picture books do require visual decoding skills as well as print literacy competence, children have traditionally been expected to move from these to print only texts. This is beginning to change as developments in information and communications technology require competence in a range of representational resources. Particularly with the advent of multimedia communication, the ability to use a range of representational resources, and to understand the relationship between them, is becoming crucial (Lankshear & Knobel, 2003).

For literacy educators, this means that it is important to understand how children make meanings using a range of modalities, not just in the ‘pre-literate’ years but all through their learning. A semiotic definition of literacy enables us to think about how all these representational resources are employed, even when the focus remains primarily on the production of a print text.

The semiotic model does not replace older definitions of literacy. Rather, it is inclusive of, and adds to, both the traditional print-oriented and the more recent language-oriented communications model. Figure 3 illustrates this:
Multiple sign systems and multiple modalities require a semiotic theory of meaning making

Print-based

Figure 3: Multiliteracies incorporates print based literacies

The inner circle in Figure 3 represents the traditional print-oriented definition of literacy. Here there is an emphasis on encoding and decoding print. The outer circle of figure 3 represents a language-oriented definition of literacy, which includes print but extends the range of representational resources to include oral language. In the outer circle, literacy encompasses print and language plus a broader range of representational resources, or modalities. For example in multimedia, print is combined with sound, movement and visual imagery to create complex texts which require the ‘reader’ to process in multiple modes simultaneously.

In learning to read and write research has tracked the development of children’s use of symbols to represent meaning. Ehri (2007) describes a developmental sequence from using the logographic principle to the alphabetic principle. In the logographic phase children recognize words visually by shape or by some defining visual feature. This means that words have to be memorized and often cannot be read out of context. In the alphabetic phase attention shifts to letters and sounds and unfamiliar words can be decoded. However other researchers argue that written English is more logographic than alphabetic (Strauss & Altwerger, 2007). More research is required in this fine phase of development between recognizing words as logos and the alphabetic system of written English; however the ease with which children read logos may account for why very young readers can access the logographic screen easily.

Literacy as social practice

Understanding literacy as practice is important as this means attending to the circumstances where representations are produced. These circumstances may include the local and broader social contexts, the participants and their relations to each other, the purpose of the activity, the way it unfolds over time, and the physical characteristics of the setting. The
literacy ethnographer Heath (1982) led the shift to practice-oriented approaches to literacy through her observational studies of literacy practices in diverse community settings.

**Literacy as representation and practice**

Complex studies of literacy, particularly those that are longitudinal and/or conducted in community as well as school settings, tend to include both representation and practice in their definitions of literacy. Snow (1991) for instance defines literacy as ‘complex relationships among reading, writing, ways of talking, ways of learning, and ways of knowing’. Labbo (1996) takes a semiotic approach to investigating children’s computer literacy. She points out that a semiotic approach inherently involves both representation and practice dimensions: ‘Semiotic analysis gives equal credit to the cognitive contribution of the individual child’s investigation of symbol usage as well as to the social contribution of the interactions that flow around and through those investigations’ (Labbo 1996, p. 359).

Literacy, today, is not print alone nor language but the ways meaning is represented in signs, logos, music, animation and forms of multimedia. As teachers and children explore the great wealth of texts present in children’s worlds the notion that the rules for producing different kinds of texts whether spoken written or visual, is somehow natural, universal and accessible to all cannot be substantiated. Rather the arbitrary rules for reading and producing different genres are community-specific and situation-specific. Once this idea is taken on board then all kinds of language can be analysed and explored and language can be treated as an ‘object of contemplation’ not just a tool for communication. The development of this awareness that language is an ‘object of contemplation’ has a further significance. It enables teachers and children to develop critical literacy with greater power to reflect on social inequalities. Some cultural groups’ ways of speaking may not be viewed and treated as legitimate in the classroom reflecting a minority status.

In schools it is not possible for teachers to predict each child’s unique forms of literate competence. Rather, a dynamic process takes place where teachers become inquirers into the literacies of their children’s worlds. In turn children become informants about their participation in social practices of literacy, and the representational resources that they are competent in using (Hill & Nichols, 2008).

Young children are problem solvers and very flexible sociolinguists who are able to speak, read, write and view a range of written and spoken language genres at home and at school. Teachers also live in multiple worlds and have access to a range of literacies. By bringing their own lives into the classroom, they can show the way in crossing the boundaries that divide their classroom from other worlds.

**Summary**

Literacies in early childhood education are changing as a result of new technologies. Multiliteracies refer to multimodal ways of communicating through linguistic, visual, sound, gesture and spatial forms. To be multiliterate requires the knowledge and skills needed to read, write and use both spoken and written language and sounds and images. To be multiliterate involves social and educational issues to do with fair and reasonable forms of access and equity, differential opportunity, and the practical production of the future. As multimodal texts become more sophisticated the children and teachers will depend more and more on the internet for information. Teachers and students will find themselves
jumping constantly across modes of information, guided by icons. New learning and teaching in early childhood will involve multimodal thematic-connected projects and it will involve ways of integrating visual and verbal learning in the curricula for the future. Now, and in the near future, we will see more consumer oriented, market-dominated consumption in a world teaming with information and services. Young children are more and more becoming the target for multimodal marketing and early childhood educators and young children will need to develop very stringent critical analysis of the purposes and uses of texts. Many early childhood educators have expressed a worrying lack of familiarity with computers and software which presents a very urgent need to undertake training in the functional aspects of new technologies. Along with developing functional know-how, early childhood educators may need to develop understanding of how meanings are created with multiliteracies and a critical eye regarding the educational purposes and outcomes of software-programs.
Chapter 3

Mapping Multiliteracies - the professional development resource

This professional development resource was designed to assist educators in planning and evaluating literacy programs. Educators are encouraged to utilise a wide range of ICT and develop all four dimensions in their teaching curriculum. The professional development resource involves a series of workshops that explore:

- The Multiliteracies Map
- Community connections
- Reading and writing multiliteracies
- New times, new learning.

The workshops are designed to be flexible and cater for the varying levels of interest and skills of participants. They are also offered in different formats – 4 workshops, 1 full day workshop, 2 half days, evening sessions, etc. Ideally they are conducted over time, to enable participants to practise the knowledge and skills developed during the workshops in their own sites. Unlike many other workshop and professional development events, participants are not required to come to a central location in Adelaide, but instead facilitators travel to the different areas so the workshops can occur at convenient locations in each district. Participants are invited to attend the workshops, they are not mandated, but whole sites are encouraged to join in. They are interactive and ‘hands-on’, providing practical examples of ICT activities to offer different age groups, and to show how to assess and evaluate children’s skills and development.

The workshops have been conducted throughout South Australia since February 2006. To date 60 facilitators have undertaken the training, from both preschools and primary schools, from 8 districts across South Australia – Flinders, Limestone Coast, Eyre, Northern Country, Southern Sea and Vines, South West Metropolitan, Salisbury and Inner South (See Appendices A and B). A District Officer also attended each session to further support educators in their districts.

Workshop participants are provided with an accompanying learning manual with details of each session, lists of resources and activities, and worksheets to complete. The workshops and facilitators are well supported by DECS and the content is closely tied to the Early Years Literacy Program. Additional reading material, resources, support and advice are offered at the Early Years website:

http://www.earlyyearsliteracy.sa.edu.au/
Workshop 1 – The Multiliteracies Map

Key Premises
From an early age young children engage with powerful messages of multimodal communication. Effective teaching and learning incorporates the multiliteracies of today’s world. The dimensions of the Multiliteracies Map support educators to provide comprehensive literacy experiences for all learners.

Expected outcomes
Participants will have the opportunity to:
- Develop their understandings of multiliteracies
- Explore the application of the Multiliteracies Map in their setting.

1.1 Overview of the four workshops
Workshop 1 provides an overview of each workshop and explores the pre-reading material provided which explains: what multiliteracies are and how they are used with young people; the Multiliteracies Map; the design elements of visual texts; and how to put a multiliteracies pedagogy into action. The pre-reading material also discusses some software and literacy programs available, and some of the issues that arise, such as teachers skills and classroom management.

1.2 The development of the Multiliteracies Map
Explores how the Multiliteracies Map was informed from the works of various researchers. Firstly, the print based work of Freebody and Luke (1990) and the four roles of the reader: code breaker, meaning maker, text user and text critic. This is then extended – Durrant and Green’s 3D model (2000) – to conceptualise a technology, literacy and numeracy curriculum, with its operational, cultural and critical dimensions. Finally, the work of the New London Group (1996) is explored which focused on; situated practice, overt instruction, critical framing and transformed practice.

1.3 DVD chapter: Mapping Multiliteracies
Time is spent viewing and discussing the Mapping Multiliteracies DVD also produced from the Children of the New Millennium project, which was filmed at various preschools and primary school throughout South Australia. This session shows young children engaging with a range of texts as part of their everyday experiences at preschool, and how easily they move from one mode to another.

1.4 Using the Multiliteracies Map
Explores how the Multiliteracies Map can be used on several levels with children, for example: by observing their functional skills; children’s understanding of texts and the intentions of texts; how they transform their knowledge into a range of different media; and how the map can be used as a reflective tool to decide the next step to take to enhance children’s learning. Practical examples are used to explore each interrelated dimension.
1.5 Summary
Outcomes and key aspects are revisited and participant questions answered.

Workshop 2 – Community connections

Key Premises
Children draw on their identity and associated home and community literacies when exploring the literacy of the educational setting. When educators connect with and use these, their understanding of children as literate learners is enriched and children’s learning deepened and extended.

Expected outcomes
Participants will have the opportunity to:
- Develop understandings of home and community literacies
- Use the Multiliteracies Map to examine children’s use of technology in the home
- Examine websites that children may visit.

2.1 Young children, media and technology
During this session the findings of two recent research studies are combined to show the interaction of very young children and technology. Implications for educators are explored and how these studies apply to a South Australia context. Firstly, Zero to six: electronic media in the lives of infants, toddlers and preschoolers (Rideout, Vandewater & Wartella, 2003) reports on a survey of more than 1000 parents conducted in the USA in 2003. The second study, Digital beginnings: young children’s use of popular culture, media and new technologies (Marsh, Brooks, Hughes, Ritchie, Roberts & Wright, 2005) was conducted in the UK.

2.2 DVD chapter: Home/school connections
This activity asks participants to record the literacy skills the children in the DVD demonstrate. For example, Functional – saving and retrieving files, using the keyboard, using different interactive tools. Meaning Maker – following prompts in literacy games, understanding the concept of email as a communication tool. Critical Analyser – understanding the navigation of hypertext, solving problems confidently. Transformer – sharing learning with others successfully, transferring knowledge about one tool/program/site to another tool/program/site.

2.3 Making the connections – home visits and other options
This section looks at the work of Marsh (2005), Fleer and Robbins (2005) and others and the learning children bring with them to the educational setting. The texts children are using in the home environment are explored and built on in the preschool or school classroom. For example, from the Children of the New Millennium project, one grandmother created a book she had made herself and shared with her grandson Kris. In the kindergarten the teacher suggested Kris use the digital camera to take some photos and create his own book, which he called – The learning of Kris.
2.4 Children’s websites
In this section the Multiliteracies Map is used as a framework to consider the skills children may use as they navigate their way through their favourite websites. Group discussions include – What skills are children using? How can you support young learners to be critical analysers? What did you as teachers learn? Following on from this final question, participants are asked to read and discuss Digital natives, digital immigrants by Prensky (2001).

2.5 Summary
Outcomes and key aspects are revisited and participant questions answered.

Workshop 3—Reading and writing multiliteracies
Key Premises
Reading and writing multimodal texts involves additional skills and understandings for all learners. Rich and comprehensive literacy programs incorporate new ways of engaging with and creating texts.

Expected outcomes
Participants will have the opportunity to:

- Develop their understandings of how children read and write multimodal texts
- Explore the use of digital technology in their setting
- Use the Multiliteracies Map to plan literacy experiences.

3.1 Interactive whiteboards
Group discussions explore the possibilities, experiences, problems and solutions concerning the use of interactive whiteboards in the classroom.

3.2 DVD chapter: Writing JP
This section explores how children read and write multiliteracies using an example of a Year 1/2 class which created their own clay animations and explored a variety of texts in order to do so.

3.3 Exploring the possibilities
Here the PowerPoint presentation, The very hungry silkworm, created by kindergarten children and based on Carle’s The very hungry caterpillar, is viewed. Facilitators then explain in detail how PowerPoint are created and how even very young children can be involved.

3.4 Planning for multiliteracies
Using the Multiliteracies Map individuals or partners are encouraged to plan learning experiences to integrate multiliteracies into the curriculum. Such plans may include the use of electronic books, websites, PowerPoint presentations, KidPix slideshows etc.

3.5 Design elements for multimodal texts
Many elements are integrated into multimodal texts including; linguistic, audio, spatial, visual and gestural design features (Healy & Honan, 2004). Teachers are made aware of the
power of these elements as they are explored in detail, since children are immersed in visual/multimodal texts, long before they reach school.

3.6 Summary
Outcomes and key aspects are revisited and participant questions answered.

**Workshop 4—New times, new learning**

**Key Premises**
Young children today operate in an ever-changing world. Their use of technology impacts on their learning and how they operate in this world. Educators can use the technology to assist their own learning and provide engaging and comprehensive programs for children in this digital age.

**Expected outcomes**
Participants will have the opportunity to:
- Develop their understandings of ways in which technology impacts on learning
- Examine and discuss useful online resources for educators.

4.1 Changing times
Involves participants in a fun activity exploring when different technological breakthroughs occurred. For example – did you know that ATM machines were invented in 1969? And a walkman not until 1974!

4.2 DVD chapter: New learning
The DVD is again used to explore the role of educators using technology with young children

4.3 Your learning
Participants work individually or in small groups to engage with print, electronic and oral resources and follow up their own interests. Suggestions include Learning styles, Multiple intelligences, the Technology School of the Future, ‘Travel Buddies’, creating digital portfolios etc.

4.4 Summary
Outcomes and key aspects are revisited and participant questions answered.
Chapter 4

Evaluation methodology

The evaluation was designed to assess the effectiveness of the *Mapping Multiliteracies: a professional resource* and designed around the following questions:

- How effective was the model of curriculum implementation?

- In what ways did the *Mapping Multiliteracies: a professional learning resource* meet the desired outcomes which were to:
  - Develop early childhood teachers’ understandings of multiliteracies and ways in which technology impacts on learning
  - Develop teachers’ understandings of multiliteracies’ use in homes and communities
  - Develop teachers’ understandings of how children read and write multimodal texts
  - Use the Multiliteracies Map to plan literacy experiences.

- What are the future directions for using multiliteracies in early childhood classrooms?

To investigate these questions there were several methods of data collection. A series of case studies were compiled at three different sites where MM facilitators worked either in the classroom or the library (Stake, 1995). The case studies were created to explore issues relating to the ways teachers were working with multiliteracies in the classroom. The case studies explored the questions which were used to guide the evaluation, specifically to explore how teachers used multiliteracies with young children.

To investigate how the MM facilitators viewed the model of implementation and future directions for multiliteracies, fifty-five MM facilitators were surveyed electronically by email and asked to comment on the following questions:

- The approach used to implement the PD
- What you got out of being a MM facilitator?
- Advantages of being part of the program
- Disadvantages of being part of the program
- Ways it may have changed your practice?
- Where are you heading now with multiliteracies?

Finally to explore the questions relating to teachers’ understanding of multiliteracies, the implementation model and future directions, the participants at the workshops were asked to complete an *Initial Participant Response* survey at the commencement of the workshops and another *Final Participant Response* at their conclusion (See Appendices C and D).
Appendix C and D were both in hard copy, however, the final survey was completed online, as a way of applying participants’ newfound computer skills.

**Case studies**

Three case studies were compiled at three diverse sites. The sites were selected to explore how teachers were using multiliteracies, the Multiliteracies Map and the ways MM facilitators worked in different districts. The MM facilitators were approached by DECS and invited to participate. It was hoped that more sites could have been involved but time and unforeseen health issues meant that sites close to the metropolitan area were selected. The cases studies were compiled from interview data, observations and collections of children’s work.

**Site one** is in a high socioeconomic area where the multiliteracies program was conducted by a junior primary teacher and a preschool teacher. The MM facilitator was the literacy coordinator at the junior primary school. She was interviewed several times and observations were conducted at workshops and in the classroom with children.

**Site two** is a diverse site with the majority of students from non-English speaking backgrounds (NESB). Of the 170 students, 131 were from NESB. The school also has 65% of students receiving school card. The MM facilitator was as member of the original teacher-researcher project.

**Site three** involved a teacher-librarian who was a MM facilitator in a junior primary school attached to a primary school with a focus on using new technologies to support children’s learning. The teacher-librarian worked from the library conducting weekly computer sessions with all children and their teachers in the junior primary school.

While the MM facilitators in the three sites implemented *the Mapping Multiliteracies: a professional learning resource* each site included site specific information and adapted the resource to suit the requirements of local participants.

**Electronic survey to Multiliteracies Facilitators**

There were fifty-five MM facilitators working in districts across South Australia. The facilitators were emailed and asked to comment on advantages and disadvantages of working as a facilitator and their visions for the future with multiliteracies. This email survey was sent at the end of the bust school year and the response rate was low at 10%. Many of the MM facilitators had moved on to new positions in the school, preschool or district, however most were continuing with using multiliteracies in their new positions.

**Participants response survey: pre and post workshops**

The responses of the participants of the multiliteracies professional learning resource were collected at the first workshop and after the final workshop. Responses were gathered using a Likert scale from 1-5 *strongly disagree* to *strongly agree*. There were spaces for participants to comment on each of the items. The response rate was 50% as 594 of the 1200 teachers who undertook the program responded. The percentage of *agree* to *disagree*
were calculated and in items relating to use of multiliteracies and the Multiliteracies Map 
statistical analysis of the responses were calculated.

The questions asked of participants at the first workshops were as follows:

a) I am a confident user of technology.

Please list examples of use.

b) I regularly use technology with my learners.

Please clarify how technology is used/list programs you use with young children (e.g. 
imovie).

c) I have a clear understanding of the concept of multiliteracies.

d) I have an understanding of how the Multiliteracies Map can be used in my literacy 
program.

e) I am hoping these workshops will...

The questions asked of participants after the final workshop were as follows:

Final Participant Response

a) I am a confident user of technology.

Please list examples of use.

b) I regularly use technology with my learners.

Please clarify how technology is used/list programs you use with young children (e.g. 
imovie).

c) I have a clear understanding of the concept of multiliteracies.

How has your understanding changed?

d) I have an understanding of how the Multiliteracies Map can be used in my literacy 
program.

How will you use the Multiliteracies Map?

e) What has been surprising about children’s use of multiliteracies?

f) As a result of participating in the program I will...
g) **How effective is this professional learning model**, (using district based facilitators, flexible workshop schedule, print materials etc) in supporting your understandings and practices in the area of Mapping Multiliteracies?

Please comment on the success of this model.

**Summary**

The evaluation used both qualitative and quantitative methods to gather information about the development of early childhood teachers’ understandings of multiliteracies and ways in which technology impacts on learning. The methodology also gathered data on the use of the Multiliteracies Map to plan literacy experiences and teachers’ plans for future development.
Chapter 5

Analysing the participants’ surveys: early childhood teachers

The Mapping Multiliteracies: a professional resource project involved 60 MM Facilitators who worked with 1200 teachers across districts within South Australia to develop the use of multiliteracies to enhance practices and student learning.

Early childhood teacher participants

The teachers who attended the workshops were invited to respond to an initial feedback form and an online final survey. 594 of the 1200 teachers responded, a response rate of nearly 50%.

The workshops involved preschool teachers and teachers in the early years of school. Of the teachers who responded to the evaluation, 22% were preschool teachers and the workshop sessions involved school age teachers and preschool teachers attending the same session.

| Preschool teachers | 130 |
| Teachers of school children | 375 |

There was a range of early childhood teachers reporting confident use of technology (see Figure 4). In the initial survey 35% commented that they strongly agreed that they were confident users of technology and in the final survey 53% stated they viewed themselves as confident users.

I am a confident user of technology

![Bar chart comparison of initial and final survey responses](image)

Figure 4

Comments on the survey about the use of technology were mostly limited to one line comments and in the final evaluation more information was forthcoming. The program raised teachers’ confidence in using technology. Far fewer teachers commented that they were not confident.
In the final survey comments ranged from high end users, where teachers commented:

   *I have been using technology since I was a child. I use it for everything.*
   *I use technology in a variety of ways and for a variety of purposes depending on the needs of the learners. I am also a keen user of the internet, have my own websites and blogs and regularly take part in online learning communities.*

Some low end users commented:

   *I am becoming more confident to integrate technology in everyday lessons thanks to this T and D session.*

   *I don’t use it unless I am forced to like now.*

   *I have basic computer skills and use a digital camera.*

In the initial feedback, a large group of early childhood teachers reported that they felt neutral about their confidence in using technology and 108 teachers (21%) commented that they were not confident.

When asked to provide examples of how teachers use technology, the most common response was digital cameras with 344 of the 594 responses stating that they use digital cameras. Digital cameras were used in a range of ways

   *I take photos and help children make slide shows with them. The children have been working on the skills of logging on, using tool bars, using the mouse, navigating their way around the screen, making slides in Kid Pix and then creating a slide show with sound effects and transition effects. They also type up recounts/sentences/spelling words and then drawing pictures using tool bars (not stamps).*

   *I love to use digital images and powerpoint for students to present their learning, as well as recording their voice on the power point. Students also using digital camera to record their own learning and they also are engaging in downloading images. The next step I would love to take is increasing my skills using Smartboards and having a Smartboard in each of our classrooms.*

   *We producing CDs for families demonstrating children’s engagement at preschool and we document growth over their year at preschool. I work with children to produce powerpoints about learning, taking digital photos with children. I have computers available for children to use a variety of programs such as living books and KidPix.*

   *I am currently making a Max Show with my Year 1 class. They are also working with year 3 buddies to complete it. The basis is a project on Responsibility. The project also involves Kindy buddies. I teach kidpix and publisher.*
I use digital cameras and computers to motivate students with disabilities within the classroom and as an assessment methodology.

I work with children in video production, animation, research, presentation, drawing.

I use the digital camera, smart board, computer, online projects, photo story, maths 300, cd-roms, email, dvd, and Skype

I take a lot of photos with a digital camera - sometimes these are printed or saved into a file for each child in my class. I use a variety of computer programs with my class - Kid Pix, Inspiration, Powerpoint, Word as well as CD-roms. I also scan photos and children’s drawings.

As I am the Science NIT R-3 and the RBL Teacher, I use digital camera and computer to record models made, experiments, research, publishing of projects, looking up websites for info.

We use digital cameras with children to retell recent experiences, then we insert this into powerpoint for parents to see our learning, and to share with colleagues. We use audio to record original music from electronic piano, to surf for topics and downloadable eduware for the preschoolers. We use emails to partner school and kindergartens.

I take photos of the children whilst they are at play, experimenting and while participating in various experiences. We show the children their photos. We also display the photographs and keep them as a record in the children’s portfolio as learning stories.

Personally, I use email, the internet, texting, digital photography, word processing. I am also studying for my Masters degree through UniSA- and the entire course is online- so I post tutorials, respond to others and submit my assignments online.

Digital cameras, computer games and use of the internet were frequently commented on. Teachers also reported on the use of smartboards in classrooms. Thirty one teachers commented on the use of smartboards and when smartboards were mentioned they were in the context of using digital cameras, scanning online projects, Photostory, email and the school intranet.

I regularly use technology with my learners
There was a range of early childhood teachers reporting confident use of technology (see Figure 5). In the initial survey 35% commented that they strongly agreed and agreed that they were confident users of technology and in the final survey 53% stated they viewed themselves as confident users.

In the teachers’ comments in the initial survey 168 of 512 did not comment or stated ‘never’ about how they used technology and those that did comment mentioned the use of the computer and computer games. There were some high end users who commented that they used smartboards, digital cameras and so on.

However, in the comments in the final evaluation (see Figure 6) the use of technology was more varied and richer, for example:

I use the digital camera to record children’s work or achievements. Children are beginning to use the camera to take their own photos. I’m inputting photos into Photo Story, with recordings of children’s voices for narration. The children are using the Kid Smart computer, with various programs that came with it, as well as Tux Paint and Kid Pix. I am also using a range of ‘commercial’ programs including Three Little Pigs, Muppet Babies and animated stories. I also research information and questions provided by children and staff on the internet.

I have introduced young children with a variety of options—depending on their level of interest & development—mouse control, program interest. I have Kidsmart Cafe and associated programs. Some children can navigate these by selves, others require assistance. I use the word processor for children to write their own names - they can select a picture to do with their area of interest.

I use Word to produce texts for example, a literacy activity of ‘Who sank the boat’ where the student produced their own book of the story. I then used Kid Pix where the students drew their own pictures of what happened in the story. I also use Kid Pix in maths for students finding shapes and learning shapes and patterning. I use digital cameras in the class where the students take pictures of themselves working during
literacy and numeracy times and these are printed out and glued into their learning journals.

I use word processing with importing files and typing programs (KEWALA), I use appropriate sites such as Eric Carle's site to develop students’ interest and techniques in artworks. The students learn how to use the video and camera through direct one to one teaching and through peer teaching.

With year 3 students I regularly use word, excel, powerpoint in presenting literacy learning across a range of genre. Students use a range of resources to research including internet. I have started using Digital Learning Band (dlb) learning objects. Students (and I) use the digital camera very often to record learning and events. These photos are filed into a public resource bank that can be drawn from by individuals to use in their writing for example, procedures, reports, reflections and self assessments. At present we do not have any interactive whiteboards. I (and students) also use a movie camera to record events.

I use technology in many ways depending on appropriate pedagogy. I use it in different learning areas eg Maths (2D & 3D shape, graphing, basic processes, tessellation, symmetry etc) Literacy, SE, Technology, Science. Programs I use include Word, Power Point, Publisher, Kid Pix, Excel (maths) and dlb objects.

We use digital cameras to capture learning and then use those image in emails, picture books (I-photo), we record our learning using Kid Pix (make pictures with text, make slide shows) we exchange emails with people overseas, inter and intra state; we listen to CDs; we use word processing (Word for Mac); we play with Garage Band; we’ve done some blogging; we play with ‘educational' software for fun such as Math’s Fun House; we access some ‘educational' websites such as starfall.com, grimmsfairytales.com; we do research, mainly on enchantedlearning.com

I use many programs with my students to enhance the work we are doing eg: power point presentations, microsoft word to write letters, word art or stories and publishing students work, kid pix for drawing and power point presentations, publisher to make title pages or book covers, maths games (targeting maths).

We use open ended software (Kid Pix, Appleworks etc) with the children as well as literacy and numeracy based software (James Discovers Maths, Living Bks, World Explorer etc). Digital camera to record children’s learning. Use the internet to source information that children request. We would love a smartboard in the centre.

In my role as a reading recovery teacher I sometimes use photos for writing. In my counseling role I sometimes use the internet for students to research areas.

I am a R/1 teacher and use Kid Pix with my students on a weekly basis both in structure and unstructured ways. Also use computer in classroom daily using a variety of programs. I have used Publisher and Kidspiration also with students and
recently introduced them to photostory. Students access programs like Baggin the Dragon, typing tutor, A day at the Beach from the classroom computer.

IWB is used daily for all curriculum areas. CD player used for listening post/relaxation. Digital camera to record events and learning. Video camera used to record events and learning.

Research ... google askjeeves Email Word games Maths games Word Publisher Powerpoint Digital cameras

I am a teacher of Reception students. The students regularly use the computers in both the classroom and the computer room. The program they mostly use is KidPix. They are able to access the elearning site. They regularly use the internet by using the sites that I have bookmarked

What is apparent from these comments is that technology is used across all curriculum areas and from skills’ practice to researching on the internet. The teachers commented that they select technology to enhance the learning that is planned. There were several comments about using Digital Learning Objects which are multimedia learning experiences and online resources and many teachers use a range of software programs. There was a tone of excitement, exploration and creativity in the responses as teachers were finding ways to use technology in a range of structured and unstructured learning experiences. Technology is used in documenting learning by teachers and by children.

I have a clear understanding of multiliteracies

![Graph showing initial and final survey responses regarding understanding of multiliteracies.]

**Figure 6**

On the initial survey 102 out of 519 teachers (20%) indicated they agreed with the statement ‘I have a clear understanding of multiliteracies’ (see Figure 6). On the final survey the corresponding figure was 440 out of 582 teachers (76%).

This shift was found to represent a highly significant effect, as indicated by a chi-square test, $X^2(1) = 344$, $p<.001$. 

35
The comments included:

I am much more aware of the fact that children today use electronic media as a matter of course, and that they will be using them at school to investigate and to report. Also that it is important to develop critical literacy when accessing commercial sites on the internet.

Using multiliteracies in conjunction with regular learning program rather than separate program, integrating multiliteracies across learning areas.

Thinking about the actual literacy skills, concepts and processes that children are engaged in while they are using technologies, not just because it's good fun but it also has an educative and social purpose. It's broadened my understanding of 'what counts' in literacy learning.

Encouraged me to think outside the square for developing children’s learning

This generation is growing up with computers and the need for understanding is crucial as computers are taking over and will be part of their life when they reach the job stage.

I actually understand the principles and concept of Multiliteracies eg code breaker etc. Not saying I am confident with each but my understandings and skills have improved and I even have mapped a program for the ESL learners in our school. I think that I programmed using basic concepts of multiliteracies but this training has enabled me to bring it altogether!

My understanding of the multiliteracies is fine. It is the practical application of using the multiliteracies that is of concern....time, manpower, computers all working when you need them to, resources etc. I also need my children to be able to read books and spell and write as well as being able to do these things on the computer. There is plenty of time for receptions to learn animation and ebooks later. There is not enough time in the day for all this stuff. Let’s be realistic about what is possible without teachers becoming more stressed.

Yes. I feel I have a much greater understanding of multiliteracies. I am feeling more comfortable with the knowledge it is not the technology we use but rather the way we use it. The best tool for the job - so if the digital camera is the best tool then that is the one we use. I also feel I am continuing to learn about technology - constantly. Constantly learning about what is out in the wide world and how we can tap into the resources and use them with the children.

Some of the new terminology suits the purpose eg digital natives/immigrants. I did not realize just how dramatically advertising is aimed at younger and younger children and employment of psychology/ists to increase consumerism and profits.
I had a basic idea but wasn't exactly sure at first of the true meaning of Multiliteracies. I have learnt to use the map and have enjoyed watching various DVDs etc & playing with programs on the computer that have given me more ideas for how I could further incorporate Multiliteracies in classroom practice.

It has made the link between children and their given access to technology very clear and that the students of today as compared to when I first started teaching 20 years ago are coming to school with varied literacies as compared to previously. Using a multi literacy approach is a way of making children’s learning more meaningful and engaging.

I am an "immigrant" and still need a lot more practice to gain confidence.

I will feel more confident in having a go at using technology with the whole class because my photo stories with the class were highly successful and now I’m thinking about making videos with students. I don’t have all the technology I need but now feel better about working with what I have.

I see the benefit in engaging students in multiliteracies and integrating ICT’s into my literacy programs and the critical analyser section is something I hadn’t thought much about before so I will be making use of the map in my programming.

Children of this millennia are comfortable with Multiliteracies. There is no need to discard old technologies but to use the appropriate one. Children’s brains are high powered and often we are asking them to power down. However perhaps this is sometimes a good thing! Can our adult brains learn to power up and can we change to a lower gear when we need to?

I understand the map and how it overlaps. I understand that multiliteracies need to be embedded in the curriculum and not a separate entity. I understand that engaging in multiliteracies is more important than technical skills. I further understand how important multiliteracies are for children in this day and age.

I really appreciated the combination of skills to reach and produce an end result. I perhaps have tended to be a little tunnel-visioned and not made use of skills and other literacies. Some of that thinking may be because of my own limitations (or imagined limitations). This concept of multiliteracies has really got the brain buzzing and my approach in the future will be from all sides not just head-on.

The course has reinforced the need to use varied technologies as much as possible as it’s such a normal part of children’s lives in today’s world. One of the frustrating aspects of this though is the availability of hardware in the school setting.

I feel confident I am using technology where applicable but also feel I need to keep my TD up to date. After the readings it is frightening how quickly such young children learn new technologies and how important it is for me as a teacher to keep informed.
and allow children to use and experiment more and not underestimate their knowledge.

I understand that the children are more capable than I thought.

I have an understanding of how the Multiliteracies Map can be used in my literacy program

![Initial Survey Response](image1.png) ![Final Survey Response](image2.png)

**Figure 7**

At the outset the level of agreement was 75 out of 518 (14%). On the final survey the figure was 399 out of 572 (70%). This represented a highly significant shift, as indicated by a chi-square test, $X^2 (1) = 338$, $p < .001$.

The conceptual framework of the Multiliteracies Map was developed by teacher-researchers in the original research project *Children of the New Millennium*. The Multiliteracies Map was at that point envisaged as a planning tool, an assessment tool and a way to ensure a balance between teaching functional skills, critical analysis, meaning making and creative ways of transforming texts into new ways of communicating ideas. Teachers commented on many of the uses of the Multiliteracies Map:

*I’ll use it in term 4 to present an Asian country using books, internet and videos for research and present a slide show as well as a poster.*

*A useful tool to use as a guide for assessing children's learning.*

*To make quite explicit to children, colleagues and families the learning that is taking place while we are engaged in using multiliterate tools and processes; to plan and assess learning with children; I'd like to do some R - 3 mapping of processes that staff are using as part of our practitioner inquiry learning. I am currently using it as an overlay over some Reception materials I am developing for Open Access College Distance Ed.*

*I will use the multiliteracies map in two ways. First, to inform my program - working on depth and not coverage! Second, as a tool for mapping children’s skills and use of...*
technologies. This is not a developmental checklist but rather will show the depth of knowledge and experiences young children not only bring but use at preschool.

To view text, art in picture books and discuss aspects of text with children, use children’s art to incorporate into powerpoint presentations and use for electronic books to share with other children and families. To find out more about how children use technology at home and support peer mentoring and parental involvement in the ways that children use technology in their everyday learning. To give children greater access to hands on use of technology in daily experiences such as searching the web to explore curriculum interests and scaffold learning.

To use as a lens in programming-to check that planning includes all areas not just function. I’ll use it in team discussions and in parent discussion and displays.

I plan to use it incorporating Photostory into my literacy program through following a procedure of a recipe the students make and presenting this as a presentation to the parents. Also in studying animals next term and programming this using the map.

Though the concept is new however it is equally important for younger as well as older kids. I would say the idea of multiliteracies is very good. In addition, it is probably a good idea to add that the year 2006 and beyond is the time of technology revolution as 1920s was the time of industrial revolution.

What was surprising about children’s use of multiliteracies?

Teachers were invited to comment on the question ‘What has been surprising about children’s use of multiliteracies?’ Almost all of the 594 responses noted the ease and confidence that young children demonstrated when using multiliteracies for example one teacher wrote ‘!!!!!!!!!!!!!! their confidence’. Teachers also commented on the many different uses of technology in the home. Several teachers noted that home access was not equal.

There is a large divide in the number of children who can and cannot, do and do not use digital learning tools. Groups of children can use the computer available to them so differently.

They are some children who are very competent users before they come to kindy, others have not had any exposure to computers or digital cameras. However they are all eager and willing to have a go.

Children with language or learning difficulties may be quite good in a digital context. A few children are doing more at home than we are aware of. Home access to internet for children at our centre is very linked to socioeconomics.

Another theme was the understanding that preschool children seem to embrace new technologies:
I’m amazed at just how much they know and use technology. The fact that sometimes I find technology scary and working in the unknown and yet the children embrace new technology and take risks. I have been inspired by the children saying “can I take a photo of...” seeing a four year old label all the files on the desktop as Jack - his name.

I am a little flabbergasted even though I know how quickly young children learn to see how far they advance in just a few short years.

Some teachers commented on the differences between children’s facility with new technologies compared to their own use:

I enjoyed reading the article on "Native V’s Immigrant - users of Tech”. I think it is very useful for all teachers to come to terms with the fact that this is what we need to use to engage our students as best we can and to develop their own personal skills so they feel confident teaching it.

The expertise of some children is amazing particularly the way they can easily be peer supporters and teachers. The total way they can focus for longer periods on their learning when using technologies.

Children are like "sponges" and can learn new skills on the computer quite quickly.

Other teachers commented that they were surprised at how much children could do with multiliteracies and how this has not been valued in the curriculum. Some suggested that schools may be holding children back by not valuing the knowledge children have.

I have always believed that it is often adults who hold students back from being able to demonstrate what they already know. Children often learn from and with each other, from TV and from watching and listening. They often multi-task and use multiple learning pathways.

It doesn't surprise me anymore that children are such competent, intuitive users of multiliteracies; what surprises me is how little that is valued and incorporated into the enacted curriculum.

The participants also commented about how much is available online to support children's learning and staff learning. Some teachers found children’s engagement and motivation with multiliteracies to be inspiring:

The level of children's engagement and the level of knowledge and skills that many children have before starting kindergarten is amazing. We love seeing our ESL children using the computer and being successful communicators when they have limited English. This gives the ESL children and special needs children opportunities to participate in ICT activities.
Other participants noted that young children who have grown up with computers and the internet are different to previous generations because they are faced with so much information and so many choices.

One teacher commented:

They think differently to generations before them because they can manipulate and successfully use a wide range of today’s technology. Through technologies such as the internet, they are faced with much more information than the generation before them.

As a result of the program I will…..

The participants listed many different goals for future exploration and many of these have been discussed earlier in the report when participants commented on using the Multiliteracies Map. However some teachers commented on specific follow up ideas such as using the digital camera more, making ebooks, using Photostory or finding out about interactive white boards. Others wanted to use the Multiliteracies Map for planning.

In the teachers’ responses there was a strong theme about respecting and finding out more about what children already know about technology. Teachers commented ‘give children more ownership of their learning’ and ‘having children teach me more about their use of technology’. These responses are linked to teachers’ statements about how amazed they were about how much young children knew when they started school. Teachers also wanted more training and development and on-going support for using new technologies.

The workshop model

The ways the four modules could be delivered varied from four workshops, a full day workshop, two half day workshops, and other versions such as selecting aspects in which teachers were interested. The following workshop formats (see Figure 8) were attended.

Workshop formats

![Figure 8](image)
The effectiveness of the professional development model

Teachers commented on the question, ‘I found this professional learning model effective, e.g. using district based facilitators, flexible workshop schedule, print materials etc, in supporting my understandings and practices in the area of Mapping Multiliteracies’ and the following responses were found (see Figure 9).

I found this professional learning model effective

Most teachers (74%) agreed that the professional learning model was effective and commented on the local district based facilitators as well as the materials. The skill and the enthusiasm of the facilitators were commented on by many teachers. When the facilitators conducted workshops they were provided with release time from the classroom and other duties for preparation.

Teachers love learning from other teachers so it is an ideal facilitator model. I know that there were lots of staff groups at our sessions, which was great, but I think a bit more could be done to promote it to leaders so that they give it greater priority.

Very comfortable learning environment, although water would have helped! Having Preschool and school-based presenters gave a good perspective, and having district-based group was good for networking. A known practitioner as a presenter always seems to make it all more achievable somehow! Thanks for a very thought-provoking day!

Fast paced, interesting, excellent presenters who worked with us as wonderful support people. I know this is about the presentation of this model but you need to know that you’re doing an important job really well. Multiliteracies is the present and we cannot be left behind. It is critical that we are comfortable with using these because many of our students already are.

The problem is the same as classroom - there are such HUGE differences between teachers knowledge as current users of ICT. Possibly need to run workshop with levels of ability.
I thought the variety of learning strategies used was valuable. It is important to allow participants to have time to 'play' with the websites/programs that are available. This gave me the opportunity to see what is available on the internet as you never seem to have enough time in the day to visit sites. The facilitator had a great way of explaining multiliteracies without the pressure.

Some teachers commented that they wanted more ‘hands on’ experiences with computers and this may highlight the need for different forms of professional development. In fact the range of experiences mirrored the quadrants in the Multiliteracies Map as some teachers were at the functional level needing to learn how to access various sites and use software, while others were planning, critiquing curriculum and supporting children as they created and transformed texts into all kinds of digital texts.

The model worked well for me as an Early Years teacher because I had presenters who are early years based - very important for effective professional learning.

Using district based people is great as we can contact them for further information as needed. The schedule is good being 3 sessions. The resources have been useful as has the dedicated time to explore and experiment.

Summary
The survey of preschool teachers and teachers in the early years before and after the workshop sessions revealed that the professional development was successful. There was an increase in early childhood teachers reporting confident use of technology (see Figure 5). In the initial survey 35% commented that they strongly agreed and agreed that they were confident users of technology and in the final survey 53% stated they viewed themselves as confident users.

On the initial survey 20% indicated they agreed with the statement, ‘I have a clear understanding of multiliteracies’ (See Figure 6). On the final survey the corresponding figure was 76%. Teachers were invited to comment on their understanding of the Multiliteracies Map (see figure 7) and at the outset the level of agreement was 14%. On the final survey the figure was 70%.

The participants were invited to comment on the question, ‘What has been surprising about children’s use of multiliteracies?’ Almost all of the responses noted the ease and confidence that young children demonstrated when using multiliteracies. Teachers also commented on the many different uses of technology in the home. Several teachers noted that home access was not equal.

In the teachers’ responses there was a strong theme about respecting and finding out more about what children already know about technology. Teachers commented ‘give children more ownership of their learning’ and ‘having children teach me more about their use of technology’. These responses are linked to teachers’ statements about how amazed they
were about how much young children knew when they started school. Teachers also wanted more training and development and on-going support for using new technologies. Most teachers (74%) agreed that the professional learning model was effective and commented on the local district based facilitators as well as the materials. The skill and the enthusiasm of the facilitators were commented on by many teachers. When the facilitators conducted workshops they were provided with release time from the classroom and other duties for preparation.

Some teachers commented that they wanted more ‘hands on’ experiences with computers and this may highlight the need for different forms of professional development. In fact the range of experiences mirrored the quadrants in the Multiliteracies Map as some teachers were at the functional level needing to learn how to access various sites and use software, while others were planning, critiquing curriculum and supporting children as they created and transformed texts into all kinds of digital texts.
Chapter 6

Responses from MM facilitators

The MM Facilitators (60) were selected by districts and most conducted workshop sessions over a two year period. The Department of Education and Children's Services devised the following implementation strategy to grow knowledge within and across districts in a sustainable way.

Implementation strategy of Mapping Multiliteracies: a professional learning resource

The following strategy was devised in order to value expertise of the educators working directly with children on a daily basis to co construct and grow knowledge.

- Each district was to have 2 facilitators (one from prior to school setting and one from school setting) determined by the district.

- Local educators were identified through expression of interest as district MM facilitators.

- Resources to support facilitators were provided to districts as grants. (e.g. release time for preparation, travel and resources).

- Facilitator support was provided through District Officers – (Early Childhood Initiatives Coordinators/ Curriculum Advisers).

- District Officer support was provided by Early Years Literacy Program and other Policy Officers through the current model of specific district connections.

- District Officers and MM facilitators worked with sites to determine the best local model of workshop participation.

- Release time for workshops was through the Early Years Literacy program.

- Workshops (4) were to be facilitated in a flexible way depending on site needs.

- Management of requests was through district office / to facilitator - decided on a district basis.

- Print resource distribution (each educator had a copy of the workshop resources - approx 5000 copies) was distributed when attending the professional learning workshops.

- Facilitators’ Day – there was a mid-year sharing and professional learning for the group.
Facilitator website was set up with news articles and email contacts.

Facilitator Certificates were awarded.

From the DECS’ perspective this model was proven to be highly successful and they are considering similar models for future strategies.

The Mapping Multiliteracies Facilitators

At the conclusion of two years, the facilitators were surveyed and ten responded in detail with comments about—the approach used to implement the professional development program, advantages and disadvantages of the program, possible benefits to the facilitator and a question about future direction or where the facilitator was heading now. There was a low response rate of 16%, possible because the survey was email at a busy time of the year. One facilitator wrote about the facilitators being very busy people and the need for administrators to understand their role.

....the day to day realities of school life. It is great to have people in the field take these things on but often they are already the busy people who have committed themselves to other things. Both our facilitators are also running record facilitators as well.

For our district distance was an issue and with the best will in the world by the two people involved they could not get together and plan the sessions. They overcame this by taking sections each and presenting them in turn. This led to a rather disjointed approach rather than collaborative effort.

Regarding the approach used, most facilitators commented that the workshops were clearly structured, yet flexible allowing for sites to modify the suggested workshops to suit the local community context. The facilitators were encouraged to co-present so that a preschool and a junior primary facilitator worked together to present the sessions.

In this site Andrew took responsibility for managing the technology, I managed the administrivia and we shared the facilitating role. Each session was divided into two parts with a tea break in between.

Modifications were made to the program as we went along with no two workshops being exactly the same.

The facilitators engaged in two days of MM facilitator training sessions at the EDC centre in Adelaide and they had several whole day, follow up workshops with guest presenters, plus many opportunities to share workshop ideas. The facilitators were supplied with a printed workshop resource and accompanying DVD with six chapters about children’s learning with new technologies. The material in the workshop sessions was suited to the early childhood field and there were examples of both preschool and junior primary practice. The material provided was found to be ‘dense and broad enough to encourage flexibility in aspects that required more or less emphasis, for example investigating smartboards, and could be as deep or general as the group needs demanded’.
The facilitators commented that they appreciated the release time from the classroom to support the preparation of sessions. Most facilitators presented either four, two hour sessions or two, four hour sessions. One facilitator commented that the group sizes were 10 - 15 with a mix of preschool and school participants and in some instances principals. She wrote:

_We presented 4 X 2 hour after school sessions over a six week period. People found 4 week sessions a big commitment and as such attendance was not always 100%. They found the in between readings a chore and more than most did not commit to them._

_To make the readings more accessible I pulled out key points and made them into a power point presentation to either assist the participants to reflect on what they had read or by way of introduction if they had not had time to do the readings. I found this enabled discussion to occur around focused questions or issues that guided thinking and reflection and led nicely into an activity or the next section._

_The more practical the activities that engaged the learners, the more successful the session. The hands on business cards were a big hit and I know of a Kindy that did this type of activity for an excursion in creating name badges and they were very excited about the results and finding out about the children’s capabilities with IT. The other successful activity was when teachers asked children about technology in the home. This promoted much discussion overall._

The facilitators usually modified the workshops, adjusting the content, the timing or activities and order of the workshops, also adding their own examples of children’s work and in this way they tailored the material to suit their audiences. (For more information about the sessions, please see the case studies in Chapter 7.)

The benefits to the facilitators was professional growth through engaging in professional development sessions with other facilitators, the teaming with another site where peers may provide new and different ways of working, and new skills. In some sites the preschool took the lead presenting and in others the workshops were taken by school facilitators. One facilitator commented:

_The experience has been valuable and enjoyable. I have gained insights into multiliteracies in the school and preschool setting and have enjoyed the opportunity to work closely with a school colleague in this role. It has enabled me to reflect at length about multiliteracies and the role of technologies within this. I think that being a preschool director working often with school people has also led to a greater insight for others as to the way preschools operate – having DVD footage from both schools and preschools has been great._

The fact that the workshops were held in districts meant that teachers did not have as far to travel and they could discuss ideas with colleagues at nearby schools. The facilitators in their role had to become more technologically competent to present the information and to use the model of the Multiliteracies Map—they were learning functional operator skills, ways to
critically analyse content, communicate with meaning maker and demonstrate ways children were transforming new learning using a range of texts. One facilitator commented:

*I found that I really had to understand and internalise what it was that I was working with. I gained new knowledge and expanded the use of the MM map by including a series of questions that people could consider as they became familiar with its possibilities in their work. It made me focus on my own attitude and abilities in IT and what I might do if I were in a classroom. It made me more aware of the digital natives and the need to know about this as a practitioner and to reflect on how ICT can be incorporated into the classroom in a more integrated way. I really liked looking at websites and using the map to work out how I was functioning when deconstructing a website and the messages being conveyed. I tried to get this across to the participants but it was not entirely successful. I also enjoyed applying the design elements to the children’s websites to promote questions about how and what was being conveyed. Being a facilitator enabled me to develop a different headset about children’s learning today. I found I needed to go ‘beyond’ the facilitator’s resource and find other materials that had practical application. The interactive whiteboard section is a good example.*

The facilitators found that there was a great difference between the hardware at various school sites.

*I found it hard to manage using IT in some sites due to outdated equipment, not being able to do more hands on activities in this environment. We often had to change rooms to view the DVD and then the equipment did not work in some instances. I learned to supply all my own equipment including the DVD player and data projector.*

When asked about the disadvantages of the program, the comment was *not enough time to talk to other colleagues and in particular to plan with the other facilitator.* Many facilitators commented on the need for a follow-up session in the second year of the project. The teachers wanted new information about smart boards and they wanted new information about websites for early childhood education. There was an increasing need to find out more about visual literacy.

*Two years is a long time and we felt that by the end of this year a lot of the material was out of date – technology and our system has changed a great deal in this time. I cringe when I see myself on the DVD and listen to what I say. However feedback from participants continues to be positive and I think that maybe this is just a personal response rather that a general impression from participants. We had one challenging group, I suspect it had not been their choice to attend and they had no real interest in engaging with the topic.*

The advantages of the project for the facilitators, was their own professional growth. They became literacy mentors by sharing practice with their colleagues. Many actively fostered the use of digital technologies such as *PowerPoint*, video making and audio recording at their school site. One facilitator began a research project at the school to capture children’s
oral language development of narrative texts and to map the children’s oral language
development over time. Other sites have set up blog sites, for example, teachers have set
up their own websites where they share information.

One facilitator wrote that she has a new name as the ‘techno-video-junkie’ as she has
developed a passion for image making using still and moving images. Working with
the students, national prizes in video making have been won. The students now approach her to
learn more about photography and video making. Teachers want to learn more about
adding sound to visual images and the facilitator reports that there is a ‘can-do’ attitude in
the school as teachers and students use technology to learn.

One facilitator, passionate about multiliteracies and the possibilities for creativity
curriculum development and enhanced learning wrote:

One of the most powerful implications from the MM workshop sessions was the
discussions between teachers about how they currently present learning options and
how they can change them. The Multiliteracies Map was for some teachers a strong
foundation for them to view reform and for others they needed to revisit it in a
practical situation so it could be validated.

One of the reasons the workshops were so popular was the availability of ‘hands on’
resources. A facilitator commented:

Having ‘hands on’ resources such as voice recorders, websites, digital cameras and
smart boards in action makes for real and relevant learning.

Some of the spin offs from the workshops included:

Learning more about smartboards from one of the teachers at the workshop. She
provided an additional session and modelled how she used it. Kindy sites had kids
taking digital photographs of their art work and putting this on a continuous loop for
parents to see and discuss when they went to the kindy. This provided documentation
of learning and talking points for parents and their children.

A PE teacher asked year 7 students to take photos of PE lessons that taught game skills and
put this on the school intranet for early childhood classes to view and play in the yard with
the older students.

Different school sites formed links to share ways of observing students and recording this
with digital technologies.

Most responses commented on the importance of the framework provided in the
Multiliteracies Map.

I think I have become increasingly conscious of the importance of the map and how it
enables us to teach all aspects of literacy. I now believe strongly in embedding
literacy in everything we do and using technology to achieve learning outcomes as
opposed to using technology just so you can say you use it. I still become very frustrated with the time it takes to learn, my incompetence, breakdowns and unexpected hiccups. It is a challenge everyday to find ways to explore multiliteracies with young children in a busy preschool setting.

Summary
The facilitators added, modified and developed the workshops as they presented them. They found the materials flexible, yet supportive and valued the generous training available to them and the release time to prepare workshops. Many facilitators went beyond the materials provided and added their own useful links and ideas. The local district based workshops meant that schools could set up networks and continue to share ideas. There was also less travel involved as teachers went to local schools where they could also learn about how other preschools and schools organised early years teaching and learning. The facilitators co-presented often with one preschool and one junior primary facilitator and this crossing of school and preschool boundaries worked to enhance communication and understanding of each other’s work. The facilitators were at all levels of development with new technologies. Some facilitators had very sophisticated skills and some facilitators were learning along with the participants.

The Multiliteracies Map framework underpinned the model used for implementation. It can be seen as participatory action research, which focuses on the effects of teaching practices within a participating community. The goal is to improve practice in areas of concern. Most models of pedagogy or curriculum describe a simple continuum from direct instruction or transmission at one end to creative transformation at the other. However in this case, rather than one hand selecting a top-down centralised transmission approach of content and skills or on the other hand, a bottom-up, local approach based on transforming current practice was utilised.

The Multiliteracies Map encouraged teachers to be functional users, meaning makers, critical analysers and transformers. This meant that teachers could focus on developing functional technical skills if required. Teachers also thought about the meanings that can be communicated in children’s homes and communities using a range of different texts as well as honing their own critical analysis skills in understanding authors’ intentions. Teachers were also transforming ideas by generating new texts; applying them in different contexts sometimes using print based text and sometimes electronic text types. The Multiliteracies Map emphasises the importance of integrating all aspects— from functional use, meaning making, critical analysing and transforming ideas and this worked well in implementing the workshop sessions for participants as it did not let the technology take over and situated new technology and new texts as part of literacy.
Chapter 7  
Case Studies

As part of the evaluation process it was also decided to include three in depth case studies to demonstrate what work is being done with multiliteracies and young children and what impact the professional development workshops have had on planning and programming.

**Case study one: Creating multimodal texts in the first years of school**

This case study takes place at Highgate Junior Primary School which is just south of the central business district of Adelaide. The school has a low turnover of teachers, students are eager to learn and be involved (16 or 7% of students on school card), and attendance is high. From the school website it is clear that life-long learning and learning with the future in mind are important outcomes for each and every student.

Parent/caregiver support, involvement and expectations are extremely high. They are well informed and clearly articulate the kind of education and care they want the school to provide for their children. School records show that 24% of students come from non-English speaking backgrounds, but generally affluent backgrounds. Unley Council records show that 35% of parents in the council area have tertiary or vocational qualifications and nearly 20% of them describe themselves as employers or self-employed.

The curriculum priorities at the school were to develop a culture of inquiry; utilise a wide range of learning technologies and take an anti bullying stance through the Friendly Schools, Friendly Families program. The following is taken from the school’s web site:

**Mission**

To develop environmentally aware, independent and socially responsible lifelong learners who are active and optimistic participants in our diverse society.

**Vision**

A dynamic and inclusive learning community providing opportunities for all children to achieve to their full potential.

Outcomes we seek

- Provision of a broad, relevant and challenging curriculum for all students
- A cohesive, welcoming school community that encourages and supports a productive and progressive learning environment
- Students who demonstrate an understanding, awareness and acceptance of cultural, physical and social diversity
- Students with a clear, positive self concept who have opportunities to achieve their full potential
- School infrastructure and resources that support a productive and progressive learning environment.
The school is committed to exploring creative and innovative ways to engage students in learning and embed learning technologies across the curriculum. A computer technician is employed for 30 hours a week. The school explores links with the wider community, through excursions, parent and community involvement, and using technology and the media. In order to provide a productive and progressive learning environment, the school recognises the expertise and needs of teaching and support people and encourages professional training and development.

Information and communication technology
Highgate School has an extensive computer network consisting of both wired and wireless networks. There are approximately two hundred computers with forty laptops on two trolleys. The ratio of computer to students is about one computer to four students. All junior primary classes have three computers in each class, while the primary classes have one in each class and four pods of computers in close proximity to classes. A computer room of thirty desktop machines is shared between all classes and all students have access to this room over the week.

The school also has many digital still and video cameras for the creation of multimedia presentations. Four interactive whiteboards are shared in junior primary classes and the resource centre. They have a digital weather station using dataloggers as well as digital microscopes, scanners and midipads. Clay animation is also available.

All staff and students have access to the internet and email with all students from year three on having personal logins onto the network and the internet. The staff are building their strategies in embedding the technologies within their teaching to improve the learning outcomes of all students.

Mapping Multiliteracies: a professional learning resource
There were two workshops for teachers conducted after school from 4 - 7.30pm on a Wednesday evening and 30 teachers attended. Participants attended one session on the previous Wednesday and this was the final session. They had a tea break at 6 pm for sandwiches, catered for by the school canteen.

Tamra is the multiliteracies facilitator, literacy coordinator and a classroom teacher and presented the workshops with the preschool facilitator. The workshop was presented using an interactive white board. The PowerPoint presentation and DVDs and examples of children’s work were all loaded on the computer and shown via the whiteboard.
Tamra is what could be called ‘a digital native’ (Prensky, 2001) as she is comfortable with new technologies. The teachers in the workshop were not necessarily ‘natives’, more like ‘immigrants’ and there was an inclination to refer to generational factors (e.g. Tamra is from generation X or Y and many of the participants were more likely to be young baby boomers). These categories don’t always work of course, as many older teachers are captivated by the possibilities of new technologies.

The sessions were very informal and took the form of a professional conversation for at least 60% of the time. There was lots of time for participants to talk and offer opinions in small groups and in the larger group. This was very noticeable and the sessions were collaborative rather than an expert giving points from research or ‘laying down the law.’ The whole tone of each workshop was professional sharing and quite self-effacing reflections on learning. Even during the meal break the teachers were talking about children and teaching. The participants came from Belair, Mitcham and Highgate schools as well as some feeder preschools so the group did not know each other; however some did.

At one session both the researcher and the workshop developer were present, although the researcher didn’t participate and sat at the back taking notes. During the collaborative sessions, both the researcher and the workshop developer removed themselves and discussed the form of professional development that was taking place. The workshop developer said that the most powerful tool for teacher learning was conversations with peers.

In the workshops there was a structure for talking and open ended questions were posed. These all prompted different responses. The workshop developer also said that although the conversations may get off task at times, asking people to share their ideas with the larger group does bring back the focus. Having the times for discussion helps participants process quite complex ideas in the 3 ½ hour session after teaching all day. The workshop developer also said, ‘What gives the sessions a special flavour is the way the presenters personalise by adding their own stories and snippets from the newspaper for people to comment on’.
Creating written and multimodal texts
This next section explores a 10 week unit of work using multiliteracies to explore fairy tales with children aged 6 and 7 years. Tamra, the teacher, began the year with the children using a multiliteracies approach to literacy by mapping out how meanings are communicated by visuals, audio and spoken, kinaesthetic and print oriented. The children made lists of print based communication, visual communication and so on.

In the unit on fairy tales the children read versions of Little Red Riding Hood and other fairy tales. As a group they deconstructed the features of fairy tales—hero or heroine, good versus evil, a problem or several problems, magic, happy ending. They went to see the movie ‘Hoodwinked’ which tells the Little Red Riding Hood story from the perspective of the wolf, grandma, the woodcutter and Little Red Riding Hood. They then wrote a new version of a fairy tale of their choice using the features and from a perspective they chose. This was written in print. (See Figure 10)
The next task was to use Photostory’s free software [http://www.windowsphotostory.com/](http://www.windowsphotostory.com/) and create a movie of their story, using plasticine characters from their story organised into six digital photographs. Photostory is free software which enables a series of digital photographs to be converted to video. Next a voice is recorded to make a sound track and then with a vast choice of musical backings, one can be added to create mood for each photograph.

To explore how the perspective of camera angles, colour and music can communicate a message the children watched ‘Hookwinked’ and ‘Toy Story’ and noted the different camera angles, backgrounds, colour and music to communicate meanings (see Figure 11). They then experimented with digital cameras taking photos of class members to see how camera angles can change the message. They took close up, eyelevel, reverse angle, top down and bottom up camera angles to communicate.

### Visual perspective

<table>
<thead>
<tr>
<th>Angle</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>High angle</td>
<td>The camera is positioned above the subject and looks down. The subject seems small, weak, intimidated. This angle is often used on the ‘victim’ within a narrative.</td>
</tr>
<tr>
<td>Low angle</td>
<td>The position of the camera is below the subject and looks up at it. The subject seems large, evil, powerful and intimidating. This angle is often used on the strong character: the villain in the beginning of the film, the hero towards the end of the film</td>
</tr>
<tr>
<td>Eye level angle</td>
<td>The camera is positioned on eye level with the subject. This is a common angle that shows the subject accurately. It is often used to show honesty and good nature.</td>
</tr>
<tr>
<td>Dutch angle</td>
<td>The camera is positioned on an oblique or crooked angle. The audience is encouraged to feel that something peculiar is occurring. It can make the audience feel uncomfortable.</td>
</tr>
</tbody>
</table>
Figure 11
To further prepare for the fairytale Photostory the children planned and drew a storyboard (see Figure 12) with six frames representing key events in each of their stories.

<table>
<thead>
<tr>
<th>Title:</th>
<th>Medium:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scene 1</td>
<td>Scene 2</td>
</tr>
<tr>
<td>Camera Angle:</td>
<td>Camera Angle:</td>
</tr>
<tr>
<td>Background:</td>
<td>Background:</td>
</tr>
<tr>
<td>Scene 4</td>
<td>Scene 5</td>
</tr>
<tr>
<td>Camera Angle:</td>
<td>Camera Angle:</td>
</tr>
<tr>
<td>Background:</td>
<td>Background:</td>
</tr>
</tbody>
</table>

Figure 12
Next they made small plasticine figures of the characters in their story, designed background colours, decided on the camera angle and took the photographs. To compile the Photostory they selected photos from their ‘my pictures file’, then they began the voice over narration and added music (see Figure 13). The children had to rewrite the story as a voice over narration to fit the timed sequence within the Photostory software and this meant learning to write and rewrite to fit a timed sequence. All the while they were doing this, they were learning about the choices authors and film directors make in creating multimodal texts combining visuals with audio.

Audio design features

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice</td>
<td>Electronic, own voice, natural speech</td>
</tr>
<tr>
<td>Music</td>
<td>Selected or composed music</td>
</tr>
<tr>
<td>Sound effects</td>
<td>Selected or created sounds</td>
</tr>
</tbody>
</table>

Figure 13
An example of combining the written words, visuals and audio comes from Shuyi, aged six years. Shuyi is from Japan and has been in Australia for only two years. She was working on one computer which was connected to the interactive white board. She was refining her voice over narration of her photostory (see Figure 14).

Shuyi said:
‘I’m going to change the talking on my photo story because the talking is too long’.
Shuyi was previewing the photos and decided to rerecord the voice over again. She previews two photos and listens to the voice over. Then she rereads the story she has written. ‘Ok’ she says aloud ‘I need to look at this again’. Shuyi rereads a narrative she has written titled ‘Super Horsey’.

Figure 14

She records her voice over adding parts of the narrative to match the photos so there is a clear sequence.

Shuyi then wanted to add music for each of the photos and wanted music to illustrate aspects of the story, such as classical, rock, folk and particular mood and band choices. The choice of audio involved choosing music genre, the mood and the type of band (see Figure 15).

Figure 15: Using the interactive white board to demonstrate how to use Photostory
Learning about the many choices authors have in creating texts (see Figure 16) helps to develop skills of critical analysis. Learning to be a critical analyser is important for this multiliterate class and the children are all familiar with the Multiliteracies Map. They know what it means to use functional skills, make meaning, critically analyse and transform a text into a new text or form.

Tamra originally planned the unit of work on fairytales using the Multiliteracies Map (see Figure 17) and the children in the class then used the four quadrants to check with Tamra, regarding the outcomes of the various future units that they are working on.

<table>
<thead>
<tr>
<th>Genres</th>
<th>Moods</th>
<th>Bands</th>
</tr>
</thead>
<tbody>
<tr>
<td>classical</td>
<td>anxious</td>
<td>orchestra</td>
</tr>
<tr>
<td>country</td>
<td>adventurous</td>
<td>piano</td>
</tr>
<tr>
<td>pop</td>
<td>bitter sweet</td>
<td>twangs</td>
</tr>
<tr>
<td>rock</td>
<td>upbeat</td>
<td>synthesized</td>
</tr>
<tr>
<td>jazz</td>
<td>dreamy</td>
<td>harpsichord</td>
</tr>
<tr>
<td>latin</td>
<td>sad</td>
<td>outer-space</td>
</tr>
<tr>
<td>dance</td>
<td>sentimental</td>
<td>full orchestra</td>
</tr>
</tbody>
</table>

Figure 16
<table>
<thead>
<tr>
<th><strong>Fairy Tale Unit plan</strong></th>
<th><strong>Meaning maker</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Functional User</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Print oriented</strong></td>
<td></td>
</tr>
<tr>
<td>Produce a quality sentence</td>
<td></td>
</tr>
<tr>
<td>Attempts correct spelling</td>
<td></td>
</tr>
<tr>
<td>Can edit own work</td>
<td></td>
</tr>
<tr>
<td>Has clear and legible handwriting</td>
<td></td>
</tr>
<tr>
<td>Puts speech marks in correct places</td>
<td></td>
</tr>
<tr>
<td>Includes fairy tale criteria</td>
<td></td>
</tr>
<tr>
<td><strong>Auditory</strong></td>
<td></td>
</tr>
<tr>
<td>Speaks clearly</td>
<td></td>
</tr>
<tr>
<td>Uses expression in voice</td>
<td></td>
</tr>
<tr>
<td>Chooses appropriate sound and music to communicate a message</td>
<td></td>
</tr>
<tr>
<td>Can communicate through sound</td>
<td></td>
</tr>
<tr>
<td><strong>Visual</strong></td>
<td></td>
</tr>
<tr>
<td>Can tell as story through pictures</td>
<td></td>
</tr>
<tr>
<td>Attempts to use different perspectives to communicate a message</td>
<td></td>
</tr>
<tr>
<td>Use digital camera effectively</td>
<td></td>
</tr>
<tr>
<td>Use photostory software</td>
<td></td>
</tr>
<tr>
<td><strong>Critical analyser</strong></td>
<td></td>
</tr>
<tr>
<td>What is a stereotype?</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>An example....</td>
<td></td>
</tr>
<tr>
<td>I can answer the SEQ’s for a fairy tale:</td>
<td></td>
</tr>
<tr>
<td>• What is the message that is being communicated through the text?</td>
<td></td>
</tr>
<tr>
<td>• Who is trying to communicate the message?</td>
<td></td>
</tr>
<tr>
<td>• Who are they trying to communicate the message to?</td>
<td></td>
</tr>
<tr>
<td>• Whose opinion is it?</td>
<td></td>
</tr>
<tr>
<td>• What questions do you have about the text?</td>
<td></td>
</tr>
<tr>
<td>• Is anything missing from the text?</td>
<td></td>
</tr>
<tr>
<td>I can understand whose perspective a fairy tale is being told from.</td>
<td></td>
</tr>
<tr>
<td>Example:</td>
<td></td>
</tr>
</tbody>
</table>

**Transformer**
Choose a suitable fairy tale.

Retell a fairy tale from the perspective of another character

Communicate it in a print oriented way

Communicate it in a visual way

Communicate it in an auditory way

Successfully write your own fairy tale using all the criteria for a fairy tale
Throughout this process of constructing different fairy tale texts the role of critical analyser was very important. The children used SEQ (or six essential questions) to be a critical analyser. These essential questions grew out of inquiry based learning approaches where it was suggested that teachers pose questions to stimulate critical thinking, thus avoiding simple literal questions. These questions also require the child to form an opinion or make a decision and present evidence to support their opinions. Essential questions can be used with any text; visual, auditory, print and how the composition and layout communicate ideas. In Tamra’s class the six essential questions were:

- What is the message that is being communicated through the text?
- Who is trying to communicate the message?
- Who are they trying to communicate the message to?
- Whose opinion is it?
- What questions do you have about the text?
- Is anything missing from the text?

The six essential questions work well with narrative text but can they work with information texts? Information texts present entirely different text layouts, use of scientific language and ways of categorising and organising information.

**Summary**

The unit of work culminated in a presentation of the fairytales to parents using Photostory software which creates a digital slide show and is free to download.


The children’s Photostories were all very different narratives using the features of a narrative text, a six frame photo slide showing sequence, selected music either per photo frame or continuously throughout the Photostory to build mood and feelings and plus there was the child’s voice over to fit the timed sequence. In the small presentations the children had used linguistic, audio, visual and spatial modes of communication. The linguistic mode included spoken and written language in a narrative structure; the audio included music and voice to communicate the narrative; the visual included drawing, sculpture and colours to communicate the story and the spatial involved layout, design and space to create the visual Photostory.

The children were carefully supported or scaffolded to achieve success. They were shown the importance of planning each step carefully. For example in the beginning children were shown how to analyse or deconstruct the text elements of the Red Riding Hood fairy tale and check this by reading numerous versions of the story. The children searched for narrative features to do with characters’ setting, goals, problem solving and the resolution and so on. The children understood how authors play with and change aspects of the story to create a new tale.
After learning how to critically analyse a text for its narrative features, they then used these features to create new texts. First they created a new fairy tale in written language format. Then they made a visual story board with six frames and created three dimensional plasticene sculptured figures of the story characters. Next they photographed the characters in various settings and moved the photographed jpegs into Photos-story software in the correct sequence. They applied a voice over and music.

The Photos-stories were a culmination of ten weeks of work and the Multiliteracies Map provided the overall framework for the teacher to develop the unit of work. The Multiliteracies Map was also used with the children to help them understand that they were functional users, meaning makers, critical analysers and transformers and this framework was used in assessing the unit of work. For example in functional user the children were learning the code or conventions of written and spoken narrative texts plus learning to use software for digital cameras and Photos-story. In meaning maker the children focused on comprehending the literal, interpretive and inferential meanings about the actual text which could be print or video and how a text connects and impacts on the audience or readers’ emotions. In critical analyser, critical thinking and analysis skills about accuracy, authenticity and the author’s message or intentions were analysed for values or moral purpose. In addition children compared and contrasted versions of stories and why these stories have been told to children for many years. In transformer the children were creating texts by combining the structure or elements of text and creating new texts using a range of different communication modes.

The Multiliteracies Map intersects with other frameworks and taxonomies which teachers are familiar with and draw on for planning literacy projects or units of work. For example, Bloom’s taxonomy and the notion of multiple intelligences. Bloom’s new taxonomy for critical and creative thinking involves higher order thinking and can be found at the following site.


Multiple intelligences (reference? Gardner?) covers eight different intelligences to account for a broader range of human potential in children and adults: linguistic, logical-mathematic, spatial, bodily kinesthetic, musical, interpersonal, intrapersonal and naturalistic intelligences can be found at the following site.

http://www.thomasarmstrong.com/multiple_intelligences.htm

In addition many teachers also value dispositions towards learning (Carr & Claxton, 2002) not covered in these frameworks. Dispositions towards learning may include persistence, tenacity, curiosity and the courage to try new things which are definitely required when exploring new technologies. For more on dispositions, see the site below.

Case study two: Preschoolers born to a cyber world

Mawson Lakes School is set in a new housing development integrating the University, new housing in a community which is designed to share resources. Mawson Lakes School commenced operation at Mawson Lakes in 2000. It is an $850 million integrated development in the northern suburbs of Adelaide.

The school is designed to use advanced information technology enabling closer links between the school, home and the community. The curriculum on the school website has a special focus on ‘environmental sustainability, aboriginal heritage, community involvement, global awareness and the development of enterprising and self-management skills’.

Learners at Mawson Lakes, whether they be children, adolescents, adults or the aged, have the opportunity to access a wide array of educational offerings; some provided online, some by conventional methodology, some from interstate or overseas, and some through local institutions. Importantly, the portfolio of educational services offered by Mawson Lakes School is based on the values and beliefs mutually agreed to by its community. A mutually agreed set of values, found on the web site include:

- learning for a full life
- learning to learn
- interconnectivity
- development of higher order thinking skills
- developing the confidence and skills to use technologies
- developing an enterprising community culture.

Mawson Lakes school is a Mac-platform school and the classrooms are linked with wireless. All communication to parents concerning the governing council is communicated via email, however the daily notice board at the preschool is a white board and parent notes are paper based.

The Mawson Lakes community is designed as a learning community for all ages from birth to older adults and the preschool and school uses the community library along with the university. The early years’ director, Sally, was a MM facilitator and she commented that:

The children attending the preschool come from tech-savvy families attached to the defense forces and the university and most children have access to new technology at home and live in a cyber environment. Parents use email to communicate with families and friends overseas and sharing email messages is a familiar form of communication.
In the photograph above (Figure 18) a father presented the Early Years Coordinator with a photo poster of his daughter Lucy aged four, at the beach during the holidays. Technology such as digital cameras and computers are everyday means of communication for families with friends and family members often in distant places. In the photograph below (Figure 19) families compiled photo stories with written text about their children at the beach and this was displayed in the preschool for children, teachers and parents to discuss.

When the preschool decides on a particular theme, for example ‘the beach’ parents email sites they have found of interest; for example one parent who worked in the marine research emailed one site showing the birth of an octopus.
The children also made books about the beach (see Figure 20) made of scanned children’s drawing and writing either by the child or with the help of the teacher.

![Figure 20](image)

The use of technology makes access to information quicker and encourages families to share ideas with their children and the preschool staff. However with the speed of new developments in technology the preschool finds it difficult to keep up with capabilities offered by the new technology used in the children’s homes.

The early years’ coordinator commented:

*There is an increasing divide between the technology children have access to at home with phones with email and the technology in the preschool. Some of the computers at the preschool are very slow and don’t have the power of the new technologies the children use at home. The computers are seven years old and in need of upgrading.*

The early years’ coordinator continued saying that children aged three and a half to four years old find the old computers ‘very Ho hum! because their technology at home is quicker and easier to use. They say “I can’t use this” - they don’t relate to the old technology as some of the computers are nearly twice the age of the children. The school is struggling to keep up with the amount of resourcing that is required to continually upgrade computers.’

The teachers at the preschool have engaged in several technology-related professional development projects. In 2005 the preschool collaborated with the reception class at the school in a transition project exploring ICT before the Mapping Multiliteracies project, to literacy and ICT transition between the preschool and school. Prior to this project, the early
years’ coordinator commented that ICT usage was very basic, limited mainly to children exploring and sharing educational computer games and staff with minimal computer skills, but maximum enthusiasm to learn.

As part of this transition project a variety of ICT tools were introduced at the preschool, and software programs were explained both explicitly and incidentally. The range of ICT programs were accessible during play times for exploration, and also focused on in more detail in small groups. The early years’ coordinator commented:

We used the digital camera and loaded photos onto the computer and printed them immediately, and viewed them as slideshows. We explored the music midi-pads with the computer to make sound effects and experiment with music. We used a microphone with the computer and Monty, one of our students, showed us how to record ourselves after the teacher showed him.

During this project the teachers developed a range of functional user skills and the four year old children played with many forms of text construction including animation with Claymation which involves taking many photographs of plasticene objects to create animation.

We experimented with Claymation with the playdough, and the PaintshopPro program with the computer. Some children took the digital camera home and then made Powerpoint books at preschool with their photos; dictating text, and selecting backgrounds and colours. Slideshows were also made with KidPix 4, with children selecting backgrounds, animated stamps and writing their names; then providing stories to be included as text and vocalised. These were very popular and social, with children coming from across the room to view their stories with peers, when they heard them playing.

The work with new technologies also involved larger projects where children created electronic books with visuals, sound and some video.

We focused on the story of Goldilocks and the Three Bears as a springboard to explore different curriculum areas, including drama, creativity, design and technology. We made books and recorded our ‘Goldilocks and the Three Bears’ with the digital camera and experimented with videoing and the scanner and printer. This project was accessed at many different levels by children, due to their differing interest areas, and reflected our learning through play focus. The spin off into ‘Goldilocks’ was lots of fun and we endeavored to ensure that all children had a turn acting out a part in ‘our production’, before we went to see Patch Theatre Company performing the Goldilocks play. Both staff and children had lots of fun and learnt many new skills and terminology with this project. The staff are keen to continue developing skills and resources in ICT, and initiate projects with families and also with older school classes.

The four year old children were creating dialogues and scripts for their own and shared dramatic play, and re-enacting stories and scenarios. They engaged in a rich range of written and
spoken texts; for example, narratives, print, books, drama, music and digital media. They also engaged in play and creative experiences, in visual arts, music, dance, drama and literature in their community.

When the teachers attended the Mapping Multiliteracies workshops the early years’ coordinator commented that the workshops were well received because the pedagogic framework reconceptualised work they were already engaged in without adding another new area to add to an already crowded curriculum. It provided a new way or a new lens to view literacy. The teachers had already attended professional development sessions to learn the functional use of a range of software and the Mapping Multiliteracies framework showed how meaning maker, critical analyser and transformer could be added as new lenses to take the curriculum to a deeper level. The preschool developed their own assessment tools based on the Multiliteracies Map; not just to assess young children’s functional, meaning making, critical and transformative achievements but also to assess the teachers’ own knowledge and plan further learning.

Technology is deeply embedded at the preschool and digital photography is very important for children with English as a Second language which is ever increasing as international students from the university send their children to the school. For example, name cards are photographs and written texts (see Figure 21).

![Figure 21](image)

In the preschool computers are viewed as an important tool for learning but they are just a tool. Children can choose to use the computer or play in the block play, construct with playdough, paint and draw. The preschool pedagogy is responsive to children’s interests. The early years’ coordinator is a ‘book person’ and she enhances picture book activities and play with language by scanning and cutting out some aspects of the book illustrations to create magnetic characters for the children to retell the stories and to create their own tales. Technology makes this easy to do and enhances dramatic play, more book use and vocabulary development.
The preschoolers use digital cameras regularly and recently decided to photograph what they like best about their preschool. These photos below (Figure 22) were taken by the children, showing the book boxes, the playground and drawing and writing. These photographs were stored on the computer and used by the teachers to gather information about aspects of the curriculum from the children.

**Figure 22 Children’s photographs of what they like best at preschool**

The children’s photographs then prompted further language about what other aspects of the preschool children enjoyed. The children photographed objects and themselves engaged in play and creating learning experiences for themselves (see Figure 23).
One of the teachers at the preschool commented about the use of technology in the centre. She had received training in a range of software:

I needed to get help from passing Year 7’s in the school, who thought it was great to be able to teach the teacher. I had lots of fun learning with the children, who of course either knew it before or picked things up more quickly than me.

The teachers encourage their very computer literate children to help their peers, and one of the boys regularly does this. The teacher then commented on how she uses technology:

I currently love getting my laptop out and using a program called Photobooth, which the children love making funny faces with, and jostle to get close to the camera, laughing at their faces. This has been a great tool with the shy children.

We also quite often send emails with children to their parents, with a photo and their story, but as always, not as often as we would like.

I have been using my mobile phone to take photos as the camera was out of use, and sending the photos by Bluetooth to the laptop, then through the wireless connection to the school staffroom’s colour printer. Long and tedious, but good problem solving, I thought, and prompting many interesting discussions with children regarding their parent’s phones and computers.

We would use the internet more often, but the children’s computer doesn’t always access the internet and our access time is limited; when we have, it’s been great.

We definitely have many children who are very IT savvy at Mawson Lakes, due to their home experiences, and would like to be able to do more at preschool. I will definitely endeavour to try clay animation again, and feel bad that we haven’t done as much as would have liked.
The children and families live in electronic worlds where e-mail (electronic mail), e-commerce e-business (electronic business), e-banking (electronic banking), and e-book (electronic book) are common. DVD’s which were new a few years ago are taken for granted and many families have their own collection. Every few months there is a new DVD, for example, a few months ago it was the *Ratatouille* movie and currently it is the movie *Horton*. DVDs are a common form of entertainment.

The early years’ coordinator commented on the increasing use of technology in children’s homes. She said that the three and four year old children are comfortable using high tech with CDs that children talk into and the CD talks back and books that can be multimodal making sounds. For the four year olds multimodal technology is second nature to the children. Even children as young as two years of age choose to play with the computer when they come to play group. Most young children can work out which remote fits which machine, DVD, cable television, CD or television.

An example of how new technologies inspire children’s learning at home and at preschool can be found in the preschool newsletter to families (see Figure 24). The four year old children have access to rich learning at home using up-to-date technology and teachers who build on this knowledge.

**Newsletter home**

**Preschool newsletter**

Terms 3 and 4 have been very busy for Jeremy, Jack and Lewis. After discovering a mutual interest in space, rockets, dinosaurs and fossils, they undertook many creative and research projects. Initially, Jeremy wanted to build a robot out of big boxes. They conferred on whether it should be a robot or rocket, and Jeremy drew a plan of his robot, while Lewis went off to draw dinosaurs, and Jack got back to his gardening and planting coriander seeds. They then found the materials they needed and enlisted the help of their teacher; Jeremy stuck up the plan so they could all see it, and they began assembling the robot. Many other children were very interested, and they were allowed to help with the painting, and the ensuing imaginative play.

Not long after this, Jack’s mother Jenny gave us a talk about archaeology, dinosaurs, and fossils, and we made plaster fossils to have a fossil dig in the sandpit. This ignited Lewis’ passion for this topic, and he went home and researched with his mother on the internet. He drew some pictures to share at home, and made posters at Preschool.

Meanwhile Jeremy had discovered Encarta on the computer, and we researched Fiji, as he had enjoyed a holiday there with his family. He especially loved listening to the National anthem of Fiji,
which was played many times. We then researched fossils and archaeology. We needed to refer to the dictionary to check how to spell archaeology, with the teacher spelling while Jeremy and Lewis found the letters together and typed them in the search box.

Lewis brought a letter to Preschool asking if we could make a fossil DVD. We did this by making a Power Point presentation of their projects, and saved it to a CD. This gave Jack the great idea to make a Lego Star Wars Power Point, and we learnt also about how to scan pictures.

We were also planning to construct a building out of large boxes, and make a milk carton house to reinforce recycling and re-using. The boys spotted the milk carton collection and were keen to start. They again conferred about what to make, and agreed that a rocket would be best. They eagerly started, and over the next two weeks our milk carton rocket grew as we collected more milk cartons.

Many other children helped with all the stages; constructing, painting, decorating and adding controls and lots of great imaginative play commenced. Jack’s Dad John helped us to put the nose cone on top, and Jack went home to design his control panel. Different children had different ideas on what adjuncts were important to the rocket, and they were often changed daily as children added their own touches, and learnt to respect others.

All areas of our curriculum were covered by these wonderful projects, and it has been lovely to see the levels of creativity, imagination, collaboration, curiosity, enthusiasm and enjoyment shared by so many. Thank you Jeremy, Lewis and Jack for instigating these projects, and we wish you all the best in all of your future projects and endeavours!

Footnote: Jack’s coriander seeds sprouted and an eager team of harvesters went to work collecting plants, which were taken home (some in the pockets of kindy bags) with many extra delicious dinners cooked that night, based on coriander… thank you for the salmon and coriander idea Jack!

Figure 24

Access to knowledge by using online search engines and encyclopedia CD Rom makes tasks easy and more efficient. The pedagogy in the preschool builds on children’s interests and is similar to the Reggio Emilia approach to learning where children’s projects are completed over time. The digital age adds phenomenal richness to children’s learning because of the quick, easy and accessible answers to children’s questions.
The early years’ coordinator does have some concerns about four year old children’s access to information. The preschool does use search engines like Google to answer children’s questions and the teachers scaffold children learning to select appropriate websites. Teachers do filter the sites and support the children to search websites and often the teachers have a look first. But young children tend to believe that if it is on a website, then it must be true. In previous generations if information was found in an encyclopedia it was deemed to be true, nowadays the web is seen as providing true information by young children.

The electronic world can also be overwhelming in schools; for example, a staff member may send an email to someone in the next office when a face to face conversation may be more useful and allow for questions to be asked. Many schools ‘live and die by email’ with the expectation that school leaders will clear email before school and at regular periods during the day, receiving up to fifty emails per day. The early years’ coordinator cleared 40 emails on the weekend so she could get to her work at the preschool after the weekend. For some young children everything is online and they do not see connections to the real world; for example community workers like the ‘postie’ who delivers mail are unfamiliar. The role of the librarian is changing as many teacher librarians feel like they are ‘gatekeepers for passwords.’

Summary

The preschool serves a community where email and digital photographs are the preferred way to communicate with friends and other family members. Children use digital cameras, sophisticated software and go online to find information at home and at school. At this preschool connections between home and school are facilitated by technology.

The teachers have received professional development sessions in a range of new software and enjoy learning about what technology can do alongside the children. The preschool children move easily between digital and print based texts and they enjoy print based books as well as multimodal texts. Technology is an everyday tool for communication and with these 3 and a half to five year old children, it is a familiar tool that they take for granted as four years ago, when many of the preschoolers were born, the world was already cyber world.

Two important issues were raised in the case study. Firstly, the children tend to believe that everything online is accurate and the truth. Secondly, the children at home are used to high speed computers and it is a challenge for preschools to keep pace with the speed of development in new technology as the cost of upgrading every few years can be prohibitive.
**Case study three: Working collaboratively - Every child has the right to play**

The learning story *Every child has a right to play* was compiled at a school located in the western suburbs of Adelaide. Pennington Junior Primary School caters for children from Reception to Year 2. Of the students at the school, 65% are on school card indicating the low socioeconomic status of the area.

The school is unique as the majority of its students are from non-English speaking backgrounds (NESB). Of the 170 students, 131 were from NESB. There is a new arrivals program funded by the Commonwealth Government, NAP is for children who have recently arrived in Australia, many through various humanitarian projects. Such families have therefore experienced significant loss or trauma from being refugees, escaping war torn areas etc. The main linguistic and cultural groups are Vietnamese (25%), Bosnian and Serbian (10%), Aboriginal (9%). However, 24 different languages are represented, with children from Sudan, Somalia (and other African Nations), Iraq, Afghanistan, Thailand, the Philippines and many others.

The specific focus of the NAP is to teach English as a Second Language to children with little or no English who have been in Australia for less than 18 months. Since English is taught through all the curriculum areas, the children spend a part of their time mixing with English speaking children, but they also spend time in small (10 - 13 students) intensive English Language classes. Children spend between 12 and 24 months learning English intensively, and then move into the mainstream school system either at Pennington or other schools nearby.

In addition students receive English as a Second Language assistance if needed, where language and literacy learning is monitored and programs are planned to meet their classroom needs. Other programs include *Mother Tongue Maintenance* in Vietnamese, Serbian, Bosnian and Croatian. Early Assistance for children identified at risk in their literacy learning is offered. Here support programs are created to meet students’ particular learning needs. Special Education is provided for students with disabilities who are supported through Negotiated Education Plans. Such plans are implemented with parent, teacher and student input and through the assistance of School Support Officers.

The school celebrated its 75th birthday in 2005 and in the same year became South Australia’s First United Nations Peace School. On the 1st April 2005, after many months of work and the efforts of the entire school, Pennington Junior Primary School, qualified as South Australia’s first United Nations Global Peace School (see Figure 25). Amidst great excitement from both staff and students, the school was presented with a United Nations Peace Flag at a special assembly. This event went on to inspire many units of work in the different classes across the school, including that of Pam Edwards, a Year 1/2 teacher, teaching six and seven year olds.
The Junior Primary School regards itself as a mini United Nations with students from more than 20 different cultural and ethnic backgrounds, including refugees from war-torn countries. Classes completed activities about children’s rights, with a focus on the right to feel safe from violence. New Arrivals’ Program classes worked with mainstream classes, resulting in wider knowledge of names and greetings, and strengthening of a feeling of school community.

The school has made new learning technologies available to all students in all curriculum areas, to support and enhance student learning. Research based learning and internet

Figure 25

A school in Adelaide’s north west has become South Australia’s first United Nations Global Peace School - an exciting development that will help students about the rights of children. The school, Junior Primary School, has been awarded a United Nations peace flag and recognition at an Assembly on 15 April, following months of work to qualify for status as a Global Peace School.

Teaching and student leader Louisa Williams said it was a tremendous achievement and recognised the strength and diversity of the school’s student population.

"The school regards itself as a mini United Nations, with students from more than 20 different cultural and linguistic backgrounds, including refugees from war-torn countries," she said.

Pennington JPS principal Deb Lowrie O’Connor and the school’s Student Representative Committee were recognised at a presentation by the Director of the United Nations Global Peace Schools Program for their work in developing a UN Global Peace School. The school has received thousands of signatures from students around the world to support the UN Global Peace School program and networks, worked with Pennington JPS on the pilot program in 2004.

Details about the school were sent to United Nations representatives in New York who then decided to offer the school the chance to participate in the Global Peace School initiative. The initiative is described as an opportunity for schools to become a UN Global Peace School.

The school has made new learning technologies available to all students in all curriculum areas, to support and enhance student learning.
investigation is encouraged as are the use of PowerPoint presentations and other multimedia texts. The school website and intranet are utilised as communication tools within the school and the wider community. The library is a resource centre, housing books, games, computers etc, accessible by all students throughout the day and before school.

During the *Children of the New Millennium*, Pam, a teacher at the school, was involved as a teacher-researcher. She involved the children in a cooperative learning strategy of encouraging children to become tech-reps. The tech-reps or technology mentors were from all year levels in the school. The tech-reps were taught explicitly in small groups the skills to add new notices and information on the intranet. They then taught these skills to others in their classes so everyone was able to add to the noticeboards. For instance, children from all classes within the school were able to share each other’s birthdays by placing them on the calendar. This communication and collaborative project gave purpose and meaning to the children’s learning and gave even the youngest children the role of teacher.

In her classroom Pam’s Year one and Year two class explored how children from around the world play and live. They used the UNICEF sponsored book – *A life like mine: how children live around the world*. The class decided to document how they themselves played in the schoolyard and what kinds of play they were engaged in; the focus for the topic became – *What are the children in our class playing in the yard?*

The children suggested they photograph what they did during recess and lunch times to show how they were playing. The class had been exploring data collection during maths classes, but with only one digital camera, they also needed to look at turn taking! They quickly worked out they would have to record, not only who had had a turn using the camera, but also which children had been photographed. Using the morning roll sheet pinned up on the wall, they highlighted who had had a turn as photographer, then made a mark next to whose photo had been taken.

It was also decided that the children would work in groups of three – one photographer, and two helpers to discuss, help and give suggestions. The groups were chosen using a random card selection. The children saw this as a very fair system which avoided any arguments! However, before any data collection could commence, they also needed to look at how to use the camera and how to keep the camera safe. For instance they learnt how to half depress the button, wait for the light to go out, indicating the subject was in focus, and then click the button fully. Keeping the camera safe was particularly important as it would be used by the children in the school yard, without the supervision of an adult. The children decided on a number of ‘rules’:

- The camera must be hung around the neck at all times
- The wrist strap also needed to be used
- Only the photographer could touch the camera
- The camera would be turned off between shots to save on batteries
- Only one group per break could use the camera
- Each photographer could take five shots
- The camera would be returned to the staff room after each set of photos were taken
Everyone had to have a turn at being both Photographer and Helper (after being a Helper once, they could choose whether they were a Helper again).

The photos were saved in the Room 7 folder on their class computer which made it easy for the children to find them later. Pam provided a list of steps the children needed to go through to access the Room 7 folder. At the end of each recess and lunch time, five minutes was spent reviewing the photos that had been taken. These review sessions quickly became discussion sessions on what made a good photograph. Some of the questions raised included:

- Is it a good photo and why?
- Does it show children playing?
- What does it tell us about playing?

The digital camera is very easy to use and focus, thus even the youngest children produced good photographs, but the children soon discovered that they needed to have the sun behind them, otherwise their faces could not be seen. They also realised that they needed to show the whole person in the shot, otherwise the image did not make sense, or did not show what they wanted it to; for example, to show their friends jumping on the go-go balls, they needed to show the person’s feet as well.

One interesting perspective that emerged was the different criteria children had for choosing photos. In a number of images you could see part of the photographers’ hands or feet. Many adults would discard these shots as being ‘mistakes’ or ‘not quite right’. The children however liked these photos the best. Any image in which they could see parts of themselves became their favourites and generated lots of discussion!

As part of the unit of work, the Year 2s were asked to create individual power point presentations with the title – *Every child has the right to play*.

The power point had to include:

- A title slide
- Four photographs from the playground
- Text for each photograph
- A recording of the child reading the text for one slide
- A final slide which was to be a drawing (either from KidPix or hand drawn) showing why some children are unable to play.

Examples of individual power points: *Every child has the right to play* can be seen in Figure 26.
To help children understand why some children don’t get a chance to play Pam read the book, *A life like mine*, which explains that some children don’t get a chance because of war, working long hours or having to help bring up their younger siblings. The student’s final pictures demonstrated their ideas and understanding of how different children live and how many children simply have no time to play.

The unit also included hand writing tasks where the older children wrote how many different ways they could think of that children played and also the different parts and purposes of play, for example, getting along together. The text was written separately then the children had to choose photographs that went with their text. Otherwise they had to change their text to suit what was seen in the photos.

Examples of individual power points: *Every child has the right to play* can be seen in Figure 27.

The conclusion of this unit happened to coincide with a visit from three teachers visiting the school and the children were able to present their slideshows to these teachers as part of an
accountability workshop. This was very rewarding and exciting for these children who had worked so hard throughout the term and they received high praise from those visiting the school.

Parents were also shown the children’s work, but in a much more informal way. All of the children are picked up after school and because they can easily find the Room 7 folder on the computers, the children are keen to show their parents the work they are doing.

Pam encourages independence with the children in her class, by providing strategies for them to succeed without needing to come to her for help. The printed sheets of the steps needed to get to the Room 7 folder is just one example. She also encourages children to teach and mentor each other. For instance she will show just one child how to do something; for example, use the camera, create animations etc, and then that child will show the next person and so on. Pam has found this is a very quick way for children to learn as they are keen to share their knowledge and skills with others. By giving the children such responsibilities, Pam has also found behaviour improves. She described many of her children as ‘pretty wild’ yet these children were well behaved and responsible when using the camera for this activity.

The Year 1’s and 2’s in Pam’s class are also given access to the class computers (three PCs are provided in each classroom) throughout the day as well as before and after school. Many of the children do not have computers at home and therefore school is their only point of access. Pam does not consider herself a ‘digital native’ (Prensky, 2001) – nearly all her skills are self taught – however she loves computers and can really see their potential as a learning tool. She realises the importance of having the confidence to let the children explore the technologies available, because they ‘do things and think of things that you never would’.

Pam’s class is also used to doing different activities at different times. With most units of work, there are many aspects to each unit with a variety of activities included; for example, reading, writing, library/internet searches, KidPix etc. In many activities she allows the children themselves to choose whether they present their work electronically or not. She also gives the children the choice of working individually, in pairs or in small groups. The children also have different abilities and are working at different levels. Thus they know there will be times when others may be using the computers and happily find something else to do until they are free. Pam finds this diverse way of working reduces behaviour management issues; encourages children to help each other and work together; and leaves her free to help those who may need extra support.

**Summary**

In this case study there was an underlying framework of cooperative learning where children were encouraged to work collaboratively. The children developed a range of texts based on their own experiences at school and the use of cooperative skills meant that social skills as well as communication skills were used as children learned to use the English language and related conventions. The use of cooperative learning strategies to randomly select group members and also group roles ensured that the children had to work together
to complete the tasks. The children developed the rules for taking care of the digital camera and ways to analyse the effectiveness of the photographs.

The children worked in groups to mentor each other and this led to an increase in English language use for real purposes. The chance to work in randomly selected groups and in pairs or as individuals provided choices about collaborative and individual work, reduced the behavior management issues and encouraged children to work together rather than in opposition to each other. This freed the teacher and allowed her to work with children who required additional support.

The tasks of compiling power point presentations to show other teachers and parents engaged the children in all aspects of the Multiliteracies Map. The children used functional skills, meaning maker, critical analysis of photographs, and transformer to create their products.
Case study four: Multiliteracies through the library

Ann is a teacher-librarian and was a MM Facilitator. Magill Junior Primary is classified as a category 7 school and it serves a very high income area. There are an increasing number of children with English as a Second Language (48%) and some children’s parents are international students attending the nearby university. The school is known for its strong academic program and was formally known as a school with programs for students who were identified as gifted and talented. There are 11 classes and some are multi-grade. Ann was a MM Facilitator during 2006-7. She modified some of the materials in the multiliteracies program, adding her own photos and she used the children’s work samples to show how multiliteracies work in the classroom.

In the junior primary school there is a designated computer room with 14 computers and in the classrooms there are one or two computers. The children move out of the classroom into the computer room for classes where they are introduced to a range of computer skills and software. Ann comments that:

I’m not high tech. I’m learning the same as everyone else. We need to have adults in the computer room because the children can learn quicker with support. There are a lot of resources tied up in the room as there are 2 salaries in the room all day plus the classroom teacher as well.

There are three teachers in the computer room for each weekly session and Ann views this as providing support for children and also the teachers are being inserviced as they work with the computers and the children. The teachers also get extra help from Ann in the library. For technical help there is an IT technician at the school and in the primary school.

Within the junior primary and primary school there is a very strong focus on using new technology to learn. There is a moodle site with amazing resources gathered together for teachers to share and pod casts made by students.

Ann completed the multiliteracy training last year with the junior primary staff and also involved the upper primary teachers because she felt it was important to for the teachers of older children to find out about what the junior primary teachers were doing with the younger children. She comments:

In our school we embed multiliteracies across all curriculum areas. This means that I work with the noncontact teachers and the specialist teachers as well as we all need to upgrade skills and know what the children are learning. This means involving the music teacher, the science teacher, the Chinese teacher. We may be doing a unit of work that links to these subjects and the specialist and noncontact teachers also join us in the computer room. We have whole classes at a time and we are building up their skills.
Ann developed a topic of work *Rediscover through space* for children when the Discovery Space Shuttle was in space investigating and the children were able to access the NASA web site to view live footage of the process. The topic tied together children's interest in space plus literacy and use of new technologies.

To begin, Ann used the Multiliteracies Map to plan the topic of work (see Figure 28). The functional user section was for learning the skills to operate software. Meaning maker was learning to read and research information for websites, books and video on the NASA and other sites. Critical analyser involved using the genre exposition to create arguments for and against space travel and analysing the accuracy and authenticity of information provided on the space websites. Transformer was taking information into another text using *PowerPoint*, *FrontPage* and using this in a presentation.

<table>
<thead>
<tr>
<th><strong>Functional user</strong></th>
<th><strong>Meaning maker</strong></th>
<th><strong>Critical analyzer</strong></th>
<th><strong>Transformer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning objects</td>
<td>Learning objects</td>
<td>Discussions around space- could take the form ( in the genre exposition ) eg life in outer space Explorers from different countries Read/interpret information Locate sites on the WWW</td>
<td>Presentations of work eg possibly PowerPoint of information FrontPage - booklet of information</td>
</tr>
<tr>
<td>Online websites - DLB</td>
<td>/WWW- reading/learning new information and using it PowerPoint presentation. Research – key words for meaning – dot points Viewing video of space exploration – making connections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PowerPoint</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Word – copy/paste</td>
<td></td>
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<tr>
<td>WordArt</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Kid Pix4 – export as JPEG into PowerPoint</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FrontPage</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ann commented that the plan was challenging:

The children had to learn how to use the Learning Objects from the Learning Federation, online websites, PowerPoint, Word to copy and paste, WordArt, KidPix4 to export a JPEG into PowerPoint and then Front Page.

It is a lot for 5-8 year olds to learn to do. They had to present their work using a PowerPoint of information and a FrontPage booklet of information. Five year olds can do this but they need a lot of support. If a five year old has done a piece of work in KidPix4 they learn to save it as a file into their own folder which is in their class folder. They then export it out of KidPix and then they need to put it back into their folder as an exported JPEG item. Then they need to go to their folder, find their picture and insert the picture from their file into PowerPoint. There are a lot of steps for them to get right and they have been doing really well at it at the end of five terms at school - they are really good at it.
In the school the quadrant of functional user is strong and children are taught from age five years to move between various software programs. There is also a strong focus in the school on critical analyser and there are ongoing conversations about, ‘is it right and accurate? How do you know it is right?’ For example, in the space project the children viewed the NASA site everyday when the Discovery was up (see Figure 29) and they talked about the images they were seeing and whether they were correct. ‘How do you know this is happening? Why is the web site using this angle to film what is going on?’ Ann commented that often the children would be shown a shot of the men at the desks and the group would talk about why the site selected and used this image.

Ann states:

It was amazing that this was a video streamed about what was happening now and we would never have seen this in the past. How do you know it is happening? It is easier to do this with images rather than text.

Figure 29: Examples of vision the children critiqued from the NASA site.
As well as learning information from the NASA site children documented facts they learned using KidPix which was converted to a JPEG and used in a PowerPoint summary of their learning. Below (Figure 30) is an example of a five year old student’s writing and drawing about the NASA site.

![Figure 30](image)

Ann believes teachers demonstrate critical analysis with visual images more easily than with written text. Young children have finely developed visual skills and are ready to notice small hidden messages in text. Many children do not have complex literacy skills which enable them to read and understand the complex technical written language on some websites.

She commented:

Last year we put all of our work into PhotoStory so the children could show their progress and we burnt it onto a DVD to take home. We will use PowerPoint next year as it is a bit easier to use. The children are taking their own photographs.

The children have a DVD record of the year’s highlights and the example below (Figure 31) was written by Emma. She has used PowerPoint, Kidpix, Word, the digital camera and other software to create this record of highlights.
**Emma**
- I am five
- I have Brown eyes
- I like to play with Ebony
- I can run

**Our Family Story**
- My family comes from Adelaide.
- I was born in Adelaide.
- My parents were born in Australia.

**Dear Mia**

**Love Emma**

**My Easter Egg Design by Emma**

**Letters by Emma**

**Peter Rabbit**
Ann is concerned that there is not an easy transition between preschool and the first years of school. She is doing a research project investigating what skills children are learning in Kindergarten with multiliteracies and cameras, to find out what they bring to school when they are five years old. She wants to know what children bring so she can tap into that when they arrive.

I can’t see that they come with many skills that they can use. In Kindy it seems that there is always someone with them and they don’t have independent computing skills or know how to use the software. Maybe our computer room daunts them, but they are not independent with computers.

When the children begin school they have to learn keyboarding and quite complex manipulations like ‘Ctrl:Alt:Del’ which use three fingers at the same time and this can be difficult to coordinate for some children.
There is a developmental continuum of skills that need to be developed. Last year I worked with the Year 7’s on a project where they had to use video, PowerPoint and cameras. They also used PhotoStory and it had only just come out. Technology is changing that quickly.

We are doing a cull of our reference books. In a book published in 1992 we found a book asking ‘what is the greenhouse effect?’ The texts are so out of date compared to what is accessible online.

Ann has understandings of resource based learning and ways to help children access information. She plans units of work or topics with teachers in the school and they use several frameworks in planning. Below (Figure 32) is a topic on climate change used with young children. Inquiry based learning, essential learnings and the Multiliteracies Map were used in developing the topic. It shows how children can integrate learning across all learning areas and how technology is an integral part of that learning.

Big concept

Climate change

Essential question
What effects have we had on climate change over time and what can we do to minimise it?

Overview
Students will have a greater understanding of factors that contribute to climate change and what they can do to reduce the impact of climate change on the environment.

What Essential Learnings am I giving the students opportunities to explore and develop?

Interdependence, Futures, Thinking and Communication

The aim of this unit is for students to gain an understanding of the interdependence of human beings and the environment for a sustainable future, through thinking and communication with others.

Why this topic?

This unit was chosen in response to the students’ awareness through continual press coverage and their concern about global warming expressed in classroom discussions.

How long?

This was a four week unit of one 45 minute lesson per week.

Design and Technology Key Idea

Making
Children develop confidence in their capacity to use materials and equipment to make products, processes and systems and, in so doing, reflect on how they work.

Outcome : 1.4
Acts confidently through using materials and equipment to make products, processes and systems.

Science Key Idea

Earth and Space
Children collect, organize and share information online and offline about the aspects of their personal world that enables them and their families to live.

Outcome : 1.1
Identify and share information about features of their natural and built local environment that affect living things, including themselves.

Society and Environment Key Idea

Place, space and environment
Children develop an understanding of the concepts of sustainability, conservation and care of resources and places and take action consistent with these. They assess the ways in which values affect behaviour.

Outcome : 1.6
Participate actively in projects to show understanding of the importance of caring for local places and natural environments.

English Key Idea

Language
Children produce written texts, drawing on the support of proficient writers as required. They identify and talk about some basic features of written texts and visual images.

Outcome : 1.8
Experiment with language when planning and composing a range of texts about familiar experience.

Intended learning from the Key Idea associated with Outcome 1.4

Making
Children develop confidence in their capacity to use materials and equipment to make products, processes and systems and, in so doing, reflect on how they work.
Confidently make & use rain gauge.

Intended learning from the Key Idea associated with Outcome 1.1
Earth and Space
Children collect, organize and share information online and offline about the aspects of their personal world that enables them and their families to live.
Collect daily rainfall data and weather condition information
Organize data in Excel document
Share data with students from school Kingston on Murray.

Intended learning from the Key Idea associated with Outcome 1.6

Place, space and environment
Children develop an understanding of the concepts of sustainability, conservation and care of resources and places and take action consistent with these. They assess the ways in which values affect behaviour.
Develop an awareness of environmental changes over a period of years by viewing and interacting with the LO “Bernie’s Pond”
Interview television weather presenter about his experiences with weather changes over a 40 year period of time
Collect and analyse information gathered online and use it to create posters informing the community about their concerns
Examine family values and habits to assess what changes to their own behaviour could contribute to a more sustainable future
Investigate and plan suitable location to plant trees.

Intended learning from the Key Idea associated with Outcome 1.8

Language
Children produce written texts, drawing on the support of proficient writers as required. They identify and talk about some basic features of written texts and visual images.
Produce written text creating their own biographies to communicate with other students and script weather reports drawing on the expertise of well known weather presenter by watching how weather reports are constructed
Identify key features of weather reports by viewing and interacting with the LO “Wearing the Weather”
Working in pairs students identify and discuss the features and terms used in the presentation of weather reports
Create weather presentations using Kid Pix, audition for key roles in television interview and script interview questions to ask the weather presenter about his experiences as a reporter and a presenter and his observations of changes in weather patterns over time.

What learning opportunities would I need to provide?

Opportunities would include:
Working on an exciting interactive, enquiry project working with e-learning partners at a school in the Riverland, Kingston on Murray
Collecting information about Magill’s weather and the rainfall for a month and relaying it to the other school via our school website
Set up an open line of communication between the two schools enabling discussion and comparison of the two environments and schools
Using multimedia, video and digital cameras to present work.

Possible assessment strategies would be

Teacher observations
Online assessment forum - peer and self
Teacher assessment of ‘Thinking Hat’ Scavenger Hunt report

ASSESSMENT TASK SHEET
Assessment task A “About Me” PowerPoint presentation
Assessment task B - (a) Rain Gauge
Assessment task B - (b) Completed weather data collection worksheet (Excel)
Assessment task C - (a) Student designed KidPix ‘Weather forecast’
Assessment task C - (b) Peer assessment of ‘Weather forecast’ documents
Assessment task D - ‘Thinking Hats’ Scavenger Hunt report
Assessment task E - Student designed KidPix conservation poster

What activities did the teacher and students do?

Teacher

Initial planning with teachers involved

Wrote to parents seeking permission for students to participate and images to be sent to Kingston on Murray
Developed the Excel document that provided information and recording proforma
Sent copies of all documentation to Kingston on Murray School.
Gathered online resources and LOs
Set up De Bono’s 6 Thinking Hat scavenger hunt Word document with links to www
Taped weather presentation as an example for children
Scripted and blocked Magill school studio recording of weather and interview in consultation with students
Liaised with television studio staff to set up interview with weather presenter
Sent interview questions written by students to television studio in advance of interview
Set up a mock up of a television studio video recording of interview and weather presentation
Post production on the video recording of the interview and weather report

Student

PowerPoint about self as introduction to students from Kingston on Murray
Made rain gauges and discussed the best position in the school yard for the optimum collection of rain
Critically analyse tape of weather broadcast and discuss key elements/components of the presentation (language used and weather apparatus)
Daily collection of temperature and rain data by students from the class.
Engaged with learning objects (‘Old Bernie’s Story’ and ‘Wearing the Weather’) and discussed observations with partner.
Kid Pix presentations of weather reports
Researched www information about climate change and answered De Bono 6 Thinking Hat questions about climate change and the effects on us and our environment
Developed a KidPix poster using new knowledge about an issue of climate change that would assist with promoting change in people’s habits
Weather presenter interview questions
Communication via email with Kingston on Murray School and with television studio staff
Audition for roles in the television presentation (interview and weather presentation)
Participate in recording of interview and weather presentation as either a member of the studio audience or presenter (television reporter, anchor person or weather presenter)
Viewed edited version of television presentation.

Assessment task A: ‘About Me’ PowerPoint presentation
Assessment task B: Rain gauge and weather report

<table>
<thead>
<tr>
<th>Date</th>
<th>Temperature</th>
<th>Weather Conditions</th>
<th>Rainfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/06/2006</td>
<td>10.7</td>
<td>Mostly sunny</td>
<td>0 mm</td>
</tr>
<tr>
<td>2/06/2006</td>
<td>15</td>
<td>Mostly cloudy</td>
<td>0 mm</td>
</tr>
<tr>
<td>3/06/2006</td>
<td>10</td>
<td>Partly cloudy</td>
<td>0 mm</td>
</tr>
</tbody>
</table>

Assessment task C: Student designed KidPix ‘Weather forecast’

todays report!
today it will be sunny and warm.
and at night it will be hot.
you will have to wear short clothes not warm clothes.
It will be a great day to play in the park.
Assessment task E: Student designed *KidPix* Conservation poster

**Summary**

The children at the school experience a strong academic program and the school is well resourced with teachers and a technician to support children’s learning. The expectation for five year olds is that they will develop functional skills to use a range of software from *PowerPoint*, *KidPix*, *PhotoStory* to *FrontPage*. The children engage in all aspects of the Multiliteracies Map, critically analyzing information from web sites and the texts they produce.

Ann uses an inquiry based approach and plans with other teachers to challenge the children. The children have functional, meaning making, critical analytical and transforming skills to apply to a range of multimodal texts.
Chapter 8

Future directions—critical analyser and transformer

With the increase in internet use, as evidenced from the ABS data, that reveals at home and school 95% of all children used a computer and 64% accessed the internet. However research with older primary school children has revealed that while children access the internet many do not have the skills to critically analyse the information provided online. For example in the United States (Corio, 2007) studied 7th grade students’ skills in critical evaluation of online information and found that 60-80% of students did not have effective strategies for evaluating online information and 35-45% could not begin to locate information about relevancy, accuracy, reliability or bias in the first place.

Many of the teachers in the case studies in this report used the quadrant in the Multiliteracies Map to teach very young children to critically analyse texts whether the texts were online or paper based. Children in the fourth case study were learning to locate sites and to critique the accuracy of the material particularly when they were viewing the NASA site. While linked to the NASA site they explored who was the narrator or who was telling the story and why various shots were chosen to be transmitted. They discussed what may have been left out and why there were many shots of the control centre. The notion of learning to critically analyse was in the teacher’s plan for the unit of work and occurred in examples of the assessment required.

In addition in case study one, the notion of stereotypes was analysed in the unit of work on fairy tales. In the classroom the children devised with the teacher, six essential questions to explore the various fairy tales they were reading. These questions were ‘What is the message that is being communicated through the text?’, ‘Who is trying to communicate the message?’, ‘Who are they trying to communicate the message to?’, ‘Whose opinion is it?’, ‘What questions do you have about the text?’ and ‘Is anything missing from the text?’ These six essential questions could be used with online texts, magazine, catalogues or newspapers. The idea of critically analysing texts was included in the children’s assessment of work undertaken in the unit.

Also within all the case studies when children were actively creating they were also critically analyzing. They critically analysed the photographs they took, the PhotoStories and PowerPoints and other projects created. It was in the act of creating new texts that children came to understand the many choices available to authors and illustrators. When creating the multimodal products they were continually asking, ‘What is the message I want to get across?’, ‘How will I communicate it?’ ‘Who is the message for?’, ‘Whose opinion or perspective is this?’, and ‘Is anything missing from the text?’

In the case studies children were learning to be a critical analyser, analysing words and images, to critically locate and evaluate information and the ways meanings can be conveyed. They were learning to go beyond the surface appearances to discover the deep meanings of any event, text, technique, process, object, statement or situation and applying that to their own context. Learning to critically analyse and transform texts can take place as students write, illustrate and make their own texts, to see how writers make choices of
what to include and leave out as they organise information and persuade others to their point of view.

The four case studies highlighted the value of the Multiliteracies Map as a framework for planning for learning in not only literacy but in all other curriculum areas. The case studies built upon the media habitus of the children and infused children’s access to new technologies into the whole curriculum.

**Critical analyser of picture books**

In the *Mapping Multiliteracies: a professional learning resource* teachers used picture books to explore how image and print communicate meanings and teachers drew on picture books as a reference point for analysis of the message in texts. This was because picture books are easily available and provide the time to ponder the techniques that authors and illustrators use to communicate meanings. ‘Picture books emphasize[s] the inextricable connection of words and pictures and the unique qualities of the form: a picture book is not simply a book that happens to have pictures’ (Wolfenbarger & Sipe 2007, p 273). The actual reading of picture books is part of a synergy created when text and art come together in a form of a picture book; some new entity is revealed that is more than a sum of its parts.

In picture books children are reading by combining written words and images. For example many years ago adults thought the classic picture book *Where the Wild things are* (Sendak) would be too disturbing to young children because of the ferocious wild things. But most children didn’t think it was scary at all because the wild things were smiling and many were looking quite meek, mild and even toothless. The children looked at the pictures while the adults read that the wild things ‘roared their terrible roars and gnashed their terrible teeth’. This book presents—a contradiction between the print and the illustrations.

Many picture books ‘create a playing field where the reader explores the experiments with relationships between words and pictures (Wolfenbarger & Sipe 2007, p 274). According to the authors there are at least five ways that words and pictures interact in narrative picture books

- symmetry—the words and pictures are on an equal footing
- complimentary—each provides information
- enhancement —each extends the meanings of the other
- counterpoint—words and pictures tell different stories
- contradiction—beyond different narratives, the words and pictures seem to assert the opposite of each other.

Symmetry, complimentary and enhancement words in picture books

When words and pictures work together, compliment and enhance each other there are opportunities to develop children’s critical analysis of the visual design features (see Figure 32) of picture books such as the colour, size and shape of the illustrations, front and back covers, the end papers, title page and so on. In the book *The Napping House* (Wood & Wood), children notice that the colour of the book changes over time, beginning with dark end paper and moving to bright sunny colours. The images provide the words with—colour,
shape and form—that they would otherwise lack. Reading images and words simultaneously, children move across and through artists’ and authors’ carefully designed forms and content.

The choice of colour denotes mood and has particular cultural significance. The perspective of the illustration reveals point of view or who is telling the story. Many teachers explore how vectors or directional lines focus attention, for example, when the ‘wild things’ looked at Max the children were shown that the ‘wild things’ deferred to Max as their king. The foreground and background also contribute to the visual story.

Visual analysis

<table>
<thead>
<tr>
<th>Colour</th>
<th>Mood and emotion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cultural significance such as the meaning of red, gold and black in various cultures</td>
</tr>
<tr>
<td>Perspective</td>
<td>Depth and dimension</td>
</tr>
<tr>
<td></td>
<td>Point of view</td>
</tr>
<tr>
<td>Vectors</td>
<td>Directional ‘lines’ to focus the reader’s attention on various aspects such as the direction of the eye gaze to make the reader notice an object.</td>
</tr>
<tr>
<td>Foreground</td>
<td>Giving power by positioning for example the important elements are placed at the front</td>
</tr>
<tr>
<td>Background</td>
<td>Creates the setting or scene and can show less important objects or people</td>
</tr>
</tbody>
</table>

Figure 32

Talking about visual design features can deepen and extend reader’s literary understanding and interpretive sophistication. Visual analysis can work with books where image and pictures compliment and enhance each other and this is important for children learning to be a critical analyser.

Counterpoints and contradictions

It is when the words and the pictures tell different stories or interrupt the regular narrative pattern, that picture books are an even richer resource for critical literacy to identify text origins, their authority and how texts work to shape values and beliefs.

Counterpoints

Counterpoints occur when the words and pictures tell different stories and an example of this is *Come away from the water Shirley* (Burningham). In the book *Come away from the water Shirley* one page shows the words and pictures from the parent’s point of view and on the opposite page is Shirley’s fantasy world. So we can read the parents’ story with cautions to stay clean and tidy in words and pictures, Shirley’s story as a vivid adventure which her parents have no idea about, and thirdly as a way to explore Shirley’s relationship with her parents.

Contradictions

When the traditional narrative structure is interrupted as in many postmodern picture books, the author works against a linear storytelling pattern. This is where the story may begin as a traditional narrative and then the author or the characters take over and change
the traditional story. For example in *Wolves* (Gravett) the wolf pursues the rabbit, with the wolf getting larger and larger, until near the conclusion, the rabbit disappears, presumably eaten. In the last pages the author steps in and writes that there should be an alternative ending. With scraps of crumpled paper from a torn up earlier draft of the story the author creates a happier ending.

Similarly in the award winning book *The Three Pigs* (Wiesner) the pigs take over the story and make their own adventure. In *The Stinky Cheeseman* (Scieszka) by many fairy tales are bent out of shape and re-occur in a new telling of the fairy tale.

Many new picture books fall into the category of narratives that contradict or rework the traditional narrative. The books that present different points of view on traditional stories include the *True Story of the Three Pigs* (Scieszka) from the wolf’s point of view and *Voices in the Park* (Brown), told from various points of view. There are many books that present different points of view, *(Jack and the Beanstalk, Red Riding Hood, The Three Bears)* and these offer opportunities for teaching critical analysis by using questions to which young children can relate, for example, *Who is telling this story? What is the author’s message? What is left out? What is the author trying to get me to think?*

**Frameworks for critical analysis and transformer**

Much work in the area of critical analysis in literacy involves older children and adults and it remains a challenge to engage young children in critical analysis and transforming of texts when they are often busy learning the functional skills of the alphabetic principle and moving on to read and use logographic symbols. Appendix E contains a continuum development of new literacies which was developed during the *Children of the New Millennium project* to explore how young children may develop as functional users, meaning makers, critical analysers and transformers. Several frameworks for exploring critical analysis are described in the next section.

Being a critical analyser involves teaching children how to analyse texts, to identify text origins, their authority and how texts work to shape values and beliefs (Anstey & Bull, 2006). Learning to analyse texts requires developing a visual meta language or vocabulary to describe the choices available when creating texts (Callow, 2006). Critical analyser also goes beyond intellectual exercises in critical thinking to include emotional and moral qualities (Beck, 2005).

Critical analysis fits within the broad area of critical literacy and concerns the following points according to Wray (2006).

1. It is not enough to be literate in a basic or literal sense. Language works to advantage some social groups over others. Students can investigate, question and challenge the relationships between language and social practice.

2. Words and text (which can be verbal, digital, printed, moving or pictorial) cannot be separated from the social and cultural practices in which (and by which) they are created.
'The way we use language to read, write, view, speak and listen is never neutral or value free.' The selection of a picture book to read aloud can potentially exclude children who belong to or identify with different cultures.

3. Critical literacy is about developing a habit of analysis and evaluation. Developing a habit of critical analysis to go beyond the surface appearances to discover the deep meanings of any event, text, technique, process, object, statement or situation and applying that to your own context.

4. Critical literacy is about transforming the ‘taken for granted’ social and language practices for the good of as many people as possible. This transformation can take place as students imagine themselves in the lives of others, write their own texts to see how writers make choices of what to include and leave out as they organise information and persuade others to their point of view.

**Critically analysing information texts**

Children meet a variety of information texts online in various websites and learning to critically analyse these texts presents a challenge to educators. Young children as young as preschool age are accessing Google to search for information and according to preschool teachers the young children tend to believe the information found online is true, because it is online and on the computer.

Corio (2007) whilst working with older students, studied 7th grade students’ skills in critical evaluation of online information, and found that 60-80% of students did not have effective strategies for evaluating online information and 35-45% could not even locate information about relevancy, accuracy, reliability or bias in the first place.

Information texts whether online or in book form are read differently from narratives. They introduce vocabulary and concepts that are often new to children and some vocabulary may not be within their spoken vocabulary. Information texts are organised in a range of text types, such as reports or arguments, according to the purpose of the text. Different text types demand different reading strategies before, during and after reading. When students are reading and writing they need to be aware of the purposes authors have when they construct and organise texts to present information to others.

In the process of comprehending and using information texts, students’ conceptual knowledge and language resources will move from:

- simple to complex concepts
- personal and familiar knowledge to factual and unfamiliar information
- everyday language to specialised and technical vocabulary
- differentiating between fact and opinion
- events viewed from one perspective to events viewed from multiple perspectives
- concrete descriptions to abstract descriptions.

A great deal of the information contained in information texts resides in visual devices such as photographs, diagrams, maps, charts and graphs, (see Figure 33) and students have to orchestrate their reading across visual and print features. Information texts in paper based form tend to use similar visual tools as those found on the web. In paper texts there are text boxes, charts, diagrams and photographs which can be easily downloaded and placed in books. Because information and photographs are accessible online this information, whether accurate or not, can find its way into paper based books.
Design features in information print based and online texts

<table>
<thead>
<tr>
<th>Finding information</th>
<th>Print</th>
<th>Visual tools</th>
<th>Drawings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of contents</td>
<td>Type size</td>
<td>Map</td>
<td>realistic</td>
</tr>
<tr>
<td>Glossary</td>
<td>Font</td>
<td>relief map</td>
<td>interpretive</td>
</tr>
<tr>
<td>Index</td>
<td>Style (italic,</td>
<td>road map</td>
<td>colour</td>
</tr>
<tr>
<td>Titles</td>
<td>underlined, bold)</td>
<td>weather map</td>
<td>black and white</td>
</tr>
<tr>
<td>References</td>
<td>Colour</td>
<td>Photographs</td>
<td>scaled</td>
</tr>
<tr>
<td>Appendixes</td>
<td></td>
<td>enlarged</td>
<td>Time lines</td>
</tr>
<tr>
<td>Labels</td>
<td></td>
<td>close up</td>
<td>circular</td>
</tr>
<tr>
<td></td>
<td></td>
<td>camera angle</td>
<td>vertical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Charts</td>
<td>horizontal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>columns and rows</td>
<td>Captions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tables and graphs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>bar</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>line</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>pie</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diagrams</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>webs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>cutaways</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>cross sections</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>trees</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Text organisation</th>
<th>Layout</th>
<th>Charts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapters</td>
<td>Format of text</td>
<td>columns and rows</td>
<td></td>
</tr>
<tr>
<td>Headings</td>
<td>Bullets</td>
<td>Tables and graphs</td>
<td></td>
</tr>
<tr>
<td>Body text</td>
<td>White spaces</td>
<td>bar</td>
<td></td>
</tr>
<tr>
<td>Author information</td>
<td>Colour</td>
<td>line</td>
<td></td>
</tr>
<tr>
<td>Introduction</td>
<td>Columns</td>
<td>pie</td>
<td></td>
</tr>
<tr>
<td>Section icons</td>
<td></td>
<td>Diagrams</td>
<td></td>
</tr>
<tr>
<td>Text boxes</td>
<td></td>
<td>webs</td>
<td></td>
</tr>
<tr>
<td>fact boxes</td>
<td></td>
<td>cutaways</td>
<td></td>
</tr>
<tr>
<td>think about...</td>
<td></td>
<td>cross sections</td>
<td></td>
</tr>
<tr>
<td>did you know?</td>
<td></td>
<td>trees</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 33**

Information texts are designed to package information in text boxes, labels, figures, diagrams and graphs as well as body text—they package information visually in different ways to a narrative. Body text may be the major text and minor text may occur in captions and text boxes. Children have to orchestrate interrelations between these two visual and linguistic modes. Information books for young children and for older readers have both visual and linguistic modes and these modes have different orientations and ways of expressing meaning and representing meaning (Kress, 2003; Unsworth, 2001).

Information books provide an important way in to learning to critically analyse the information that is presented. They provide time to ponder how the text has been designed and ways to read print and visual information. Not only do children have to read the information in print but they also analyse the meaning of the visual information. For example, in Figure 34 the information text uses text boxes, arrows to show direction in which to read the text, arrows to point out text features, headings and a photographic food web. This highly visual information is not only read from left to right but also from bottom to top and from side to side when the text boxes are read. The body text is a small section at the top of the left hand page.
Information texts and various web pages add another layer of complexity as students have to learn how to locate information in table of contents and hyperlinks, glossaries, indexes, titles, references, appendices, author information, captions, labels, body text and text boxes. Not only do children have to learn how to locate information but they also need to critically analyse the content.

In the search to find ways to support children as critical analysers of information texts Wray (2006) suggests the following questions that can be used for text analysis particularly for information texts.

What is the subject or topic of this text?
Why might the author have written it?
Who is it written for? How do you know?
What values does the author assume the reader holds? How do you know?
What knowledge does the reader need to bring to the text in order to understand it?
Who would be left out in this text and why? Who would feel that the claims made in the text clash with their own values, beliefs or experiences?
How is the reader positioned in relation to the author (e.g. as a friend, as an opponent, as someone who needs to be persuaded, as invisible, as someone who agrees with the author’s views?)
Another framework (Harris, R 1997) is to use a checklist such as CARS (Credibility, Accuracy, Reasonableness, Support).

Credibility
Credibility is to do with authenticity, for example, the author might provide information about their credentials, experience and possibly contact details. Credibility also involves some kind of quality control, meaning there is some kind of review process.

Accuracy
Accuracy has to do with dates and whether the information is comprehensive and if differing points of view are included.

Reasonableness
Reasonableness involves examining the information for fairness, objectivity and believability. Exaggerated claims, such as ‘this is the most important information’ is a clue to lack of reasonableness.

Support
References and links to other sources of information can support the author’s argument and credibility.

Other useful frameworks to use with information texts
Corio (2007) suggests a ‘think and check’ strategy (see Figure 35) to help students learn to critically evaluate internet sites and this could also be used when exploring information books.

Think and Check

<table>
<thead>
<tr>
<th>Think</th>
<th>Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does this sound like it makes sense?</td>
<td>Be skeptical and ask around.</td>
</tr>
<tr>
<td>Where else can I look?</td>
<td>Conduct internet searches using keywords from the topic in quotation marks or look in a book.</td>
</tr>
<tr>
<td>Who created the website and for what purpose?</td>
<td>Explore the ‘about us’ link with a critical eye.</td>
</tr>
<tr>
<td>Who is the author?</td>
<td>Do an internet search with the author’s name in quotation marks.</td>
</tr>
<tr>
<td>Who is linking to the site?</td>
<td>Type linked URL (of the web page in questions into the search box.</td>
</tr>
</tbody>
</table>

Figure 35
The set of essential questions below can also be used with information texts.

SEQ - Six essential questions (to be a critical analyser)
1. What is the message that is being communicated through the text?
2. Who is trying to communicate the message?
3. To whom are they trying to communicate the message?
4. Whose opinion is it?
5. What questions do you have about the text?
6. Is anything missing from the text?

These essential questions alert younger readers to the idea that all texts are constructed and choices made by authors.

Information books differ from narratives in important ways however the frameworks for analyzing picture books may be useful for understanding the reading of both text and visual media.

Symmetry—are the words and pictures are on an equal footing?
Complimentary—do pictures and print each provide information?
Enhancement —do pictures and text each extend the meanings of the other?

Information texts’ print and visuals need to have symmetry, be complimentary and enhance each other. If the words and images tell different stories and contradict each other this makes the information lack credibility, accuracy and reasonableness.

Some hybrid texts may be confusing to young children learning to critically analyse information. When narrative tales use realistic photographs they do not have the register of information texts with technical language or the vocabulary of science. However hybrid books may be useful in helping children learn to analyse what is credible and accurate information. Hybrid texts are often the creative texts that children choose to write when not bound by text conventions.

**Summary**

Young children can learn to be critical analysers and transformers of literacy by exploring the images and words in narrative picture books. In picture books the images and words can be explored using vocabulary to describe how colour, perspective, vectors, foreground and background create meaning. This then helps children write their own texts. In multimodal texts children can explore how visual design features, composition and auditory design features work to create meaning. In information texts several elements combine to communicate meaning. In addition, information texts add another layer of complexity as students have to learn how to locate information in table of contents, glossaries, indexes, titles, references, appendices, author information, captions, labels, body text and text boxes.
In the early childhood years young children are playing computer games, surfing the internet for school related work and for leisure activities and this includes accessing chat rooms. It is paramount that learning to be a critical analyzer becomes central to curriculum in early childhood. In addition, critical analysers and transformers need to express ideas by creating their own texts, so they begin to understand the choices authors have in creating texts that shape ideas, knowledge, values and beliefs.

The *Children of the New Millennium* research showed that children as young as three and four years of age can represent meaning with digital photographs about their learning and they can play with these photographs importing them into slide shows, changing the layout, the colours and the shape. They could make books with photographs and their own art work using a myriad of colours, backgrounds and this can have audio voice and sound effects and animation added to it. The research revealed that the traditional content of reading and writing needs to be broadened to include the use of multiple sign systems that represent meaning. Children in early childhood have always used construction, drawing or illustrations, movement and sound to represent meaning. The newer multimodal technologies merely add to children’s choice of medium to represent ideas and to comprehend the meanings in a range of texts.
Chapter 9

Summary of findings

The Mapping Multiliteracies: a professional learning resource was developed as a result of the Children of the New Millennium research project conducted jointly by DECS and UniSA from 2002-2004. The evaluation of Mapping Multiliteracies: a professional learning resource was based on the following questions:

- How effective was the implementation model?
- In what ways did the Mapping Multiliteracies: a professional learning resource meet the desired outcomes to develop early childhood teachers’ understandings of multiliteracies and ways in which technology impacts on learning?
- What are some future directions for using multiliteracies in early childhood classrooms?

The findings of the original Children of the New Millennium project highlighted the need for teachers to not only develop their own skills using new technologies but also to recognise and assess such skills in their students, and develop them further. The original project developed the framework titled the Multiliteracies Map (see Figure 35) for planning and assessing teaching and learning with new literacies.

<table>
<thead>
<tr>
<th><strong>Functional user</strong></th>
<th><strong>Meaning maker</strong></th>
<th><strong>Critical analyser</strong></th>
<th><strong>Transformer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating, code breaking, using signs and icons</td>
<td>Understanding multimodal meanings</td>
<td>Discourse analysis</td>
<td>Using skills and knowledge in new ways</td>
</tr>
<tr>
<td>Selecting and operating equipment</td>
<td>Purpose of text and text form</td>
<td>Equity</td>
<td>Designing texts</td>
</tr>
<tr>
<td>Moving between mediums: cameras, videos, computers</td>
<td>Connecting to prior knowledge</td>
<td>Power and position</td>
<td>Producing new texts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appropriate software / hardware</td>
<td></td>
</tr>
</tbody>
</table>
In 2006-2007 over 1200 early years’ teachers attended the professional development program which was conducted as four modules or two half day modules at school sites in a range of districts. School and preschool-based facilitators conducted the sessions. The module of implementation was a collaborative, locally based teacher mentoring approach where participants volunteered to attend, rather than a centralized mandated training by the department. The workshop materials were dynamic and designed so that the facilitators could change the materials and add their own examples.

The program’s underlying philosophy about teaching and learning was social constructivism emphasizing the importance of culture and context in understanding what occurs in society and constructing knowledge based on this. Participatory action research which involves examining current actions was implemented. Learning is viewed as a social process where meaningful learning occurs when individuals are engaged in social activities and higher order functions develop out of social interaction.

Along with the guiding philosophy of active construction of knowledge was a need to gather evidence on the effectiveness of the program and possible future developments. To evaluate the effectiveness of the program multiple methods of data collection were used including surveys pre and post, interviews, observations and the compilation of case studies. The evaluation investigated the effectiveness of the program to develop early childhood teachers’ understandings of ways in which technology impacts on learning in homes and communities.

The evaluation also investigated the use of the Multiliteracies Map, a framework to plan children’s literacy experiences as well as future suggestions for development.

The evaluation found in a survey of early years’ teachers, that the professional development was successful. There was an increase in early childhood teachers reporting confident use of technology. In the initial survey 35% commented that they strongly agreed that they were confident users of technology and in the final survey 53% stated they viewed themselves as confident users. On the initial survey 20% indicated they agreed with the statement ‘I have a clear understanding of multiliteracies’. On the final survey the corresponding figure was 76%. Teachers were invited to comment on their understanding of the Multiliteracies Map and at the outset the level of agreement was 14%. On the final survey the figure was 70%.

The participants were invited to comment on the question ‘What has been surprising about children’s use of multiliteracies?’ Almost all of the responses noted the ease and confidence that young children demonstrated when using multiliteracies. Teachers also commented on the many different uses of technology in the home. Several teachers noted that home access was not equal.
In the teachers’ responses there was a strong theme about respecting and finding out more about what children already know about technology. Teachers commented ‘giving children more ownership of their learning’ and ‘having children teach me more about their use of technology’. These responses are linked to teachers’ statements about how amazed they are about how much young children knew when they started school. Teachers also wanted more training and development and on-going support for using new technologies. Most teachers (74%) agreed that the professional learning model was effective and commented on the skill and the enthusiasm of the local district based facilitators as well as the materials.

Some teachers commented that they wanted more ‘hands on’ experiences with computers and this may highlight the need for different forms of professional development. In fact the range of experiences mirrored the quadrants in the Multiliteracies Map as some teachers were at the functional level needing to learn how to access various sites and use software while others were planning, critiquing curriculum and supporting children as they created and transformed texts into all kinds of digital texts.

The 60 teacher facilitators were also surveyed and commented that the professional development materials were flexible yet supportive and they valued the training available to them and the release time to prepare workshops. The local district based workshops meant that schools could set up networks, links and continue to share ideas. There was also less travel involved as teachers went to local schools where they could also learn about how other preschools and schools organised early years teaching and learning. The facilitators co-presented often with one preschool and one junior primary facilitator and this crossing of school and preschool boundaries worked to enhance communication. The facilitators were at all levels of development with new technologies and some facilitators had very sophisticated skills while others were learning along with the participants.

According to the facilitators the Multiliteracies Map framework encouraged teachers to be functional users, meaning makers, critical analysers and transformers. This meant that teachers could focus on developing functional technical skills if required. Teachers also thought about the meanings communicated in children’s homes and communities using a range of different texts as well as honing their critical analysis skills in understanding authors’ intentions. Teachers could also transform ideas by generating new texts; applying them in different contexts sometimes using print based text and sometimes electronic text types. The Multiliteracies Map emphasises the importance of integrating all aspects—from function use, meaning making, critically analysing and transforming ideas and this worked well in implementing the workshop sessions for participants as it did not let the technology take over and situated new technology, new texts, as part of literacy.
The case studies highlighted the value of the Multiliteracies Map as a framework for planning for learning in literacy and also for assessment. In the first case study children used a range of software to move between print based and multimodal texts. The children were carefully scaffolded to achieve success. The teacher modeled how to critically analyse the elements of various narrative texts. After learning how to critically analyse numerous texts for narrative features they then used these features to create new texts. First they created a new fairy tale in written language format. Then they made a visual story board with six frames and created three dimensional plasticene sculptured figures of the story characters. Next they photographed the characters in various settings and moved the photographed Jpegs into Photo Story software in the correct sequence. They applied a voice over and music.

The Multiliteracies Map provided the overall framework for the teacher to develop the unit of work. The map was also used with the children to help them understand that they were functional users, meaning makers, critical analysers and transformers and this framework was used in assessing the unit of work. For example, in functional user, the children were learning the code or conventions of written and spoken narrative texts plus learning to use software for digital cameras in a PhotoStory. In meaning maker, the children focused on comprehending the literal, interpretive and inferential meanings about the actual text which could be print or video and how a text connects and impacts on the audience or readers’ emotions. In critical analyser, critical thinking and analysis skills about accuracy, authenticity and the author’s message or intentions were analysed for values or moral purpose. In addition children compared and contrasted versions of stories and why these stories have been told to children for many years. In transformer, the children were creating texts by combining the structure or elements of text and creating new texts using a range of different communication modes.

The Multiliteracies Map intersects with other frameworks and taxonomies with which teachers are familiar and draw on for planning literacy projects or units of work. For example, inquiry based learning, Bloom’s taxonomy and the notion of multiple intelligences and dispositions towards learning.

In case study two the preschool serves a community where email and digital photographs are the preferred way to communicate with friends and other family members. Children use digital cameras, sophisticated software and go online to find information at home and at school. At this preschool connections between home and school are facilitated by technology.

The teachers have received ongoing professional development in a range of new software and enjoy learning about what technology can do alongside the children. The preschool children move easily between digital and print based texts and they enjoy print based books as well as multimodal texts. Technology is an everyday tool for communication and with these 3 and a half to five year olds, it is a familiar tool that they take for granted as four years ago, when many of the preschoolers were born, the world was already a cyber world.
Two important issues were raised in the case study. First the children tend to believe that everything online is accurate and the truth. Second, the children at home are familiar with high speed computers and it is a challenge for preschools to keep pace with the speed of development in new technology as the cost of upgrading every few years can be prohibitive.

In case study three there was an underlying framework of cooperative learning where children were encouraged to work collaboratively. The children developed a range of texts based on their own experiences at school and the use of cooperative skills meant that social skills as well as communication skills were used as children learned to use the English language and related conventions. The use of cooperative learning strategies to randomly select group members and also group roles ensured that the children had to work together to complete the tasks. The children developed the rules for taking care of the digital camera and ways to analyse the effectiveness of the photographs.

The children worked in groups to mentor each other and this led to an increase in English language use for real purposes. The chance to work in randomly selected groups and in pairs or as individuals provided choices about collaborative and individual work, reduced the behavior management issues and encouraged children to work together rather than in opposition to each other. This freed the teacher and allowed her to work with children who required additional support.

The tasks of compiling power point presentations to show other teachers and parents engaged the children in all aspects of the Multiliteracies Map. The children used functional skills, meaning maker, critical analyser of photographs and transformer to create their products.

In case study four the teacher-librarian and the teachers worked collaboratively demonstrating how to learn online and to create new texts with technology. The expectations for five year olds at the school were that they would develop the functional skills to use a range of software from PowerPoint, KidPix, PhotoStory to Front Page. The children engage in all aspects of the Multiliteracies Map, critically analyzing information from web sites and the texts they produce. The teacher used an inquiry based learning approach to challenge and engage the children. The children have functional, meaning making, critical analysis and the skills to creatively transform a range of multimodal texts.

**Future directions**

Electronic communication is changing and continues to do so. Email messages are instantaneous and text messaging is an even more condensed immediate form of communication. Many people no longer print out emails preferring to answer on screen as quickly as possible as the response is expected to be immediate or at least within a day or so. Although paper letters are still used there is an expectation that they take a lot of time to
prepare. Books are read, however teachers commented that the reference books in libraries need to be culled as much of the information is out of date. Facebook is growing faster than MySpace as its audience has more than doubled since last year. We don’t know how many young children are engaged in reading and pasting photos and messages on Facebook but we do know that more and more children are going online for information and it is difficult to protect young children from accessing all manner of sites.

In the early childhood years young children are playing computer games, surfing the internet for school related work and for leisure activities and this includes accessing chat rooms. It is paramount that learning to be a critical analyser becomes central to curriculum in early childhood. Learning to be a critical analyser in a fast moving information world is of crucial importance. To develop as critical analysers children need the vocabulary to describe and analyse the techniques used in these texts. In addition, critical analysers need to create their own texts and by doing this they begin to understand the choices authors have in creating texts that shape knowledge, values and beliefs.

The new forms of communication are exciting and the case studies revealed teachers are incorporating multiliteracies into their literacy program by using new technology as a way to create new texts in reading and writing. They are carefully scaffolding children’s learning to move between print based and multimodal texts. They are finding content online and working with the Mapping Multiliteracies framework to support children to develop functional skills using software, creating and saving files. Children are engaged in meaning making as they search for information on a variety of sites and as they create texts using software such as KidPix and PowerPoint.

Young children can learn to be critical analysers of multiliteracies by exploring the images and words in narrative picture books. In picture books the images and words can be explored using vocabulary to describe how colour, perspective, vectors, foreground and background create meaning. In multimodal texts children can explore how visual design features, composition and auditory design features work to create meaning. In information texts several elements combine to communicate meaning. In addition, information texts add another layer of complexity as students have to learn how to locate information in table of contents, glossaries, indexes, titles, references, appendices, author information, captions, labels, body text and text boxes.

In early childhood there is a dynamic, integrated relationship between content, technology and pedagogy. How teachers integrate the three areas of pedagogy, technology and content presents interesting tensions in the field of study. For example new technology can create ‘technocentric’ learning focusing on the latest hardware or software programs, omitting consideration of how content and pedagogy and technology can be integrated. There is also tension around the content of many early years’ policy documents particularly where literacy
Hill *Multiliteracies* 109

refers to print-based texts and popular culture, media and new technologies are dismissed. This dynamic relationship between early childhood pedagogy, technology and content are articulated in curriculum frameworks in various ways.

Teachers in the workshops responded well to the face-to-face communication with other teachers and their colleagues as mentors presenting information. With the increasing use of new forms of literacy it is paramount that teacher professional development continues. This professional development program was an effective model in that it provided a useful framework to develop and assess new knowledge and the information was local and developed in classrooms with the expertise of university researchers and teacher-researchers.
APPENDIX A

Preschool and school districts in South Australia 2006
Metropolitan Adelaide

* Districts that participated in 2006

Salisbury *
(includes schools/preschools such as: The Pines, Mawson Lakes, Pooraka, Parafield Gardens, Salisbury, Virginia, Burton and Ingle Farm)

Kumangka Para
(includes schools/preschools such as: Broadmeadows, Craigmore, Elizabeth Downs, Elizabeth Vale etc, Munno Para, and Smithfield)

North East
(includes schools/preschools such as: Athelstone, Dernancourt, Golden Grove, Modbury, Para Vista, Tea Tree Gully and Wynn Vale)

Metro West
(includes schools/preschools such as: Alberton, Brompton, Largs Bay, Mansfield Park, Pennington, Prospect, West Lakes and Woodville)

East
(includes schools/preschools such as: Campbelltown, Glen Osmond, Kensington Gardens, Rose Park, Rostrevor, Trinity Gardens and Walkerville)

South West *
Hill  

Multiliteracies 111
(includes schools/preschools such as: BlackForest, Brighton, Goodwood, Seaton Park, Torrensville, Netley and West Beach)

Inner South *
(includes schools/preschools such as: Belair, Colonel Light Gardens, Coromandel Valley, Edwardstown, Marion, Mitcham, Seacliff, Unley and Westbourne Park)

Wallara
(includes schools/preschools such as: Flagstaff Hill, Hackham, Hallett Cove, Morphett Vale, O’Halloran Hill, Lonsdale and Reynella)
APPENDIX B

Outer Districts

* Districts that participated in 2006

Aboriginal Lands
(includes schools/preschools such as: Amata, Ernabella, Indulkana, Mimili, Oak Valley, Pipalyatjara, Watarru and Yalata)

Northern Country *
(includes schools/preschools such as: Andamooka, Coober Pedy, Oodnadatta, Port Augusta, Roxby Downs, Whyalla and Woomera)

Eyre *
(includes schools/preschools such as: Ceduna, Elliston, Kimba, Miltaburra, Port Lincoln, Streaky Bay, Tumby Bay and Wudinna)

Flinders *
(includes schools/preschools such as: Crystal Brook, Hawker, Jamestown, Laura, Leigh Creek, Marree, Orroroo, Port Pirie and Snowtown)

Wakefield
(includes schools/preschools such as: Ardrossan, Edithburgh, Kadina, Port Wakefield, Wallaroo, Warooka and Yorketown)

Barossa
(includes schools/preschools such as: Angaston, Angle Vale, Eudunda, Gawler, Lyndoch, Mount Pleasant, Tanunda and Williamstown)

Riverland
Hills & Murraylands
(includes schools/preschools such as: Aldgate, Basket Range, Coonalpyn, Cafers, Hahndorf, Lobethal, Mount Barker, Murray Bridge and Upper Sturt)

Southern Sea & Vines *
(includes schools/preschools such as: Aldinga, Christies Beach, Moana, Mount Compass, Parndana, Penneshaw, Seaford, Strathalbyn and Willunga)

Limestone Coast *
(includes schools/preschools such as: Beachport, Bordertown, Millicent, Mount Burr, Mount Gambier, Naracoorte, Penola and Robe)
APPENDIX C

MAPPING MULTILITERACIES EVALUATION

Initial Participant Response

District ____________________________

I work with Preschool / School children
(please circle)

Workshop Model – 4 workshops - one full day - two ½ days - other
(please circle)

a) I am a confident user of technology

1  2  3  4  5
Strongly Disagree Neutral Agree Strongly Agree
disagree

Please list examples of use
______________________________________________________________________________
______________________________________________________________________________

b) I regularly use technology with my learners

1  2  3  4  5
Strongly Disagree Neutral Agree Strongly Agree
disagree

Please clarify how technology is used/list programs you use with young children (eg i movie)
______________________________________________________________________________
______________________________________________________________________________

c) I have a clear understanding of the concept of multiliteracies

1  2  3  4  5
d) I have an understanding of how the Multiliteracies Map can be used in my literacy program

1 2 3 4 5
Strongly disagree Disagree Neutral Agree Strongly Agree

e) I am hoping these workshops will...
APPENDIX D

MAPPING MULTILITERACIES EVALUATION
Final Participant Response

District ______________________________

I work with Preschool / School children
(please circle)

Workshop Model – 4 workshops - one full day - two ½ days - other
(please circle)

a) I am a confident user of technology

1 Strongly disagree 2 Disagree 3 Neutral 4 Agree 5 Strongly Agree

Please list examples of use
________________________________________________________________________
________________________________________________________________________

b) I regularly use technology with my learners

1 Strongly disagree 2 Disagree 3 Neutral 4 Agree 5 Strongly Agree

Please clarify how technology is used/list programs you use with young children (eg i movie)
________________________________________________________________________
________________________________________________________________________

c) I have a clear understanding of the concept of multiliteracies
d) I have an understanding of how the Multiliteracies Map can be used in my literacy program

How will you use the Multiliteracies Map?
________________________________________________________________________________________

e) What has been surprising about children’s use of multiliteracies?
________________________________________________________________________________________
________________________________________________________________________________________

f) As a result of participating in the program I will...
________________________________________________________________________________________
________________________________________________________________________________________

How effective is this professional learning model, (using district based facilitators, flexible workshop schedule, print materials etc) in supporting your understandings and practices in the area of Mapping Multiliteracies?

1 Strongly disagree 2 Disagree 3 Neutral 4 Agree 5 Strongly Agree
Hill

Please comment on the success of this model.
APPENDIX E

This is a continuum development of new literacies which was developed during the Children of the New Millennium project to explore how young children may develop as functional users, meaning makers, critical analysers and transformers.

READING AND VIEWING: New literacies

Reading is gaining meaning from text. Text today has many elements associated with it. When reading a web page students are not just involved in reading in a linear manner, left to right, and down the page but they are scanning and seeking out information of importance. They are using pictures, symbols and icons to locate material of interest. They are using information from a variety of sources. Children need to engage in text and critically distinguish the differences between text types. This document will expand our understanding of reading by analysing what students are doing when engaged with many multimodal text types.

Text types that students are engaged in:
Traditional text types are paper and print based texts, stories, books, poems, information texts posters, signs, logos and icons
Computer generated text types
♦ Linear text such as KidPix slide shows, PowerPoint presentations etc.
♦ Non-linear text such as web pages, HyperStudio stacks, CD ROM games and electronic books
♦ Communicating- emails, text messages, mobile phones
Video, TV and animation

Exploring Level (Approximate Ages 4-5)
Emergent Level (Approximate Ages 5-6)
At this level students are introduced to a variety of text types. They are developing their understanding of what the different elements of text types are. They are developing enjoyment when engaged in using different text types. They are involved in gaining meaning from text in a visual and multi-sensory manner. They are starting to identify various icons, symbols and logos that are pertinent to them. They are engaged in using web pages when they search for and locate information with adult support and guidance.

Early Level (Approximately Age 6-7)
Children are engaged in a variety of text types. They are exploring and manipulating various tools within software programs to make sense of icons and symbols. They are reading a variety of text types such as web pages and CD ROM’s to get information or to read a story.
Extending Level (Approximately 7-8)
Children begin to use a variety of text types e.g. books, posters, electronic books (*WiggleWorks*, Power point electronic books, slide shows), web pages, video, signs and logos. Children listen and respond to stories or information text. Children participate in group reading, poems, rhyme, songs, big books and digital text. Can identify and understand the meaning of symbols, icons, logos and diagrams. Children can identify software programs, websites and books of interest. Children develop enjoyment in using different text types and understand their purpose i.e. convey information, stories and messages.

Scaffolding

User ID and Password support to access the internet.

Support by scaffolding appropriate Early Years’ sites that can be saved through eduCONNECT.

Support with keyword searching within a simple search directory i.e. Enchanted Learning or search engine.

Support use of software or hardware for a particular purpose. The little finger keyboard has keyboards made for small hands. Teachers can access these and use them on a trial basis.

Children at this stage should be using tools to discover and learn for their own purpose. Playing on the internet can encounter problems but searching with the support of an adult and using a safe site such as the *abc for kids* site is appropriate for this age child.
Hi I am a helpful assistant. I am reading the document for you. Please check my response against the text provided.

Locating and using signs and icons
Developing an understanding different elements in texts

Teaching Emphasis- Emergent
Locating and using signs and logos.

Developing and understanding different elements in texts.
Develop an understanding of the Internet through modeling.

Look at ways of finding information
Look at a URL, web address.

Look at a URL, web address.
Talk about the safety aspect of using the internet.
For older students discuss the use of a bibliography to maintain a record of the source of the information used.
Use Information CD ROM such as Encarta or World Book to explore and find relevant information.
Show the students how to search for sites through a search directory such as Enchanted Learning.
Visually locating information of importance.
Model appropriate use of a search.
Identify information that is appropriate- visually.

<table>
<thead>
<tr>
<th>Functional User</th>
<th>Student Outcomes EXPLORING</th>
<th>Student Outcomes EMERGENT</th>
<th>Student Outcomes EARLY</th>
<th>Student Outcomes EXTENDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating and using visual icons</td>
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<tr>
<td>Developing an understanding of different elements of texts i.e. pictures tell a message, video, audio, print text</td>
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<tr>
<td>Look at ways to find information</td>
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</table>

- Understands that a web page has links to other pages
- Starting to use symbols to locate links of importance and using these
- Able to locate some information of use to answer a question i.e. What is the name of my caterpillar I found in the garden?
- Can find appropriate information that supports learning

- Develops the skills necessary to navigate through computer software, using written and visual prompts
- Identifies the appropriate text that would be useful for a specific purpose

- Navigates around a screen, locating icons and seeking out pertinent visual cues and information in CD ROM or webpage
- Can read the information of use
| Visually locate information of importance | Starts to find information of importance for directed learning (with adult support) | Able to locate some information and uses this to support student initiated learning | Can locate information of importance Has a good understanding of the way visual information gives information. |

**Meaning Maker**

**Key indicators**
- Connecting to prior knowledge of text to convey a message
- Using icons, visuals, audio and video to gather meaning
- Starting to predict what will happen when clicking on icons etc.
- Developing their understanding of various texts and how different elements convey meaning

**Scaffold WebPages for students to use.**
1. Guide children to useful websites that may help in their search. (Using the search directory of Enchanted Learning website)
2. Provide appropriate software that may be useful to the children.
3. Seek out appropriate software programs and websites suitable for children’s age and ability. May like to look at the TSOF site. [http://www.tsof.edu.au](http://www.tsof.edu.au)
4. Use visual tools to support children finding the various parts of the computer.

**Teaching Emphasis**

- Connecting to prior knowledge
- Identifying pertinent symbols and logos in software programs and WebPages
- Model the appropriate names of components of the computer to the children
- Demonstrate that images, symbols, animation, video, sound can convey messages and change meaning, e.g. happy, sad, scary sounds, colourful website, CD ROM, pictures on a page, writing
- Model with the different modes of text by reading and using these with the children
- Using icons, visuals, audio and video to gather meaning
Hill  

**Multiliteracies** 124

Model what information can be gained from pictures where an animal lives, what it looks like
Use visual displays to identify print and visual meanings i.e. could put software programs and common icons that are used in programs, back forward button etc
Starting to predict what will happen when clicking on icons, pictures, symbols etc.
Model using a variety of text types and predict with the children what will happen you click

Able to locate appropriate information web pages, books, pictures, CD ROM
Model the use of various use of information sources e.g. books, posters, real life, web sites, emails

<table>
<thead>
<tr>
<th>Meaning Maker</th>
<th>Student Outcomes</th>
<th>Students Outcomes</th>
<th>Student Outcomes</th>
<th>Student Outcomes</th>
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</thead>
<tbody>
<tr>
<td>Connecting to prior knowledge</td>
<td>EXPLORING</td>
<td>EMERGENT</td>
<td>EARLY</td>
<td>EXTENDING</td>
</tr>
<tr>
<td>Using icons, visuals, audio and video to</td>
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<tr>
<td>starting to gather information using visuals</td>
<td></td>
<td>Can find information about a topic from observing pertinent visuals, video,</td>
<td>Uses all visuals to gather meaning and seek out information to answer</td>
<td></td>
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<tr>
<td>Hill</td>
<td>Multiliteracies 125</td>
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<tr>
<td>gather meaning animation, and text etc.</td>
<td>questions Makes decisions about the appropriateness of various information</td>
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<tr>
<td>Starting to predict what will happen when clicking on icons, pictures, symbols etc.</td>
<td>Predicting the meaning of icons and pictures Reasons and functions of various links on a web page or electronic page Predicts the use of an icon by the familiar symbols and pictures using icons to locate the forms and types of information wanted i.e. pictures, video, sound and text Selecting appropriate software and sites for a specific purpose</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Able to locate appropriate information web pages, books, pictures, CD ROM</td>
<td>With support can identify the information that they wish to find Able to identify the questions they wish to find out more about using the question cube. Able to locate the information with some support and guidance Can use the question cube to locate information Confident at locating information and reading text that is appropriate</td>
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**Critical Analyser**

**Key indicators**
Developing cultural and gender perspective Developing an understanding of perspectives and authenticity of the website Develops an understanding of both print and electronic text capabilities

**Teaching Emphasis**
Bringing cultural and gender perspective
Look at pictures and websites to talk about what they mean to children—variety of perspectives could be Barbie, Bob the Builder etc.
Investigate cultures and how they have particular meanings to colours, art and genders.
Use gender in class to gather meaning from particular pictures.
Developing an understanding of perspectives and authenticity of the website.
Look at websites and addresses and write them up to see if they can relate them to other things i.e. abc for kids website.
Talk about who wrote them and why?
At the same time read books about fairy tale written from a different perspective is *The Three Little Pigs* told by A. Wolf.
Develops an understanding of both print and electronic text.
Use different text types and compare them.
Encourage the children to look at the features of different text types, video, CD ROM’s, electronic books, animations. Use these features to teach specific skills for the text types to development powerful texts.
Children are exposed to different electronic texts by exploring, playing and finding information.
Developing an understanding of aspects of text types to make decisions about.

<table>
<thead>
<tr>
<th>Critical Analyser</th>
<th>Students Outcomes EXPLORING</th>
<th>Students Outcomes EMERGENT</th>
<th>Student outcomes EARLY</th>
<th>Student Outcome EXTENDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bringing cultural and gender perspective</td>
<td>Develop an understanding that pictures convey a message that can be interrupted in different ways depending on culture and gender through components of these</td>
<td>Children starting to locate simple symbols to find consistency</td>
<td>Can identify key symbols and icons used on a web page or within programs i.e. back, forward, home icon etc</td>
<td></td>
</tr>
<tr>
<td>Developing an understanding of perspectives and authenticity of</td>
<td>Can identify what the purpose of the electronic text is for e.g. Games, information, stories etc</td>
<td>Has an understanding of a web address and can understand some simple features i.e. <em>Au Australia</em></td>
<td>Can put a simple web address into a web page to locate information</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Understands that anyone</td>
</tr>
</tbody>
</table>
the website

Understands that anyone can publish on the web etc.

Knows the purpose of certain software and websites

Can publish on the Internet can identify the purpose of different text types and software programs

Develops an understanding of both print and electronic text

Is able to identify common elements of different text types i.e. web pages have hyperlinks, books have print and pictures etc

Able to locate and find information that is required from different sources

Can use information found to make decisions about a rich question

Identify different features of text

Can identify some different features in simple texts like pictures, video, animations on a web-page

Deconstruct text types and look at components Within the context of learning program teach the children about colour, lines, positioning of text and pictures

Able to see how images, video, animation and sound support a certain text type, i.e. advertisements, clay animations and uses these to create these different texts.

Transformer

Key indicators

Demonstrates an ability to support others

Able to transfer their knowledge of programs/web pages by using similar strategies to explore a new program or web page

Uses information for various purposes to transform their learning

Able to articulate the process they used to carry out an investigation

Teaching Emphasis

Model steps that you need to do to access various text types i.e. CD ROM- insert and start, web pages locate
Model the use of electronic text for a particular purpose
Encourage students to use information, stories or new learning across many areas of the curriculum e.g. creating, writing making, science
Developing children’s ability to articulate the processes that they go through when approaching their learning
Making quite clear and visible the processes that have been taken along the way, revisit this process with the children

<table>
<thead>
<tr>
<th>Transformer</th>
<th>Student Outcomes EXPLORING</th>
<th>Student Outcomes EMERGENT</th>
<th>Student Outcomes EARLY</th>
<th>Student Outcomes EXTENDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrates ability to support others when using new mediums</td>
<td>Starts to problem solve some simple situations within a computer program</td>
<td>Able to share some learning with others</td>
<td>Can explain and support others when using programs and web pages</td>
<td></td>
</tr>
<tr>
<td>Able to transfer their knowledge of programs/web pages by using similar strategies to explore new programs/web pages</td>
<td>Starts to identify similar strategies to navigate</td>
<td>Begins to use knowledge across different programs and web pages</td>
<td>Is able to problem solve and navigate through various programs and web pages</td>
<td></td>
</tr>
<tr>
<td>Uses stories, games or information from</td>
<td>Finds locates pictures of importance</td>
<td>Begins to return to similar task to find out further information</td>
<td>Can locate information that is appropriate and can read this</td>
<td></td>
</tr>
<tr>
<td>Hill Multiliteracies 129</td>
<td>Different things</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the Internet for various purposes</td>
<td>Can identify some steps that they had carried out to locate information</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Able to articulate the process they used to carry out an investigation</td>
<td>Begins to understand different steps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can clearly articulate the learning process</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX F Example of using the Multiliteracies Map

The following examples show how one kindergarten has adapted the Multiliteracies Map for assessment of children and staff.

Multiliteracies Map – Child Assessment

<table>
<thead>
<tr>
<th>Name: ________________________________</th>
<th>Date: ______________</th>
</tr>
</thead>
</table>

**Functional User**
- Locating, codebreaking, using signs and icons
- Selecting and operating equipment
- Moving between mediums – camera, video, computer
- Functional user
- At a functional level children will develop skills to be able to;
  - Turn the computer on and off in the correct manner
  - Open and close a

**Meaning Maker**
- Understanding Multimodal meanings
- Purpose of text and form
- Connecting prior knowledge
- Meaning Maker
- As a meaning maker, children demonstrated their understanding by;
  - Creating scenes with a theme or related aspects
  - Being able to plan and know what to create
  - Searching out specific pictures, scenes,

**Critical Analyser**
- Discourse analysis
- Equity
- Power and position
- Appropriate mode/software/hardware
- Critical Analyser
- As critical analysts, the children began to have understandings of;
  - The importance of computers in the world and how much we rely on them
  - How computers are central to everything in the house, that we are surrounded by them

**Transformer**
- Using skills and knowledge in new ways
- Designing texts
- Producing new texts
- Transformer
- As a transformer, children could transform their skills and knowledge to;
  - Extend their ICT play into other events e.g. painting, reading, collage or construction
  - Extend their ICT learning into other areas e.g. science, maths, the environment
<table>
<thead>
<tr>
<th>Hill</th>
<th><strong>Multiliteracies</strong> 131</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>program, file or folder</strong></td>
<td></td>
</tr>
<tr>
<td>• Save work and retrieve files</td>
<td></td>
</tr>
<tr>
<td>• Operate the mouse, have mouse control, especially double clicking</td>
<td></td>
</tr>
<tr>
<td>• Use the keyboard</td>
<td></td>
</tr>
<tr>
<td>• Edit and backspace</td>
<td></td>
</tr>
<tr>
<td>• Recognise some letters and numerals on the keyboard</td>
<td></td>
</tr>
<tr>
<td>• Change the screen and background on the computer</td>
<td></td>
</tr>
<tr>
<td>• Coordinate the use of multiple aspects of the program to achieve a result</td>
<td></td>
</tr>
<tr>
<td>• Explore various ICT through play</td>
<td></td>
</tr>
<tr>
<td>• Recognise, use and understand icons and symbols eg ‘X’ in the corner closes a screen</td>
<td></td>
</tr>
<tr>
<td>• Use a digital camera or scanner</td>
<td></td>
</tr>
<tr>
<td>• Download digital functions</td>
<td></td>
</tr>
<tr>
<td>• Learning from and observing others problem solving</td>
<td></td>
</tr>
<tr>
<td>• Being aware of many different programs</td>
<td></td>
</tr>
<tr>
<td>• Following prompts in literacy based games</td>
<td></td>
</tr>
<tr>
<td>• Using the Internet as a tool to search for information</td>
<td></td>
</tr>
<tr>
<td>• Typing key words/phrases into a search engine</td>
<td></td>
</tr>
<tr>
<td>• Recognising certain sounds and their meanings eg the dial up tone of the Internet</td>
<td></td>
</tr>
<tr>
<td>• Responding to and writing different genres and features</td>
<td></td>
</tr>
<tr>
<td>• Developing good questions for processes of inquiry (resource based learning)</td>
<td></td>
</tr>
<tr>
<td>• Developing reading and comprehension appropriate to the</td>
<td></td>
</tr>
<tr>
<td>• How many different things use/need computers</td>
<td></td>
</tr>
<tr>
<td>• How other countries may not have so much technology and why</td>
<td></td>
</tr>
<tr>
<td>• The use of particular pictures and scenes to create interest/understanding/mood</td>
<td></td>
</tr>
<tr>
<td>• The purpose and power behind particular pictures and scenes</td>
<td></td>
</tr>
<tr>
<td>• What visual literacies are and how powerful/persuasive they can be, especially for young children</td>
<td></td>
</tr>
<tr>
<td>• How powerful hypertext/Multiliteracies can be compared with printed text</td>
<td></td>
</tr>
<tr>
<td>• The power of the Internet in finding out/sharing information and communicating</td>
<td></td>
</tr>
<tr>
<td>• The Internet being available in different languages, for other countries/people</td>
<td></td>
</tr>
<tr>
<td>• How the Internet and emails bring people together /make the world smaller</td>
<td></td>
</tr>
<tr>
<td>• Turn traditional texts into multimodal texts and vice versa</td>
<td></td>
</tr>
<tr>
<td>• Identify/name key elements/icons of one program and recognise them in another</td>
<td></td>
</tr>
<tr>
<td>• Recognise that many icons and tools in one program have the same functions in another</td>
<td></td>
</tr>
<tr>
<td>• Export work from one program to another, creating a new form of multimodal text</td>
<td></td>
</tr>
<tr>
<td>• Identify words within another context from the Internet to books</td>
<td></td>
</tr>
<tr>
<td>• Trouble shoot technical problems from one program to another</td>
<td></td>
</tr>
<tr>
<td>• Listen to a story/instructions/recount, then create their own multimodal texts in response</td>
<td></td>
</tr>
<tr>
<td>• Select the right key words when searching the Internet</td>
<td></td>
</tr>
<tr>
<td>• Select relevant websites/links when searching the Internet</td>
<td></td>
</tr>
<tr>
<td>• Manipulate text by altering size/font/colour/position/background/number of pages</td>
<td></td>
</tr>
<tr>
<td>• Create their own books from</td>
<td></td>
</tr>
<tr>
<td>photographs</td>
<td>program</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>Use the print function</td>
<td>Recognising and reading visual cues</td>
</tr>
<tr>
<td>Access and use the Internet</td>
<td>Using the computer to support spelling; auditory, visual aspects of the computer</td>
</tr>
<tr>
<td>Navigate around and between web pages</td>
<td>Reflecting on, expressing feelings and responding to texts</td>
</tr>
<tr>
<td>Select appropriate tools and use buttons to add sound, animations</td>
<td>Sharing and explaining their work to others</td>
</tr>
<tr>
<td>Insert pictures into work and adjust the size</td>
<td>Sharing thoughts and ideas behind the texts they create</td>
</tr>
<tr>
<td>Choose a background colour</td>
<td>Recognising that emails are a tool for communication between people and places</td>
</tr>
<tr>
<td>Use age appropriate software</td>
<td>Understanding the reasons for passwords and security</td>
</tr>
<tr>
<td>Use Kid Pix drawing tools and create slideshows</td>
<td>Using different kinds of text to convey different kinds of messages</td>
</tr>
<tr>
<td>Operate the slideshow function</td>
<td>Realising the purpose of different devices</td>
</tr>
<tr>
<td>Use transitions to slideshows</td>
<td>Recognising the purpose</td>
</tr>
<tr>
<td>Add text to slides</td>
<td>information found online</td>
</tr>
<tr>
<td>View work previously created</td>
<td></td>
</tr>
<tr>
<td>Show emerging</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Hill</td>
<td>Multiliteracies 133</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| competence in using a wider range of tools independently for a purpose to draw a picture, and change colours of the paintbrush | - Show knowledge of word processing  
- Use a typing program to increase speed and accuracy  
- Open, reply to and print emails  
- Recognise an unread email  
- Insert and play CD’s  
- Navigate around the hand controls of a games console  
- Operate remote controls to operate the TV, video, stereo, DVD player  
- Change between and focus on different interactive devices at once (eg Nintendo and of instructions (both in book form and online) |  
- Realising the need to go through processes/steps  
- Being a problem solver with computers  
- Choosing when and where to use ICT or when pen and paper was more suitable  
- Deciding which ICT device was the most appropriate for the task  
- Connecting the skills and knowledge learnt earlier with new tasks  
- Recognising the symbols from previous use of ICT  
- Recognise the power of different elements when making a text e.g. songs/dialogue/animations  
- Transfer knowledge of real life and represent that on screen e.g. with Slideshow/PowerPoint/iMovie  
- Include diagrams and labels to explain an idea/concept  
- Mentor each other by sharing knowledge/skills regarding ICT |  
- Who emails are sent by and why  
- The power of email to find out/share information and communicate  
- The importance of learning by observing others  
- Asking pertinent questions when experimenting with various ICT  
- Asking the right questions when trying to learn new skills  
- Asking the right questions when trying to create new products/texts  
- Who has the access/power within the centre/school/home when it came to using various ICT  
- How position in family and society made a difference when it came to using ICT  
- Who controls how much time is spent on computers and why  
- Why games must often be played separately to avoid websites/books/photographs/drawings |
<table>
<thead>
<tr>
<th>Game Boy</th>
<th>conflict between siblings</th>
<th>The violence of games and how they affect people</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Use a photocopier</td>
<td>• The difference between real life and games</td>
<td>• How favourite sites can be saved, returned to, navigated around and shared with others</td>
</tr>
<tr>
<td></td>
<td>• How good/powerful/empowered it felt to share skills and knowledge with others i.e. sharing sites with peers, showing a teacher how to find something online</td>
<td>• How fears/insecurities/worries affect progress and success, especially in a group</td>
</tr>
<tr>
<td></td>
<td>• Discerning/discriminating what sites/software are appropriate for who and why</td>
<td>• Discerning/discriminating what information is appropriate for who and why</td>
</tr>
<tr>
<td></td>
<td>• Choosing appropriate software and hardware to support their own learning</td>
<td></td>
</tr>
</tbody>
</table>
Multiliteracies Map – Child Assessment

**Name:** Aidan  
**Date:** 5<sup>th</sup> May 2006

### Functional User
- Locating, codebreaking, using signs and icons
- Selecting and operating equipment
- Moving between mediums – camera, video, computer

### Meaning Maker
- Understanding Multimodal meanings
- Purpose of text and form
- Connecting prior knowledge

### Critical Analyser
- Discourse analysis
- Equity
- Power and position
- Appropriate mode/software/hardware

### Transformer
- Using skills and knowledge in new ways
- Designing texts
- Producing new texts

### Functional User
- At a functional level, children will develop skills to be able to;
- **Turn the computer on and off in the correct manner**
- **Open and close a program, file or folder**
- **Save work and**

### Meaning Maker
- As a meaning maker, children demonstrated their understanding by;
- Creating scenes with a theme or related aspects
- Being able to plan and know what to create
- Searching out specific pictures, scenes,

### Critical Analyser
- As critical analysers, the children began to have understandings of;
- The importance of computers in the world and how much we rely on them
- How computers are central to everything in the house, that we are surrounded by them
- **How many different things use/need computers**

### Transformer
- As a transformer, children could transform their skills and knowledge to;
- **Extend their ICT play into other events eg painting, reading, collage or construction**
- **Extend their ICT learning into other areas eg science, maths, the environment**
<table>
<thead>
<tr>
<th>Retrieve files</th>
<th>Functions</th>
<th>How other countries may not have so much technology and why</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Operate the mouse, have mouse control, especially double clicking</td>
<td>• Learning from and observing others, problem solving</td>
<td>• The use of particular pictures and scenes to create interest/understanding/mood</td>
</tr>
<tr>
<td>• Use the keyboard</td>
<td>• Being aware of many different programs</td>
<td>• The purpose and power behind particular pictures and scenes</td>
</tr>
<tr>
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<td>• Typing key words/phrases into a search engine</td>
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<td>• Coordinate the use of multiple aspects of the program to achieve a result</td>
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<td>• The Internet being available in different languages, for other countries/people</td>
</tr>
<tr>
<td>• Explore various ICT through play</td>
<td>• Responding to and writing different genres and features</td>
<td>• How the Internet and emails bring people together /make the world smaller</td>
</tr>
<tr>
<td>• Recognise, use and understand icons and symbols e.g. ‘X’ in the corner closes a screen</td>
<td>• Developing good questions for processes of inquiry (resource based learning)</td>
<td>• How the Internet and emails are for everyone, young and old, male/female, in all languages</td>
</tr>
<tr>
<td>• Use a digital camera or scanner</td>
<td>• Developing reading and comprehension appropriate to the</td>
<td>• Who the Internet is used by and why</td>
</tr>
<tr>
<td>• Download digital photographs</td>
<td></td>
<td>• Who creates different web pages</td>
</tr>
<tr>
<td>• Turn traditional texts into multimodal texts and vice versa</td>
<td></td>
<td>• Identify words within another context from the Internet to books</td>
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<tr>
<td>• Identify/name key elements/icons of one program and recognise them in another</td>
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<td>• Trouble shoot technical problems from one program to another</td>
</tr>
<tr>
<td>• Recognise that many icons and tools in one program have the same functions in another</td>
<td></td>
<td>• Listen to a story/instructions/recount, then create their own multimodal texts in response</td>
</tr>
<tr>
<td>• Export work from one program to another, creating a new form of multimodal text</td>
<td></td>
<td>• Select the right key words when searching the Internet</td>
</tr>
<tr>
<td>• Identify words within another context from the Internet to books</td>
<td></td>
<td>• Select relevant websites/links when searching the Internet</td>
</tr>
<tr>
<td>• Manipulate text by altering size/font/colour/position/background/number of pages</td>
<td></td>
<td>• Manipulate text by altering size/font/colour/position/background/number of pages</td>
</tr>
<tr>
<td>• Create their own books from information found online</td>
<td></td>
<td>• Create their own books from information found online</td>
</tr>
</tbody>
</table>
- Use the print function
- Access and use the Internet
- Navigate around and between web pages
- Select appropriate tools and use buttons to add sound, animations
- Insert pictures into work and adjust the size
- Choose a background colour
- Use age appropriate software
- Use Kid Pix drawing tools and create slideshows
- Operate the slideshow function
- Use transitions to slideshows
- Add text to slides
- View work previously created
- Show emerging program
- Recognising and reading visual cues
- Using the computer to support spelling; auditory, visual aspects of the computer
- Reflecting on, expressing feelings and responding to texts
- Sharing and explaining their work to others
- Sharing thoughts and ideas behind the texts they create
- Recognising that emails are a tool for communication between people and places
- Understanding the reasons for passwords and security
- Using different kinds of text to convey different kinds of messages
- Realising the purpose of different devices

<table>
<thead>
<tr>
<th>and why</th>
<th>and why</th>
</tr>
</thead>
<tbody>
<tr>
<td>The fact that not everything on the Internet is true</td>
<td>The purpose and intent behind advertising/webpages/merchandise</td>
</tr>
<tr>
<td>The need to critically analyse what is being read and why</td>
<td>Whether different cultures/ages/classes/gender are represented in advertising/websites/movies</td>
</tr>
<tr>
<td>The control hypertext gives them in choosing their own path, clicking on what they wanted to</td>
<td>Whether different cultures/ages/classes/gender are targeted in advertising/websites/movies</td>
</tr>
<tr>
<td>The purpose and intent behind advertising/webpages/merchandise</td>
<td>Why certain words/music/images/animations are used</td>
</tr>
<tr>
<td>Whether different cultures/ages/classes/gender are represented in advertising/websites/movies</td>
<td>Who emails are sent by and why</td>
</tr>
<tr>
<td>The purpose and intent behind advertising/webpages/merchandise</td>
<td>The power of email to find out/share information and communicate</td>
</tr>
<tr>
<td>Whether different cultures/ages/classes/gender are targeted in advertising/websites/movies</td>
<td>The importance of learning by observing others</td>
</tr>
<tr>
<td>Why certain words/music/images/animations are used</td>
<td>Create electronic texts to share with their families</td>
</tr>
<tr>
<td>Who emails are sent by and why</td>
<td>Convey messages and information to others by electronic means i.e. emails/mobile phones</td>
</tr>
<tr>
<td>The power of email to find out/share information and communicate</td>
<td>Work independently when given a task</td>
</tr>
<tr>
<td>The importance of learning by observing others</td>
<td>Explore independently on the computer or with other ICT</td>
</tr>
<tr>
<td>Create electronic texts to share with their families</td>
<td>Understand the rules/actions in one game to confidently play another</td>
</tr>
<tr>
<td>Convey messages and information to others by electronic means i.e. emails/mobile phones</td>
<td>Understand the purpose and outcomes behind each task/item</td>
</tr>
<tr>
<td>Work independently when given a task</td>
<td>Recognise the different uses of a digital camera and a still camera</td>
</tr>
<tr>
<td>Explore independently on the computer or with other ICT</td>
<td>Understand the rules/actions in one game to confidently play another</td>
</tr>
<tr>
<td>Understand the purpose and outcomes behind each task/item</td>
<td>Recognise the differences between online texts and printed texts</td>
</tr>
<tr>
<td>Recognise the different uses of a digital camera and a still camera</td>
<td>Confidently click on links within websites, knowing they may lead to even more adventures</td>
</tr>
<tr>
<td>Understand the purpose and outcomes behind each task/item</td>
<td>Gather information from a variety of sources to create new texts e.g. interviews/websites/books</td>
</tr>
<tr>
<td>Recognise the differences between online texts and printed texts</td>
<td>Gather images from a variety of sources to create texts e.g. websites/books/photographs/drawings</td>
</tr>
<tr>
<td>Competence in using a wider range of tools independently for a purpose to draw a picture, and change colours of the paintbrush</td>
<td>Recognising the purpose of instructions (both in book form and online)</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>Show knowledge of word processing</td>
<td>Realising the need to go through processes/steps</td>
</tr>
<tr>
<td>Use a typing program to increase speed and accuracy</td>
<td>Being a problem solver with computers</td>
</tr>
<tr>
<td>Open, reply to and print emails</td>
<td>Choosing when and where to use ICT or when pen and paper was more suitable</td>
</tr>
<tr>
<td>Recognise an unread email</td>
<td>Deciding which ICT device was the most appropriate for the task</td>
</tr>
<tr>
<td>Insert and play CD’s</td>
<td>Connecting the skills and knowledge learnt earlier with new tasks</td>
</tr>
<tr>
<td>Navigate around the hand controls of a games console</td>
<td>Recognising the symbols from previous use of ICT</td>
</tr>
<tr>
<td>Operate remote controls to operate the TV, video, stereo, DVD player</td>
<td>Asking pertinent questions when experimenting with various ICT</td>
</tr>
<tr>
<td>Change between and focus on different interactive devices at once (e.g., Nintendo)</td>
<td>Asking the right questions when trying to learn new skills</td>
</tr>
<tr>
<td></td>
<td>Asking the right questions when trying to create new products/texts</td>
</tr>
<tr>
<td></td>
<td>Who has the access/power within the centre/school/home when it came to using various ICT</td>
</tr>
<tr>
<td></td>
<td>How position in family and society made a difference when it came to using ICT</td>
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<td></td>
<td>Who controls how much time is spent on computers and why</td>
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<td></td>
<td>Why games must often be played separately to avoid conflict between siblings</td>
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<td>How favourite sites can be saved, returned to, navigated around and shared with others</td>
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<td></td>
<td>How good/powerful/empowered it felt to share skills and knowledge with others i.e. sharing sites with</td>
</tr>
<tr>
<td></td>
<td>Recognise the power of different elements when making a text e.g. songs-dialogue/animations</td>
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<tr>
<td></td>
<td>Transfer knowledge of real life and represent that on screen e.g. with Slideshow/PowerPoint/iMovie</td>
</tr>
<tr>
<td></td>
<td>Include diagrams and labels to explain an idea/concept</td>
</tr>
<tr>
<td></td>
<td>Mentor each other by sharing knowledge/skills regarding ICT</td>
</tr>
<tr>
<td>and Game Boy)</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>• Use a photocopier</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>peers, showing a teacher how to find something online</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How fears/insecurities/worries affect progress and success, especially in a group</td>
</tr>
<tr>
<td>• Discerning/discriminating what sites/software are appropriate for who and why</td>
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<tr>
<td>• Discerning/discriminating what information is appropriate for who and why</td>
</tr>
<tr>
<td>• Choosing appropriate software and hardware to support their own learning</td>
</tr>
</tbody>
</table>
### Multiliteracies Map – Staff Assessment

**Name:** __________________________________________

**Date:** __________________________

<table>
<thead>
<tr>
<th><strong>Functional User</strong></th>
<th><strong>Meaning Maker</strong></th>
<th><strong>Critical Analyser</strong></th>
<th><strong>Transformer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating, codebreaking, using signs and icons</td>
<td>Understanding Multimodal meanings Purpose of text and form Connecting prior knowledge</td>
<td>Discourse analysis Equity Power and position Appropriate mode/software/hardware</td>
<td>Using skills and knowledge in new ways Designing texts Producing new texts</td>
</tr>
<tr>
<td>Selecting and operating equipment</td>
<td>Moving between mediums – camera, video, computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moving between mediums – camera, video, computer</td>
<td><strong>Meaning Maker</strong></td>
<td><strong>Critical Analyser</strong></td>
<td><strong>Transformer</strong></td>
</tr>
<tr>
<td><strong>Meaning Maker</strong></td>
<td>As a meaning maker, staff demonstrated their understanding by;</td>
<td>As critical analysers, the staff have understandings of;</td>
<td>As a transformer, staff transform their skills and knowledge to;</td>
</tr>
<tr>
<td></td>
<td>- Searching out specific pictures, scenes, functions</td>
<td>- The importance of computers in the world and how much we rely on them</td>
<td>- Extend their ICT learning</td>
</tr>
<tr>
<td></td>
<td>- Learning from and observing others problem solving</td>
<td>- How computers are central to everything in the house, that we are surrounded by them</td>
<td>- Turn traditional texts into multimodal texts and vice versa</td>
</tr>
<tr>
<td></td>
<td>- Being aware of many</td>
<td>- How many different things use/need computers</td>
<td>- Identify/name key elements/icons of one program and recognise them in another</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Recognise that many icons and tools in one program have the</td>
</tr>
</tbody>
</table>
retrieve files
- Operate the mouse, have mouse control, especially double clicking
- Use the keyboard
- Edit and backspace
- Change the screen and background on the computer
- Coordinate the use of multiple aspects of the program to achieve a result
- Explore various ICT
- Recognise, use and understand icons and symbols eg ‘X’ in the corner closes a screen
- Use a digital camera or scanner
- Download digital photographs
- Use the print function
- Access and use the Internet
- Different programs
- Using the Internet as a tool to search for information
- Typing key words/phrases into a search engine
- Recognising certain sounds and their meanings eg the dial up tone of the Internet
- Responding to and writing different genres and features
- Developing good questions for processes of inquiry (resource based learning)
- Reflecting on, expressing feelings and responding to texts
- Sharing and explaining their work to others
- Sharing thoughts and ideas behind the texts they create
- Recognising that emails are a tool for
- How other countries may not have so much technology and why
- The use of particular pictures and scenes to create interest/understanding/mood
- The purpose and power behind particular pictures and scenes
- What visual literacies are and how powerful/persuasive they can be, especially for young children
- How powerful hypertext/Multiliteracies can be compared with printed text
- The power of the Internet in finding out/sharing information and communicating
- The Internet being available in different languages, for other countries/people
- How the Internet and emails bring people together /make the world smaller
- How the Internet and emails are for everyone, young and old, male/female, in all languages
- Who the Internet is used by and why
- Who creates different web pages
- Same functions in another
- Export work from one program to another, creating a new form of multimodal text
- Identify words within another context from the Internet to books
- Trouble shoot technical problems from one program to another
- Listen to a story/instructions/recount, then create their own multimodal texts in response
- Select the right key words when searching the Internet
- Select relevant websites/links when searching the Internet
- Manipulate text by altering size/font/colour/position/background/number of pages
- Create their own books from information found online
- Create electronic texts to share with their families
- Convey messages and information to others by electronic means i.e. emails/mobile phones
- Work independently when given a task
- Navigate around and between web pages
- Select appropriate tools and use buttons to add sound, animations
- Insert pictures into work and adjust the size
- Choose a background colour
- Use age appropriate software
- Use various tools and create slideshows
- Operate the slideshow function
- Use transitions to slideshows
- Add text to slides
- View work previously created
- Show emerging competence in using a wider range of tools independently for a purpose to draw a picture, and communication between people and places
- Understanding the reasons for passwords and security
- Using different kinds of text to convey different kinds of messages
- Realising the purpose of different devices
- Recognising the purpose of instructions (both in book form and online)
- Realising the need to go through processes/steps
- Being a problem solver with computers
- Choosing when and where to use ICT or when pen and paper was more suitable
- Deciding which ICT device was the most appropriate for the task
- and why
  - The fact that not everything on the Internet is true
  - The need to critically analyse what is being read and why
  - The control hypertext gives them in choosing their own path, clicking on what they wanted to
  - The purpose and intent behind advertising/webpages/merchandise
  - Whether different cultures/ages/classes/gender are represented in advertising/websites/movies
  - Whether different cultures/ages/classes/gender are targeted in advertising/websites/movies
  - Why certain words/music/images/animations are used
  - Who emails are sent by and why
  - The power of email to find out/share information and communicate
  - The importance of learning by observing others
- Explore independently on the computer or with other ICT
- Understand the rules/actions in one game to confidently play another
- Understand the purpose and outcomes behind each task/item
- Recognise the different uses of a digital camera and a still camera
- Recognise the differences between online texts and printed texts
- Confidently click on links within websites, knowing they may lead to even more adventures
- Gather information from a variety of sources to create new texts e.g. interviews/websites/books
- Gather images from a variety of sources to create texts e.g. websites/books/photographs/drawings
- Recognise the power of different elements when making a text e.g. songs/dialogue/animations
- Transfer knowledge of real life and represent that on screen e.g. with Slideshow/PowerPoint/IMovie
- Include diagrams and labels to
<table>
<thead>
<tr>
<th>Hill</th>
<th>Multiliteracies 144</th>
</tr>
</thead>
<tbody>
<tr>
<td>- change colours of the paintbrush</td>
<td>- Connecting the skills and knowledge learnt earlier with new tasks</td>
</tr>
<tr>
<td>- Show knowledge of word processing</td>
<td>- Recognising the symbols from previous use of ICT</td>
</tr>
<tr>
<td>- Use a typing program to increase speed and accuracy</td>
<td>- Asking pertinent questions when experimenting with various ICT</td>
</tr>
<tr>
<td>- Open, reply to and print emails</td>
<td>- Asking the right questions when trying to learn new skills</td>
</tr>
<tr>
<td>- Recognise an unread email</td>
<td>- Asking the right questions when trying to create new products/texts</td>
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<td>- Insert and play CD’s</td>
<td>- Who has the access/power within the centre/school/home when it came to using various ICT</td>
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<td>- Navigate around the hand controls of a games console</td>
<td>- How position in family and society made a difference when it came to using ICT</td>
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<td>- Operate remote controls to operate the TV, video, stereo, DVD player</td>
<td>- Who controls how much time is spent on computers and why</td>
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<td>- Change between and focus on different interactive devices at once (eg Nintendo and Game Boy)</td>
<td>- The violence of games and how they affect people</td>
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<tr>
<td>- Use a photocopier</td>
<td>- The difference between real life and games</td>
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<td>- How favourite sites can be saved, returned to, navigated around and shared with others</td>
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<td>- How good/powerful/empowered it felt to share skills and knowledge with others ie sharing sites with peers, showing a teacher how to find something online</td>
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<td></td>
<td>- How fears/insecurities/worries</td>
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<tr>
<td></td>
<td>- Explain an idea/concept</td>
</tr>
<tr>
<td></td>
<td>- Mentor each other by sharing knowledge/skills regarding ICT</td>
</tr>
</tbody>
</table>
| | affect progress and success, especially in a group
| | - Discerning/discriminating what sites/software are appropriate for who and why
| | - Discerning/discriminating what information is appropriate for who and why
| | - Choosing appropriate software and hardware to support their own learning |
**Name:** Sandra  
**Date:** 5th May 2006

<table>
<thead>
<tr>
<th><strong>Functional User</strong></th>
<th><strong>Meaning Maker</strong></th>
<th><strong>Critical Analyser</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Locating, codebreaking, using signs and icons</td>
<td>Understanding Multimodal meanings</td>
<td>Discourse analysis</td>
</tr>
<tr>
<td>Selecting and operating equipment</td>
<td>Purpose of text and form</td>
<td>Equity</td>
</tr>
<tr>
<td>Moving between mediums – camera, video, computer</td>
<td>Connecting prior knowledge</td>
<td>Power and position</td>
</tr>
</tbody>
</table>

**Meaning Maker**
- As a meaning maker, staff demonstrated their understanding by:
  - Being able to plan
  - Learning from and observing

**Critical Analyser**
- As critical analysers, the staff have understandings of:
  - The importance of computers in the world and how much we rely on them
  - How computers are central to everything in the house, that we are surrounded by them
  - How many different things use/need computers
  - How other countries may not

**Transformer**
- Using skills and knowledge in new ways
- Designing texts
- Producing new texts

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<table>
<thead>
<tr>
<th><strong>Transformer</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- As a transformer, staff could transform their skills and knowledge to;</td>
</tr>
<tr>
<td>- Extend their ICT learning into other areas</td>
</tr>
<tr>
<td>- Turn traditional texts into multimodal texts and vice versa</td>
</tr>
<tr>
<td>- Identify/name key elements/icons of one program and recognise them in another</td>
</tr>
<tr>
<td>- Recognise that many icons and tools in one program have the same functions in another</td>
</tr>
<tr>
<td>- Export work from one program to</td>
</tr>
</tbody>
</table>
Open and close a program, file or folder
Save work and retrieve files
Operate the mouse, have mouse control, especially double clicking
Use the keyboard
Edit and backspace
Change the screen and background on the computer
Coordinate the use of multiple aspects of the program to achieve a result
Explore various ICT
Recognise, use and understand icons and symbols eg ‘X’ in the corner closes a screen
Use a digital camera or scanner
Download digital others problem solving
Being aware of many different programs
Following prompts
Using the Internet as a tool to search for information
Typing key words/phrases into a search engine
Recognising certain sounds and their meanings eg the dial up tone of the Internet
Responding to and writing different genres and features
Developing good questions for processes of have so much technology and why
The use of particular pictures and scenes to create interest/understanding/mood
The purpose and power behind particular pictures and scenes
What visual literacies are and how powerful/persuasive they can be, especially for young children
How powerful hypertext/Multiliteracies can be compared with printed text
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Who the Internet is used by and why
Who creates different web pages
another, creating a new form of multimodal text
Trouble shoot technical problems from one program to another
Listen to a story/instructions/recount, then create their own multimodal texts in response
Select the right key words when searching the Internet
Select relevant websites/links when searching the Internet
Manipulate text by altering size/font/colour/position/background/number of pages
Create their own books from information found online
Create electronic texts to share
Convey messages and information to others by electronic means ie emails/mobile phones
Work independently when given a task
Explore independently on the computer or with other ICT
Understand the rules/actions in one game to confidently play another
Understand the purpose and outcomes behind each task/item
Recognise the different uses of a digital
<table>
<thead>
<tr>
<th>Multiliteracies</th>
<th>148</th>
</tr>
</thead>
<tbody>
<tr>
<td>photographs</td>
<td>inquiry (resource based learning)</td>
</tr>
<tr>
<td>• Use the print function</td>
<td>• Developing comprehension appropriate to the program</td>
</tr>
<tr>
<td>• Access and use the Internet</td>
<td>• Sharing and explaining their work to others</td>
</tr>
<tr>
<td>• Navigate around and between web pages</td>
<td>• Sharing thoughts and ideas behind the texts they create</td>
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<tr>
<td>• Select appropriate tools and use buttons to add sound, animations</td>
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<td>• Insert pictures into work and adjust the size</td>
<td>• Understanding the reasons for passwords and security</td>
</tr>
<tr>
<td>• Choose a background colour</td>
<td>• Using different kinds of text to convey different and why</td>
</tr>
<tr>
<td>• Use various software</td>
<td>• The fact that not everything on the Internet is true</td>
</tr>
<tr>
<td>• Create slideshows</td>
<td>• The need to critically analyse what is being read and why</td>
</tr>
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<td>• The control hypertext gives them in choosing their own path, clicking on what they wanted to</td>
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<tr>
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<tr>
<td>• Add text to slides</td>
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<tr>
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<td>• Whether different cultures/ages/classes/gender are targeted in advertising/websites/movies</td>
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<tr>
<td>• Show emerging inquiry (resource based learning)</td>
<td>• Why certain words/music/images/animations are used</td>
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<tr>
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<td>• Confidently click on links within websites, knowing they may lead to even more adventures</td>
<td>• The power of email to find out/share information and communicate</td>
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<tr>
<td>• Gather information from a variety of sources to create new texts eg interviews/websites/books</td>
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<td>• Gather images from a variety of sources to create texts eg websites/books/photographs/drawings</td>
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<td>• Recognise the differences between online texts and printed texts</td>
<td>• Transfer knowledge of real life and represent that on screen eg with Slideshow/PowerPoint/iMovie</td>
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<td>• Include diagrams and labels to explain an idea/concept</td>
<td>• Mentor each other by sharing knowledge/skills regarding ICT</td>
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<tr>
<td>Competence in using a wider range of tools independently for a purpose to draw a picture, and change colours of the paintbrush</td>
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<tr>
<td>Show knowledge of word processing</td>
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<td>Use a typing program to increase speed and accuracy</td>
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<td>Open, reply to and print emails</td>
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<tr>
<td>Recognise an unread email</td>
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<tr>
<td>Insert and play CD’s</td>
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<tr>
<td>Navigate around the hand controls of a games console</td>
<td></td>
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<tr>
<td>Operate remote controls to operate the TV, video, stereo, DVD player</td>
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<tr>
<td>kinds of messages</td>
<td></td>
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<tr>
<td>Realising the purpose of different devices</td>
<td></td>
</tr>
<tr>
<td>Recognising the purpose of instructions (both in book form and online)</td>
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<td>Realising the need to go through processes/steps</td>
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<tr>
<td>Being a problem solver with computers</td>
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<tr>
<td>Choosing when and where to use ICT or when pen and paper was more suitable</td>
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<tr>
<td>Asking pertinent questions when experimenting with various ICT</td>
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<td>How position in family and society made a difference when it came to using ICT</td>
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<td>How favourite sites can be saved, returned to, navigated around and shared with others</td>
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</tr>
<tr>
<td>Hill</td>
<td>Multiliteracies 150</td>
</tr>
<tr>
<td>------</td>
<td>---------------------</td>
</tr>
<tr>
<td>• Change between and focus on different interactive devices at once (e.g., Nintendo and Game Boy)</td>
<td>• Use a photocopier appropriate for the task</td>
</tr>
<tr>
<td>• Connecting the skills and knowledge learnt earlier with new tasks</td>
<td>• How fears/insecurities/worries affect progress and success, especially in a group</td>
</tr>
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<td>• Recognising the symbols from previous use of ICT</td>
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<td>• Choosing appropriate software and hardware to support their own learning</td>
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References

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Hill  

**Multilateracies** 153


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Hill  
*Multiliteracies* 154


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**Biographic details**

Dr Susan Hill is an Associate Professor of Early Childhood Education, at the University of South Australia. She has worked in the field of teacher education for more than twenty years and her particular expertise is in the field of early childhood education, teacher education, disadvantage and literacy pedagogy.

She is the author and co-author of over twenty books for teachers including 100 children go to school: Connections Between Literacy Development in the Prior to School Period and the First Year of Formal Schooling, The Collaborative Classroom, Reading and Writing Communities, Books Alive, Readers Theatre and Book Talk. Her most recent publications include Phonics; Guiding Literacy Learners and Developing early literacy: Assessment and Teaching (2006)