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Stage 2 classroom

Jessica Mantei  
University of Wollongong

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**An examination of the role of  
computer-based technologies in the  
learning and teaching of writing in  
a Stage 2 classroom.**

A thesis submitted in partial fulfilment of  
the  
requirements for the award or degree of

**Masters of Education (Research)**

From the  
**University of Wollongong**

By

**Jessica Mantei**

Bachelor of Education, 1996, Australian  
Catholic University, Brisbane

Faculty of Education  
2006

### **Thesis certification**

I, Jessica Mantei, declare that this thesis, submitted in partial fulfilment of the requirements for the award of Masters of Education (Research), in the Faculty of Education, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Jessica Mantei  
17 July 2006

There are important people to thank for the support and encouragement I received while conducting this research.

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## Abstract

The expectation that teachers use computer-based technologies in literacy learning in primary school classrooms has heightened in recent years as schools attempt to prepare students for the literacy demands of the highly digitised workplace. Teachers have responded to this challenge with varying degrees of enthusiasm and success as they meet the challenge of rethinking their understanding of what it is to be literate and therefore their approach to providing literacy learning opportunities in classrooms.

This study aims to examine the role of computer-based technologies in the learning and teaching of writing in one Year 4 classroom. Observations, interviews, the teacher's program and student work samples collected during this study revealed that the skills and strategies required for traditional literacies are still relevant in the construction of texts using computer-based technologies. The study also demonstrated that these traditional skills are combined with other skills and strategies for the creation of new literacies emerging from computer-based technologies.

The findings of this study indicate that computer-based technologies force teachers to broaden their notion of what text is and how students best learn about writing.

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# Chapter 1

## Introduction



## ***Purpose of the Study***

The rapid development and use of computer-based technologies has brought about significant change in the school environment. Teachers integrate these technologies into their classrooms to varying extents and with varying levels of confidence. This research aims to explore the ways that one teacher used computer-based technologies in designing literacy learning experiences for his Year 4 students. The literacy needs of students in the 21<sup>st</sup> century are also explored in this study, providing a greater understanding of the place and function of computer-based technologies in literacy learning and informing pedagogy in a rapidly changing learning environment.

## ***Research Question***

What is the role of computer-based technologies in the learning and teaching of writing in a Stage 2 classroom?

## ***Sub Questions***

The following questions frame the study:

What does the teacher believe about using computer-based technologies for literacy learning?

What literacy skills do children use when constructing text with computer-based technologies?

What relationship exists between the teacher's beliefs and what the children do?

## ***The context of the study***

### **Background**

The new literacies that have emerged from computer-based technologies such as the World Wide Web are both non-linear and multi-modal. These new literacies challenge the notion of 'text' as the written word and force educators to reassess 'what writing is, what it does and does not do' (Kress, 2003, p 10). The presence of computer-based technologies in almost every aspect of daily life has created a need for better understanding of their role in classroom literacy learning experiences and in children's lives beyond school.

Computer-based technologies have enabled teachers to bring global information and events into classrooms in a way that no previous technology has allowed. The result is that print based texts have become just one of a range of literacies that children can engage with, calling on greater flexibility and breadth in schools' traditional view of literacy (Durrant & Green, 2000) and literacy learning. A large amount of government revenue has been invested to install computers and Internet connections in New South Wales (NSW) schools in an attempt to meet student needs through technology-rich learning environments. Research suggests, however, that teacher reluctance to embrace this new technology has been the main hindrance to successful integration of computer-based technologies into classrooms (Durrant & Green, 2000; Holland, 1996; Turbill, 2003).

The focus of this study is on seven (7) children and their class teacher as they engage with computer-based technologies to support literacy learning. The participant teacher's program reflects his attempts to balance the mandatory requirements of the Literacy syllabus documents (for example, Board of Studies (BOS), 1998) and the demands of the school and parent body - while also meeting the

diverse needs and interests of his students and his own understanding of literacy learning in the digital age.

### *Mandatory requirements - NSW English Syllabus K-6*

The NSW Board of Studies describes its educational aim as encouraging 'positive attitudes towards learning English, to develop students' ability in using language effectively and to enable critical reflection on how language works' (BOS, 1998, p 6). Syllabus outcomes guide teachers in designing programmes for classroom reading and writing experiences. The word 'text' is used broadly in this Syllabus to describe 'any written, spoken or visual communication involving language' (p 5), including multimodal texts emerging from computer-based technologies.

Indicators listed under each outcome guide a teacher's assessment of a student's success in achieving that outcome. Children in Stage 2 (Years 3 and 4) work toward fourteen (14) literacy outcomes that are grouped in sub-strands; six of these outcomes are organised into the writing sub-strand. The aim of each outcome and the accompanying indicators is to develop particular skills in learning to write and learning about writing. Listed in Table 1.1 are the writing Outcomes from the K-6 English syllabus (BOS, 1998) and the indicators that relate specifically to the focus of this research - the development of writing skills with the support of computer-based technologies. Other indicators in the syllabus document would also apply to the role of computer-based technologies because of the broad definition applied to the word 'text', but it is useful to consider what technology skills teachers have been specifically directed to teach and assess in order to understand the pressures involved in meeting these requirements.

**Table 1.1 - Writing outcomes and indicators from NSW English K-6 Syllabus (BOS, 1998)**





### *School and parent demands*

The focus school is located in an affluent Australian beachside suburb on the south-coast of New South Wales in the Catholic Diocese of Wollongong. The school boasts a long tradition of parent involvement in school life; fund raising and purchasing products at the teacher and parents' request is a major role of the Parents and Friends' Committee. This Committee undertook a bank loan to be repaid over a period of four (4) years to purchase fifteen (15) laptop computers for use in conjunction with desktop computers in each classroom. Each classroom was allocated four (4) desktop computers. The staff operated under an expectation from both the parent body and the school executive that the computers be utilised consistently throughout each school day across all grades as part of the regular classroom structures and learning program.

## ***Significance of the study***

### **The Diocesan story**

As the school at the focus of this study is a member of the Wollongong Catholic Diocese, it is useful to explore the educational agenda of the Diocese of Wollongong in relation to its facilitation of literacy learning experiences for children today. The educational agenda of the diocese is outlined in the document 'Agenda 2005: Initiatives of the Diocese of Wollongong System of Schools for 2005' (See Appendix D). In addition to a document analysis of this agenda, I also conducted an interview with the Director of Schools for the Wollongong Diocese, in which he described his perception of the learning needs of children in the

digital age. The full transcript of this interview may be viewed in Appendix E.

'Agenda 2005' identified five (5) priorities for education of its children throughout the academic year: Catholic Identity, Learning and Teaching, Pastoral Care, Learning and Leading, Resourcing. Within each priority, focus areas were listed as outcomes to be worked towards and within these focus areas, initiatives described specifically how the outcomes within the focus areas would be achieved. Included in each priority were outcomes to be achieved using computer-based technologies. For example, the second identified priority was 'Learning and Teaching'; the first focus within this priority was 'Building learning edge pedagogy'. One of the initiatives indicating that this outcome had been achieved was for teacher educators to 'identify professional development and strategies that promote the widespread use of [virtual learning environments] *myinternet* and *myclasses* as tools to support learning' (A 9.11.05).

A professional development course named TEACHnology was offered to teachers in the Wollongong Diocese of Wollongong in 2005 in an effort to achieve that outcome. Its aim was described as bringing learning technologies and curriculum education staff together to 'explore methods of integrating learning and teaching and technology in ways that create a better learning environment for children' (Catholic Education Office (CEO), 2002). Teachers wishing to participate in this professional development opportunity were required to meet certain criteria before being accepted into the course. The criteria included holding the position of full time classroom teacher rather than a part time or specialist teaching role and obtaining a written reference from the school principal supporting any application.

Success in this course was measured through two (2) assessment tasks. The first required teachers to define

the term 'pedagogy' and identify the pedagogy of teaching in a technology rich environment. The second involved selecting educational outcomes from any NSW Board of Studies K-6 Syllabus document, brainstorming as many computer-based technologies that could be utilised in achieving the selected outcomes and planning a unit of work for the children in the class. The designers of the TEACHnology course proposed the following 'vision' for teachers participating in the course:

- o High levels of communication and collaboration
- o Innovative use of new technologies and pedagogies
- o Teachers and children engaged in collaborative learning

The focus teacher in this study completed this professional learning course in 2003.

The Director of Schools for the Diocese of Wollongong elaborated further on his vision of the role of computer-based technologies in literacy learning in schools. He explained carefully that the issue of education in the digital age was broader than the use of computer-based technologies in classrooms. Rather, he identified three (3) elements and described the role of each one in meeting 'important learning outcomes for... kids' (I 9.11.05). These were:

### *Improving outcomes*

The Director argued that there must be a measurable shift in the achievement of learning outcomes by children throughout each year. To achieve this, he asserted that the challenge for teachers to put 'kids at the centre of the process' could be met by providing 'a full range of learning experiences for kids that both use technology, use paper and pen, use narrative, use stories, use colours and all those things' (I 9.11.05).

### *For schooling*

The Director explained that the Diocesan Agenda reflected a 'sophisticated approach to improving our literacy and numeracy because we think they are core issues in the development of our students in our schools' (I 9.11.05). In 2005, two (2) professional development opportunities for teachers were offered that aimed to improve the teaching of literacy in the Wollongong Diocese: Reading Recovery and Good First Teaching. Reading Recovery is an early intervention for children who have completed one year of schooling but have built 'inefficient literacy systems' (Clay, 1991) resulting in confusion about the way that reading and writing work. Teachers are trained in Reading Recovery to make 'superbly sensitive decisions about how to interact with the responses of the hard-to-teach child' (Clay, 1993).

The Good First Teaching professional development course emerged from the foundations of Fountas and Pinnell's (1999) ten (10) beliefs about quality teaching, with a particular focus on the delivery of a balanced literacy program that caters for individual learners' needs. The aim of the course was to improve 'literacy teaching and children's literacy outcomes in diocesan primary schools' (CEO, 2001). Teachers participating in the Good First Teaching course attended in-service sessions over three (3) terms that were designed to inform teachers of the underpinning theory while allowing for discussion and collaboration between classroom teachers in making practical links to classroom practice.

### *In the digital age*

The Director asserted that schools should be 'places that are actually in sync with what it is to live in the digital age at this time in Australia' (I 9.11.05). In response to this assertion, the Wollongong Diocese created a virtual learning environment (CASTnet) that provided teachers with

a forum to share their work and collaborate in designing and implementing learning experiences for their children. CASTnet has been used in the Diocese to create home pages for children to access from school and home, email functions for all users and a school web page conveying information about the school and the Diocese of Wollongong.

In summation, the Director shared an opinion that the 'power of a lot of technologies we have at the moment come... in the areas of allowing kids to share and celebrate and publish their work' (I 9.11.05). Certainly, in this study, the children were provided with opportunities to publish and share their work with their peers.

Schools in the Diocese of Wollongong have responded to the challenges described by the Director of Schools to varying degrees. The school where this research was conducted had embraced the use of CASTnet to communicate between staff members and between staff and children. All classroom teachers at this school had used CASTnet to create a myclasses page (a class webpage) that children could access both at school and home, and all teachers were regular users of email. The participant teacher in this study had completed both the TEACHnology and Good First Teaching professional development courses before the data collection period.

The focus teacher in this study designed a page using the myclasses application on CASTnet (See Figure 1.1). The children in this Year 4 class were able to access this site from the classroom and at home, providing they had Internet access, allowing them to share their learning with their parents. Through this PIP (Personal Interest Project) site, the children could access websites, undertake tutorials to improve their skills in using computer-based technologies, participate in a forum discussion and submit their completed work to their teacher.

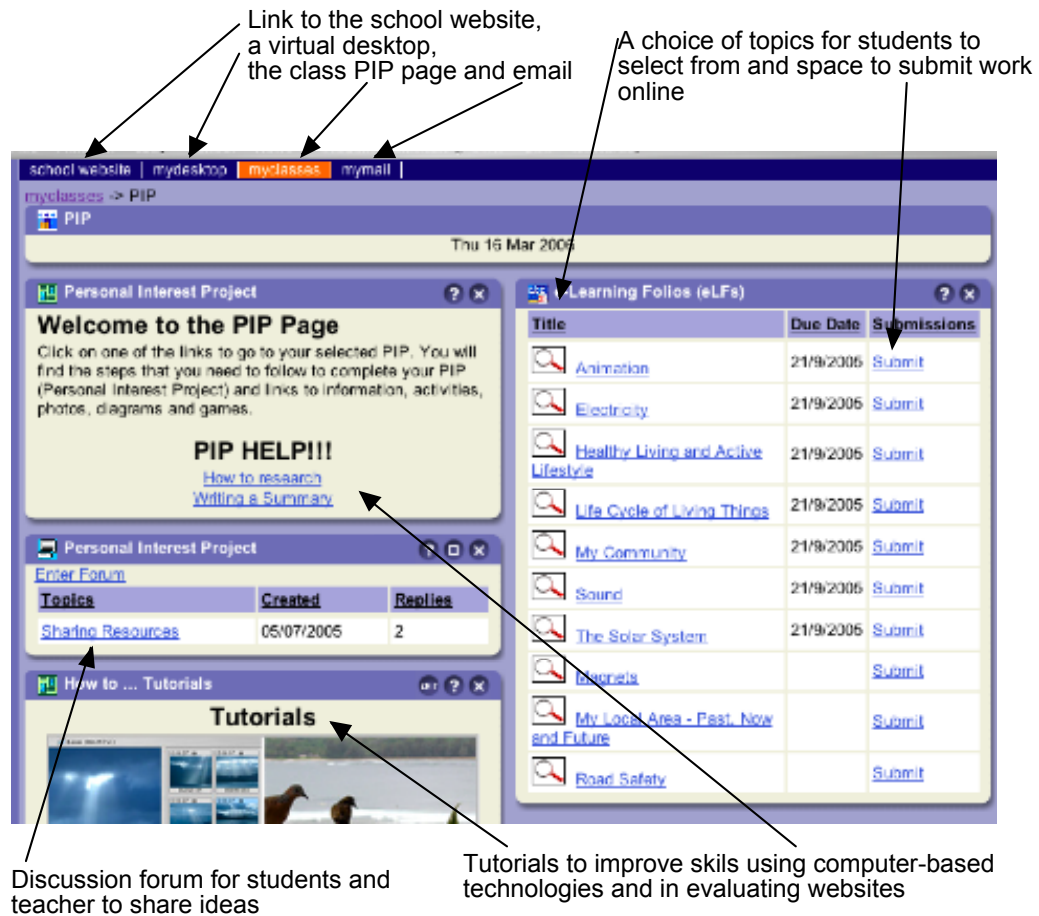


Figure 1.1 - myclasses Personal Interest Project web page

## My professional story

I was a member of the staff at the focus school during 2005, so it is appropriate to share my professional story in order to contribute to an understanding of the context of the research.

I have worked as a primary school teacher for 15 years, teaching grades from Kindergarten to Year 6 across a number of schools. I have trained in Reading Recovery (1997) and completed the Good First Teaching (2002) and TEACHnology (2005) professional development courses. An additional role I undertook in 2004 and 2005 was part of a Diocesan funded learning communities project where teachers shared their expertise with their colleagues; my role was as a mentor in literacy practices and in the integration of

computer-based technologies into literacy learning experiences. Through this role, I was able to observe classroom teachers at work with their children and establish professional collaborative relationships with the staff, including the participant teacher, before the inquiry period began. Ongoing interactions with the teachers motivated me to learn more about the role of computer-based technologies in literacy learning as we discussed the implications of computer-based technologies on traditional literacy learning practices and the challenges that teachers face in making the necessary adjustments to their pedagogies.

Conducting this research required me to put my own beliefs aside as I observed the teaching of another (younger) teacher who is comfortable with the workings of computer-based technologies and enthusiastically embraces their use with his students. The findings of this research challenge my perception of what literacy learning is and redirects my understandings about student needs for participation in a technology saturated environment.

## ***The changing learning environment***

Traditionally, the book has been the focus of literacy and literacy instruction, but educators today are required to adopt a broadened view of literacy (Leu, 2000) in line with student needs, experiences and expectations. Although print based texts remain an important and powerful means of communication, children must also be able to create and analyse a vast array of multimodal texts in preparation for the demands they will face in the workplace of the future (Karchmer, 2001).

Research surrounding literacy learning in the 21st century has not kept pace with the rapid changes resulting from the presence of computer-based technologies in the home, the workplace and in educational settings (Daiute, 2001; Luke,



2000). In this climate of ongoing change, it is important that educators take the lead in the development of pedagogy and the integration of new literacies into the curriculum (Leu, Mallette, Karchmer & Kara-Soteriou, 2005) rather than leaving it to corporate experts (Luke, 2000) or the information technology community (Leu, 2002). Research by educators, government funding for teacher professional development and commitment by teachers to embrace change is needed to ensure high quality, authentic learning experiences for contemporary school children.

Much of the current research has its origins in America and identifies a range of issues surrounding the use of computer-based technologies across a variety of educational settings. Moreillon (2001) suggests that there has not been a shift in literacy teaching; rather, that technology tools are being used to conduct school as usual. Teachers' lack of confidence and limited professional development opportunities have been identified as barriers to successful integration of computer-based technologies in the classroom (Kuhn, 2001; Leu, 2002). Research suggests that building on traditional literacy practices to reach out to newly emerging skills in reading, writing, viewing and communicating gives teachers a comfortable place to start integrating technology into their daily practice (Leu, 2002; Leu, Mallette, Karchmer and Kara-Soteriou, 2005; Shambaugh, 2000). Rather than identifying this as an inhibitor to the integration of computer-based technologies in literacy learning, Labbo (2005, p 782) refers to this approach by teachers as working with the 'zone of proximal comfort' and suggests that it is a valid place to start to embrace the challenges of the literacy paradigm of the digital age.

The primary school learning experiences of those who are educators today differ significantly from the experiences they now design for their students. Along with traditional, print based literacies, the 'clickerati kids' (Hill, 2004) of the digital age naturally and

enthusiastically embrace computer-based technologies as part of their daily life. Teachers, therefore, require opportunities to spend time exploring new literacies, to communicate with experts and other learners and to observe practical examples of how these new literacies may enhance literacy learning (Hill, 2004). Supporting this finding, Turbill's (2001) research describes teachers looking for additional professional development and more time to learn to use computer-based technologies. However, with the ever-increasing demands placed upon teachers, finding this time can be difficult.

A further Australian perspective of the use of computer-based technologies in schools, such as this study provides, contributes to this emerging picture of teachers working in a period of great change. In order to assist teachers in developing pedagogies that are in line with the demands of the digital age, it is important to first understand the unique context of Australian primary schooling. The investigation into how teachers are integrating computer-based technologies in their classrooms will provide insight into present pedagogical thinking. Identifying barriers and enablers to successful literacy instruction in the technology environment will lead to a better understanding of the socio-political climate in which teachers work, and therefore assist in making informed decisions about the future directions of education.

## ***Theoretical Location***

This study is conducted within an interpretive research paradigm. This paradigm enables a researcher to have sustained and intensive interactions with the participants of the research (Burns, 1997). An underlying assumption within the interpretive paradigm is that literacy learning has the social purpose of constructing and conveying meaning for an intended audience (Spivey, 1997) and that learning is situated within social interactions with others

(Halliday, 1975; Lave & Wenger, 1991; The New London Group, 2000).

Through the lens of the interpretive paradigm, a child may be observed as an apprentice (Lave & Wenger, 1991) or novice whose opportunities to share learning experiences contribute to the community of knowledge within which the experiences occur. Piaget (1962) states that children are not miniature adults and do not have the brain of an adult but that they evolve into adults through growth and development, so a framework that recognises children as growing and changing members of a community is preferable to one that views learning as mastering sets of skills to be stored for later use.

This research uses a micro-ethnographic case study design, therefore utilising the techniques of observation, interview and collection of work samples to compile rich description of the children and teacher at work in their regular classroom environment. From analysis of this data, emerging grounded theory is presented about the role of computer-based technologies in the teaching of writing.

## ***Locus of the Study***

### **School Site**

This one stream independent primary school is located in metropolitan New South Wales, south of Sydney. With views to the ocean, there is a vibrant surf culture where Sunday means Nippers for the younger children and surf carnival for the teens. The school is located in a rapidly growing suburb and with 230 enrolments; most classrooms are filled to capacity. The average classroom enrolment is 28 students per class. Staffing is stable, seeing little change in permanent classroom teaching positions from year to year.

## Participants

Pseudonyms have been used for the classroom teacher and seven Year 4 children who participated in this study in order to protect their identity. Mr Aloisi was approached to participate in this research because he was observed to have an active approach to the integrated use of computer-based technologies in his classroom. He had worked with me previously as part of the learning communities project where teachers collaborate to develop their understanding of the reading/writing process and the environments that support literacy learning. His work with both computer-based technologies and literacy learning and teaching was conducive to my focus on the role of computer-based technologies in the teaching of writing.

Mr Aloisi enthusiastically consented to become a participant in this research. Throughout the study, he generously shared his time and teaching program as he worked through the learning experiences he had designed for his children. As the data were analysed, Mr Aloisi fulfilled a peer debriefing and member-checking role as I worked to understand the context of his classroom and the learning that took place there.

Informed consent was sought from parents to observe and interview seven (7) children from Year 4 as they worked on a task that was designed by their teacher. The seven children formed 4 groups:

- 3 girls working together
- 2 boys working together
- 1 girl working alone
- 1 boy working alone

The research design adopted for this study allowed most of the data to be collected as I observed the participants working throughout the daily literacy block. Participant children were only withdrawn from the classroom to talk

with me for a final interview (30 minutes) at the end of the data collection period. These interviews were conducted in a common teaching area within the main building of the school.

## ***Presuppositions surrounding this study***

The beliefs and assumptions underlying this study are:

- Interpretive research that explores the role of computer-based technologies in literacy learning in Australian classrooms is required if we are to help teachers adjust their pedagogies for effective teaching in the digital age.
- Learning occurs when learners are actively engaged with meaningful experiences that allow the learner to make decisions about that learning within a challenging yet supportive environment.
- Mastery of fundamental reading and writing skills is more important than ever before because the new literacies emerging from computer-based technologies confront learners with more information than ever before, requiring critical analysis of text and creative problem solving in order to use information for effective outcomes.
- Computer-based technologies are not an extra or 'add-on' to the school curriculum, but an opportunity for learners to extract or construct meaning from a broader range of texts that they read or write.

## ***Definition of Terms***

### **Literacy**

This study adopts the definition of literacy offered by the New South Wales Board of Studies Literacy Syllabus (1998):

'Literacy is the ability to read and use written information and to write appropriately in a range of contexts. It is used to develop knowledge and understanding, to achieve personal growth and to function effectively in our society. Literacy involves the integration of speaking, listening and critical thinking with reading and writing.' (Department of Employment, Education and Training (DEET), 1991, p 9)

'In recognition of developments in multimedia and electronic communication, the syllabus outcomes also address the literacy demands of viewing and using computers' (BOS, 1998, p 5).

### **Computer-based technologies**

'Computer-based technologies' is a term used in this study to describe the digital technologies used by children and teachers in their literacy learning. Such technologies include: computers and laptop computers, software applications, peripherals such as digital and video cameras, scanners, printers, interactive whiteboards and data projectors, along with the Internet and intranet that aid communication between school members and members in the wider community.

### **Personal Interest Project (PIP)**

A Personal Interest Project in this context is an opportunity for a student to select a topic for research and to direct his/her methods of locating and recording data. The children in this study were provided with a list

of topics that the teacher had drawn from across the following Key Learning Areas: Science and Technology, Physical Education, Personal Development and Health and Human Society and Its Environment. All children were expected to plan their learning using the KWL chart and to create a product for presentation to an audience of their peers.

## **CASTnet**

(<http://www.castnet.catholic.edu.au/index.html>)

CASTnet is a joint initiative between Catholic Education Offices in three (3) dioceses. It is a 'fully managed learning environment' that allows educators to enhance learning and teaching through digital technologies. Teachers and children using CASTnet can communicate, share resources, publish work and collaborate on projects using software applications such as mymail (an email system) and myclasses (a virtual learning environment).

## **Shared Folder**

The shared folder is a file on the school's Intranet that allows children to save and access their work from any computer site on the school premises. Each child and teacher has a personal folder within the shared folder within which work may be stored.

## **KWL**

A KWL is a tool used to assist in organising, planning and reflecting on research. Children demonstrate their existing knowledge by recording what they already **Know**; they set goals about what they **Want** to learn; on concluding the period of literacy learning, children reflect on what they **Learned**. Every Year 4 child received a KWL worksheet as they began their Personal Interest Projects.

K	W	L
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What I KNOW	What I WANT to Know	What I LEARNED
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Figure 1.2 - Know/Want to know/Learned (KWL)

## ***Thesis Overview***

### **Chapter 2 - Literature Review**

In this chapter, literature is reviewed that is significant to this study. It begins by exploring the diverse definitions of literacy and how such definitions have changed over time. It looks briefly at the changing nature of literacy learning experiences in Australian schools in the past and the enormous impact that the development and use of computer-based technologies have had on classrooms today. The review then investigates the nature of the new literacies that have emerged from computer-based technologies, how they relate to print based literacy and why it is necessary for teachers to provide authentic literacy experiences for children of the digital age. The review concludes by identifying barriers and enablers to integration of computer-based technologies into daily classroom experiences. It discusses examples where some teachers have integrated technology into their classroom practice.

### **Chapter 3 - Methodology**

Chapter three discusses the methodology used in conducting this study. An ethnographic approach to data collection and analysis was adopted as children worked in a natural setting on their daily literacy tasks. The development of four (4) case studies is described. This chapter includes descriptions of the methodologies used in this study and the rationale supporting the selection of each.



## **Chapter 4 - Results/findings**

Chapter four comprises three main parts. Part One illustrates the socio-cultural context of the classroom; it describes the teacher, his teaching program and his influence over the learning experiences that he designed for the children. Part Two describes the learning experiences that the children participated in over a period of eleven weeks and makes observations about the interactions between children in the class, also between the children and their teacher and finally between the children and computer-based technologies. General categories and themes emerging from the data are also examined. The third part is presented as four (4) case studies and describes the learning journeys of the seven (7) participant children. Each case study reports on the themes that emerged from analysis of the data.

## **Chapter 5 - Conclusions and Implications**

Chapter five presents and discusses the implications of the findings from this research in relation to the supporting literature and the results of the research. This chapter also comprises three main parts. The first part responds to the research questions. The second explores the relationships between the emerging themes and presents models that demonstrate these relationships. Part Two also describes the implications of the findings for classroom practice, forming the beginning of a grounded theory about the role of computer-based technologies in the teaching of writing and how the teacher can best support new learning. The final part of this chapter makes recommendations for further research based on the results of this research and the questions arising from its analysis.

## Chapter 2

# Literature Review

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The rapid development and use of computer-based technologies has brought about significant change in the school environment. As explained in chapter one, teachers integrate these technologies into their classrooms to varying extents and with varying levels of confidence. This research aims to explore the ways that one teacher used computer-based technologies in designing literacy learning experiences for Year 4 children in an educational climate where the definition of literacy is broadening with the emergence of new literacies. The review of the literature presented herein demonstrates that little Australian research has been conducted that addresses the issues surrounding this shift to the literacy paradigm of the digital age.

The purpose of this literature review is to investigate changes in approach to teaching writing in primary classrooms and to observe how the increased presence of computer-based technologies has altered classroom practice. The review begins by exploring definitions of literacy and examining the literature surrounding literacy teaching in the past. A perspective of changing literacy expectations and requirements over time helps develop an understanding of the social and historical context of literacy learning in the 21st century. The literature reveals the changing nature of classroom environments brought about by the inclusion of computer-based technologies and subsequently explores the new literacies that have emerged because of the development and prevalence of computer-based technologies in society. Further, literature will be reviewed that relates specifically to the current study - classroom teachers at work, balancing the demands and expectations of traditional literacy learning practices and meeting the needs of children in a multiliterate world.

## ***What is literacy?***

Harste (2003) describes literacy as a set of social practices that a particular set of people value. This is a view supported by Luke and Freebody's (1999) argument that literacy is shaped and modified by social institutions, social classes and cultural values.

Sensenbaugh (2000) furthers this argument, describing literacy as 'more than just being able to read and write; it is the ability to comprehend, interpret, analyse, respond, and interact with a growing variety of complex sources of information'. A literate person is able to use the multiple skills they possess to choose what position to take relative to the issues raised in texts (Harste, 2003) and to adopt different perspectives in attempting to position their audience when they write.

Luke and Freebody's (1999) four resources model for literacy learning combines the broad range of practices required for developing literacy in a society that demands it. The four resources model (represented in Table 2.1) allows learners time and opportunity to develop the skills of reading and writing along with the more demanding practices identified by Sensenbaugh (2000).

**Table 2.1 - The four resources model for literacy learning (Luke & Freebody, 1999)**

## ***Traditional Literacy Experiences***

### **Education reflects a community's needs**

Throughout the 1940s, 50s and 60s in Australia only a small percentage, the most academic students, remained at school to sit for the Leaving Certificate (Brock, 1998) while the remainder left school and found employment in the years prior. Many employment opportunities existed in the workplace at this time that either did not rely on the ability to read or write (Turbill, 2002) or demanded only basic literacy skills in order to successfully carry out job requirements and gain legal entitlements (Luke, Comber & Grant, 2003). Literacy instruction in schools at this time drew on educational theories of learning that reflected the belief that literacy learning involved a series of skills for mastery through drill and practice (Christie, 1993) and government syllabus documents outlined precisely the learning experiences that each teacher should provide (Turbill, 2002). There was no perception of a literacy crisis at this time; in fact, politicians and the media spoke not of the literate individual, but the illiterate individual (Luke, Comber & Grant, 2003).

Changes in the population in Australia during the 1970s forced educators to reflect on the literacy learning needs of individual children, many of whom had English as a second language (Turbill, 2002). The 'whole language' approach to literacy learning reflected this new thinking. Whole language is described as a constructivist view of learning, a belief about the ways that learners learn to read and write, and about reading and writing (Blalock, 2000). Rather than a set of prescriptive rules involving drill and practice of phonics activities, or a lock-step basal reader approach, children engaged in learning experiences that involved learning to read whole texts and

learning to write whole texts. Within the context of reading whole texts, the language conventions such as spelling, grammar and text structure were taught strategically to children; phonics and phonemic awareness were merely a tool for readers to use (Johnson, 1999) in extracting or creating meaning with texts.

## **The community demands more**

During the 1980s, the influx of computer-based technologies into the workplace meant the abolition of many unskilled jobs as computer technology completed the tasks more quickly and consistently, leaving those unskilled workers competing for more demanding jobs in terms of literacy expectations (Brock, 1998). Consequently, the need for better literacy skills emerged, and so more children remained at school to complete their education - around 70% in 1998 (Brock, 1998). This development and use of computer-based technologies accelerated rather than slowed, demanding progressively higher literacy levels and in 2003, around 75% of children completed their final year of secondary education (ABS, 2005).

It was during the 1980s that research in schools found classrooms where children were not only learning to read as a result of the whole language approach to literacy teaching, but they were now engaging in the writing process as well (Turbill, 2002). Teachers expressed excitement about the writing the children produced as they immersed them in print (Turbill, 1983; Walshe, 1981), exposing them to 'good models of written language' and providing the time for writing that is necessary for becoming an author (Butler & Turbill, 1984, p 46). Researchers discovered that not only were children capable of making decisions about the content of their writing, they actually wanted to become authors; they wanted to tell their stories (Turbill, 1982). Weaver (1990) reported that children in whole language classrooms perceived themselves as readers and writers and demonstrated growing independence by flexibly

applying problem solving strategies to new literacy challenges. Turbill (2002), however, recognised that, without guidance, young children tended to limit their compositions to recounting personal events or 'simply talk written down', giving them little opportunity to learn about writing for a range of purposes, a necessary skill in the competitive workplace environment in which these children would eventually be expected to function.

Consequently, teachers began to design learning experiences where an author uses a particular genre (or text type) to organise his or her ideas for a certain purpose or function (Derewianka, 1990). Research describes these classrooms as attractive and busy places with children working enthusiastically to construct various texts (e.g. Brown & Mathie, 1990; Collerson, 1988) for a range of purposes. These research findings fit neatly with the elements of process writing and gave children the opportunity to write for a range of purposes within the structure of the whole language environment. Investigation of a range of text types required children and teachers to use a 'language to talk about language' (Collerson, 1988, p 92) because 'story' was now an inadequate label to apply to the many different forms of text being produced (Turbill, 2002).

Writing for a range of purposes gave teachers an opportunity for formal teaching of conventions and potentially developed a broad range of meaning making skills in learners. However, the NSW English Syllabus (BOS, 1994) required children to control 'an extremely wide range of text types' (Veel & Associates, 1994, p 6), possibly confusing for children, difficult for busy teachers to gain competency in teaching and most importantly, the teaching of text type structures could potentially overshadow authentic purposes for writing. Authentic purposes for literacy learning support a child's preparation for successful participation in the workplace environment.

The turn of the century found teachers in primary schools had begun to combine whole language and genre approaches providing a balance between planned instruction and capitalising on the teachable moment – also described as teaching ‘on the run’ (Clay, 1993). Research found that teachers were planning for specific skill development in the context of text construction as well as allowing it to occur spontaneously in order to better cater for individual children’s needs (Mandel-Morrow, Tracey, Gee-Woo & Pressley, 1999). Teachers worked to achieve a balance between individual and guided experiences in their literacy programming (Asselin, 1999) while setting and maintaining high, but attainable expectations for all children in a supportive and collaborative environment (Cambers Cantrell, 1998) that valued the individual strengths of each student and used these as springboards to new learning (Taylor Stewart, 2003). Rather than relying on government policy to direct learning, teachers used their expertise and existing knowledge to design appropriate learning experiences for the particular group of children in their care.

## **Literacy - authentic and critical**

Language performs a primary function, perhaps to inform or entertain, but it is much more complex than that. Language is never innocent (Harste, 2003), no text is neutral, all texts contain bias, cultural values, ideologies and epistemologies (Luke, Comber & Grant, 2003). This has implications for schools because the mere selection of a text by a teacher gives that text an elevated status because of the authority that the school holds (Anstey, 2003) as expert in matters of knowledge and learning (Lankshear & Knobel, 2003). With a broadened concept of the definition of ‘text’, teachers hold considerable power when selecting such computer-based technologies as websites or software packages.



The focus of literacy teaching must extend to critical analysis of the texts that children access in their daily lives in both print and digital form (Leu, Mallette, Karcher, Kara-Soteriou, 2005). The shift in literacy learning for the new millennium is clear; literacy experiences must engage children in authentic learning experiences through reading and creating community texts that reflect the modern community's diverse culture, rather than teaching lessons around mastery of a set of skills 'in case they need [them] one day' (Comber, Thompson & Wells, 2001, p 455). Again, the role of the teacher is vital if children are to become perceptive users and creators of text.

Richard Allington (2002) sums up the emerging understanding of the research around literacy practices identifying the most important element of successful teaching not as any single commercially available product, but good, effective teachers who make decisions based on sound theoretical understandings about the ways children best learn. Further, Brock (1998) asserts that in order for teachers to be effective literacy instructors, they must be effective literacy practitioners - models of critical reading, writing, thinking and speaking for their children. To be literate is more important than ever before, as the technologies that have become part of daily life demand a certain level of literacy. The question of how this literacy is taught and what is important continues to be the subject of debate (Freebody & Luke, 2003).

This review turns now to examine the impact of worldwide development and everyday use of computer-based technologies in classrooms.

## ***The Technology Explosion***

### **Changing the classroom environment**

'Computers are as natural in children's environments as TV was to the last generation, movies and radio were to the generation before that' (Wepner, Valmont & Thurlow, 2000, p 4). Little classroom-based research in the 1990s identifies the presence of computer-based technologies or the Internet as significant to literacy learning; Asselin (1999) includes computer-based technologies only as possible sources of authentic texts to be incorporated into a balanced literacy program. Conversely, Leu is passionate in calling teachers to embrace new information technologies in order to 'prepare children for the futures they deserve' (Leu, 2000, p 424). He warns that there is little time to waste in making a fundamental shift toward a view of literacy that includes computer-based technologies and traditional book literacy because the working future for our children is a competitive global one that values creative thinkers and problem solvers (Leu, 2000).

### **Examining new literacies**

Leu, Kinzer, Coiro and Cammack (2004) argue that we are confronted by new literacies every time we read, write and communicate using the Internet or other computer-based technologies. Leu, et al. (2004) provide examples of such literacies; using a search engine to locate information, using e-mail to communicate effectively or evaluating the accuracy and usability of a webpage in relation to one's purpose.

Semali, (2001) differs however, adopting a genre approach to identifying new literacies, listing computer literacy, cultural literacy, information literacy, media literacy, television literacy and visual literacy as the 'new' literacies. Further, he identifies that the terms information, media and visual literacy are used

interchangeably and overlap in their function (Semali, 2001). Perhaps such definitive labelling of text types is unhelpful for identifying texts emerging from computer-based technologies because the related confusion may detract from the real purpose of understanding new literacies - integrating them into the classroom for the benefit of the children.

Whether the new literacies have genre labels that apply to broad descriptions of their purpose and structure, or they take a narrower view of describing particular types of tasks a child may attempt, is not the issue. Each new text emerging from digital technologies is similar to traditional texts - the ability to read and write is at the core of meaning making. The extra functions involving computer-based technologies make these literacies 'new' and therefore require pedagogical shifts in literacy planning and teaching.

Leu's (2002a) research is drawn on here to better understand the potential for new literacies to change literacy learning in the 21st century. Leu (2002a) tentatively draws several conclusions about new literacies based on his research on the teaching of reading with the support of digital technologies. He describes these conclusions as being more like predictions than conclusions because of the rapid pace at which new technologies develop and alter the learning environment once again (Leu, 2002a). The 'predictions' are listed and discussed below:

*Change is a defining element of new literacies*

Leu (2002a) identifies change as a defining element of new literacies because they emerge when people create new uses and possibilities for computer-based technologies. With an element of rapid change, the challenge for users is to know how to approach new technologies in order to meet their literacy needs and how to share that knowledge in a climate where all users are learners (Lankshear & Knobel, 2003)

rather than on developing expertise in operating each new technical innovation that emerges.

*New literacies build upon previous literacies*

Without mastery of the reading and writing processes, a child will be unable to successfully operate the Internet and other digital technologies (Lewin, 1999). Computer-based technologies, however, demand faster, more efficient reading and writing skills to sift through the vast amount of information available. Malloy and Gambrell (2006, p 482) argue that Internet searching is no longer the domain of teens and adults, but that younger students are also 'surfing and searching', combining strategies learned on traditional texts with the reading strategies required for new literacies, such as taking a hyperlink to a new frame. Balajthy (2000) concludes that for educators to develop research skills with young children requires assisting them to develop and research the question(s) they wish to explore, then providing further support as they attempt to organise and present the information. For example, a strategy such as taking a hyperlink to a new frame will build on from the traditional strategy of locating related themes and readings in print based reference lists and catalogues; building on old literacies to utilise the new.

*More critical reading of information is required*

Research focusing on literacy learning has identified meaning making as its primary purpose (Cambers Cantrell, 1998; Eide, 2001) and researchers encourage teachers to select a broad range of authentic texts from which to teach children to critically evaluate text. Leu (2002a) argues that for a reader to better understand an author's intention and the context in which a text was created, s/he must be able to critically evaluate a text. This is supported by Harste (2003), who calls for daily opportunities for children to investigate issues and problems relevant to their lives and by Durrant and Green

(2000) who encourage children to analyse context, history and power by approaching all texts in a 'spirit of informed scepticism' (p 97).

### *New literacies are socially constructed*

Harste (2003) explains that 'no one can write from nowhere' - all language emerges from social, historical and cultural influences. These influences are even more evident in the digital age where information pours in to the classroom from cultures and histories that may be foreign to those children. Leu et al. (2004) argue that there are social forces defining literacy in the 21st century: the global economy, the rapid emergence of computer-based technologies and government commitment to higher literacy achievement including Internet use.

### *Interest and motivation provide unique learning and teaching opportunities*

Leu (2002a) argues that children and some teachers are intrinsically motivated to learn with computer-based technologies. McCombs (2000) expands on this by observing that choice and control over the curriculum content serves to motivate children to complete meaningful tasks. Learning experiences in classrooms that allow children to select their topic for research or how to organise and present their research encourages this self-regulated learning and maintains enthusiasm among learners. Supporting this finding, Malloy and Gambrell (2006) reported that computer-based technologies served to motivate struggling readers as they used the Internet to explore subjects of personal interest.

### *The teacher's role increases in importance within new literacies*

The role of the classroom teacher continues to undergo great change as schools attempt to embrace a more flexible view of literacy (Durrant & Green, 2000). This role becomes more important in the digital age where computers

appear to be able to replace almost any traditional function. However, unlike computers and other digital technologies, teachers can think (Valmont & Wepner, 2000) and it is through a teacher's careful reflection and decision making in designing literacy learning experiences that children will be able to meaningfully participate in their communities. Literacy teaching today should combine traditional literacy pedagogy with the demands of new literacies emerging from computer-based technologies (Semali, 2001). But more than this, the role of the teacher will always be paramount to success because teachers can take advantage of the 'teachable moment', lend a helping hand when it is needed or provide the necessary space for a learner to pursue an interesting lead (Valmont & Wepner, 2000). Teachers can shift their pedagogies to meet the requirements of teaching in the digital age - computer-based technologies cannot.

#### *Governments invest in new literacies*

'National governments are changing the way they respond to educational issues because they perceive new literacies to be important to their children.' (Leu, 2002a). In 1998, State Governments in Australia committed large amounts of revenue for the purchase and maintenance of computer-based technologies and, in NSW, this included teacher professional development and training (Durrant & Green, 2000). However, research discussed later in this review reveals that classroom teachers feel that they have had insufficient support from government bodies in terms of funding for ongoing professional support (Karchmer, 2001; Turbill, 2001), challenging their resolve to develop their pedagogy in line with this technology rich environment.

## ***Current expectations for literacy experiences***

### **A paradigm shift**

Traditionally, the purpose of education was to transmit core knowledge and cultural values to children, to provide custodial care and to prepare children for life after school (Betts, 1992). Harste (2003) argues that the transmission of core knowledge is a less important function of schooling in the 21st century, calling for a shift in focus to developing children's ability to think creatively to solve problems and to understand the power of texts to position readers in certain ways. A paradigm shift occurs when a person or people become aware that the current ways of performing are no longer satisfying all of the needs of community members (Barker, 1992), and certainly, the workplace of the digital age demands mastery of more than the print-based literacies of traditional education. If this is so, then traditional literacy experiences are no longer adequate, indicating a shift in the literacy learning paradigm. Durrant and Green (2000) state that literacy is changing and that a more flexible view of literacy is required by educators in order to meet the needs of children. This shift in paradigms is not about print-based OR computer-based literacies, but a combination of these - multiliteracies. (DECS, 2004).

### **Barriers to change**

Research identifies the most powerful barriers to a shift to working in the new literacy paradigm are classroom teachers themselves. A teacher who knows how to use computer-based technologies and utilises such digital technologies for authentic purposes in their own lives is more likely to perceive the purpose and value of using computer-based technologies in the school setting (Lankshear & Knobel, 2003). The depth of the teacher's

knowledge and familiarity with computer use in their own lives affects the way teachers endeavour to use computer-based technologies in their classrooms (Lankshear & Knobel, 2003; Snyder, 1999). Snyder's (1999) research revealed that teachers hold an informal set of criteria about which practices and experiences that will or will not work in classrooms and that it is breaking down and broadening these beliefs that is key to change in teaching. Other research cites lack of effective, ongoing teacher professional development (Kuhn, 2001; Leu, 2002b) as problematic in broadening pedagogies for the computer-based climate as teachers who do use computer-based technologies in the classrooms tend to use new tools in old ways (Labbo, Reinking & McKenna, 1998).

Schools bear much societal pressure to produce literate individuals, and generally, this literacy refers to traditional notions such as standard spelling and grammar (Brock, 1998). Even in the digital world of ebay transactions, these traditional values stand firm. For example, a participant in Lankshear and Knobel's (2003) research was enthused by non-standard spelling in ebay advertisements. In the participant's opinion, misspellings indicated that the vendor was 'less likely to be in a professional job...[and therefore] less likely to know the value of the objects they are offering for sale', suggesting there was a bargain to be had (p 136). It is clear that mastery of fundamental reading and writing skills remain valuable currency in the technology environment.

Reflecting these pressures are the literacy syllabus documents from each Australian State, which plainly define the results expected from each teacher's program. Mandatory learning outcomes have strong print based bias that direct teachers back to the book for literacy learning (McCombs, 2000); computers are often still perceived as rewards to be played with during free time (Turbill & Murray, 2006). The pressure to produce children who have



mastered what are often called 'the basics' of reading and writing as well as being able to work with the new literacies created by computer-based technologies creates tensions for teachers and the programs they design as they attempt to deliver meaningful learning experiences for children.

## ***Classroom teachers integrate computer-based technologies***

Harste (2003) urges teachers not to discard their current pedagogies in an attempt to embrace teaching in the digital age. Rather, he encourages them to use their expertise in designing learning experiences as they have in the past for meaning making, language study and inquiry based learning. The difference, however, is a shift in focus to critical analysis of reading and writing; to become 'linguistic detectives' in order to understand how different texts position an audience (Harste, 2003).

This review moves now to examine the literature surrounding classroom teachers who are teaching in this transition period between print-based notions of literacy and 'hypertextuality' (Green & Biggum, 2003, p 220). The literature investigates three broad areas:

- Building on traditional practice
- Change in teacher expertise and attitude
- Identifying authentic learning experiences

### **Building on traditional practice**

The 'successful' use of computer-based technologies in the classroom is largely dependent on the comfort and expertise of the teacher. The inquiry based and process writing approaches to literacy learning were well known and used practices in Baker's (2000) research focusing on the integration of literacy and technology. The teacher in this study built on her existing expertise with traditional

practices to design a unit of work that researched a topic of the child's choice based on a range of curriculum mandated subject areas. The children used both print based and digital texts in conducting their research. Baker (2000) reports that both the process writing and inquiry based approaches were 'readily adapted to embrace technology' (p 11) and, although there were challenges in using the technology, Baker describes this approach as useful for other teachers endeavouring to teach children to read and write with the support of computer-based technologies. This supports Labbo's (2005) findings where teachers operate within their zone of proximal comfort when faced with pedagogical change.

Leu's (2002b) research recognises this need for building teacher expertise and describes an Internet workshop that draws on the framework of traditional literacy teaching. He assures readers that the Internet workshop requires little change to current classroom practice, describes variations on the workshop that extend on the literacy and technology skills of children and identifies the Internet workshop as important in modelling learning about new literacies; discovering and exchanging new skills, strategies and insights.

Kuhn (2001) also attempts to put teachers of early literacy at ease by providing a number of examples of classroom practices using computer-based technologies that teachers may wish to reflect upon, consider how they can compliment literacy learning and modify their own learning environment. For example, Kuhn (2001) found that the Kids Pix program allowed young children to 'respond to stories through graphics and writing', to edit the message or even print it out as a finished product. In another example, Kuhn (2001) advocates the use of talking books as a scaffold to learning the concepts about the ways that different texts work.

Building on the traditional language experience approach to literacy learning, Turbill (2003) used American research (See Espinetti, 2002; Labbo, Eakle & Montero, 2002) as the inspiration for action research using the Digital Language Experience Approach (D-LEA) in an Australian classroom. Turbill's (2003) findings supported those of her American counterparts, describing D-LEA as incorporating the strengths of the Language Experience Approach with the added benefit of learning to use digital literacies. Incorporating traditional methods with computer-based technologies not only allows teachers to reach out to new understandings about literacy learning, but it also provides children with the comforting support of known classroom practices as they take risks to achieve new learning.

## **Changing teacher attitudes**

New learning is more easily achieved when existing skills and experiences are used as a springboard from which to reach out to new understandings. This review looks now at research about changing teachers' attitudes toward computer-based technologies by drawing on the teaching skills and strategies with which they are familiar to embrace the new ways demanded by technology.

Colburn's (2000) research focused on the changing attitudes of teachers and their understandings about the role of computer-based technologies in the lives of their children. Initially, Colburn described the computer lab as a dark and rarely used room, computers in classrooms were few and the teachers felt the children were not making real gains in their learning when using computer-based technologies (Colburn, 2000). Subsequently, the computers were installed in the classrooms in order to make them part of the daily landscape rather than leaving them in the contrived environment of the computer lab. The resulting changes in teachers' attitudes were evidenced through interviews throughout the research. Teachers reported that

the children remained motivated throughout the tasks, researched more widely than they had with traditional texts, organised, summarised and synthesised the information they retrieved from the Internet, made predictions about the quality of information they would find at particular sites and proudly exhibited their professional looking finished products to the class (Colburn, 2000). These teachers also reported, however, that without ongoing technical and professional support, it was difficult for the teachers to successfully and comfortably integrate computer-based technologies into their daily learning and teaching experiences (Colburn, 2000).

Karchmer (2001) conducted research with teachers about how the Internet influences their literacy instruction. The results supported Colburn's (2000) study, finding similar teacher attitudes; while teachers were pleased with the increased motivation of their children and the pride they displayed in their published work, they also remained frustrated by the lack of ongoing, effective professional development. An additional finding of Karchmer's (2001) research was that many teachers were still uncomfortable using the Internet with children, citing issues such as readability of the web page and safe use of the Internet as the main concerns. There are still many issues to be resolved for teachers as they integrate computer-based technologies into literacy learning experiences.

In Australia, Turbill's (2001) research also found teachers looking for further professional development and more time to learn to use digital technologies. Initially, the participant teacher in Turbill's (2001) study reported feeling anxious about the children 'playing' on the computer, she also felt the kindergarten children in her class lacked the skills to operate the software independently and with one (1) computer and 30 children, she was unable to properly supervise them. However, from her analysis of the interviews conducted at the end of the

study, Turbill (2001) concluded that the 'teacher began to see many parallels' (p 275) between computer use and book use, supporting Harste's (2003) assertion that traditional literacy experiences are valid in the digital age. Further supporting this call for teacher support, ongoing professional development for the participant teachers in an Australian secondary school was described by Macleod (2006) as the critical factor in the successful integration of computer-based technologies into classroom learning and teaching experiences as well as the daily administration of the staff and students.

The research reported on in this review indicates some positive shift in the attitudes of teachers towards integration of computer-based technologies into daily instruction. However, ongoing professional development of teachers is necessary (Karchmer, 2001) along with a broader view of what constitutes literacy (Turbill, 2001) in order for teachers to design more meaningful and effective literacy experiences for the benefit of the children.

## **Authentic learning experiences**

The final section of this literature review will examine research where teachers designed and provided authentic learning experiences using computer-based technologies. Herrington, Oliver and Reeves (2003) describe authentic tasks as comprising ten (10) elements: real world relevance, ill-defined problems, complex tasks, different perspectives, collaboration, reflection, integration across subject areas, realistic assessment, polished products and a diversity of outcomes.

With the exception Kervin and Moore's (2004) research in an Australian school, all of the research that will be discussed in relation to authentic learning experiences occurred in an American context. The present study aims to provide an Australian perspective of literacy learning in a classroom where the teacher attempted to design an

authentic learning task supported by computer-based technologies.

A national competition for children aged ten (10) to sixteen (16) years of age provided the authentic learning experience one teacher used to combine traditional and new literacies with Year 6 children (Kervin & Moore, 2004). Kervin and Moore's (2004) research reported that the children were required to use their existing knowledge about writing and technology to create new texts, 'a written script and a visual thirty-second commercial' (p 4). Kervin and Moore (2004) argue that these new literacies created with computer-based technologies blur the boundaries between genres, demonstrating the close relationship between writing and other language modes.

Banaszewski's (2002) storytelling project required children to reflect on their favourite place, the place they felt most comfortable and could be themselves. As with Kervin and Moore's (2004) work blending old technologies with new, the children in Banaszewski's class used their knowledge about writing and computer-based technologies for digital storytelling. Banaszewski warns that the teacher must 'surrender a great deal of control' as the child writes and illustrates the story with images and sounds in an attempt to find 'voice, confidence and structure in their writing' (p 35). To surrender control to children challenges their approach to problem solving and allows for the diversity of outcomes that Herrington et al. (2003) identify as an element of an authentic learning experience.

Another authentic context: 'What is that huge building over there?' was the question that launched Internet research that blended traditional and new literacy skills in Chris Davis' (1995) study about the Internet as a research tool. The curious student embarked on a library search about Mormonism, an Internet search and numerous e-mail exchanges between other interested parties (the building was a Mormon temple). Davis' (1995) study identifies the multiple

points of view that the Internet offers as valuable in helping children to make informed decisions. Castellani and Jeff's (2001) research supports this notion of the Internet as contributing to authentic learning experiences because the reader can choose what it is s/he reads or discards, increasing student motivation and the opportunity for original, meaningful thought. Such skills were identified in the literature by Leu (2000) as necessary for the working future of children today.

Two (2) other research projects (Bilal, 2002; Carroll, 2001) investigated the use of the Internet with children and identified two key (2) issues. The first, controlling the vast amounts of information that the Internet produces from even the simplest of searches; the second, controlling the type of information and learning activities that children may engage with when conducting research using computer-based technologies. The Year 2 and Year 7 children in the studies were required to use the Yahoooligans! search engine to conduct Internet searches. Bilal's (2002) Year 7 children worked on a number of tasks, including a self-generated activity on a topic of their choice while Carroll's (2001) Year 2 children were assigned the broad topic of the ocean.

Bilal (2002) reported that the Year 7 children found that key word searching and identifying relevant information were the most difficult aspects of the self-generated task because the children chose broad topics and the Internet searches produced overwhelming amounts of information. Similarly, Carroll's (2001) student Seth located no relevant information during one 90 minute period of classroom observation as he was 'lost in cyberspace' searching for information about 'freshwater jellyfish' for his ocean project. Carroll (2001) argues that the children in her study, including Seth, made important learning gains in terms of developing research skills, problem solving and using technology and that the teacher must maintain a balance between freedom and guided instruction. Bilal

(2002), however, reported that his participants who completed the self-generated task were only successful because of teacher support in narrowing student topics into questions that could be answered; Seth may have had greater success if he had been taught to refine his search to 'jellyfish' rather than 'freshwater jellyfish' early in the 90 minute lesson. The teacher's role in guiding and supporting is still very important and a vital consideration for teachers as they incorporate computer-based technologies within classroom contexts.

Each of these research projects informs the present study. This study investigates how the participant teacher aimed to design authentic learning experiences with a 'real' audience for the children and the response from the case study children to this. He planned for the children to work collaboratively to acquire, sort and merge information in order to create informative texts. He attempted to build on existing knowledge and experiences to reach out to the new literacies that computer-based technologies create.

## ***Conclusion***

The climate of the classroom and the workplace in the 21st century has changed and in doing so, the traditional concepts of what it is to be literate are being challenged (Labbo et al., 1998). Whilst there is much written about what the new literacies are and how teachers help or hinder change, there is little Australian research describing the ways that teachers have built on and adapted their teaching to incorporate computer-based technologies to support the literacy needs of children in the 21st century. We need to know more about the ways that teachers are adapting to the literacy paradigm that recognises and integrates new literacies with old in order to provide support and guidance in developing appropriate pedagogies. This study will address this need and investigate the role that



computer-based technologies currently play in literacy learning in one teacher's classroom.

## Chapter 3

# Methodology

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The purpose of this study is to examine the role of computer-based technologies in literacy learning in a Stage 2 classroom. The rapid development and increasing use of computer-based technologies in classroom contexts has resulted in significant change as classroom teachers integrate these technologies into their classrooms to various extents. This research aims to explore the ways that one teacher uses computer-based technologies in designing literacy learning experiences for children in his Year 4 grade.

The following questions guided the study:

What does the teacher believe about using computer-based technologies in literacy teaching?

What literacy skills do children use when constructing text with computer-based technologies?

What relationship exists between the teacher's beliefs and what the children do?

To carry out this research, four (4) case studies were conducted with children from Year 4 as they worked in the context of their classroom (a natural setting) on their daily literacy tasks as directed by the teacher. Selected methodological procedures enabled the adoption of an ethnographical approach for collection and analysis of data within the broader scope of the interpretivist paradigm (Burns, 1997). The ethnographic approach to developing these case studies allowed for an in-depth investigation of the processes and relationships in depth that children engage with as they generate new understandings.

It was anticipated that this study would work towards the development of a grounded theory about the role of computer-based technologies in literacy learning. Strauss and Corbin (1990) describe grounded theory as an analytical research method enabling an examination of the interactive nature of events where action and interaction between participants results in consequences and therefore further

actions/interactions. These actions and interactions were the focus of data collection and analysis in the study of the role of computer-based technologies in the learning and teaching of writing in a Year 4 classroom. Data were analysed using the 'constant comparison method' (Glaser & Strauss, 1967) where data are compared and contrasted, then questions posed for further data collection in an attempt to categorise the information received. Categories were compared and contrasted to identify emerging themes and the relationships between them.

Formal grounded theory (Glaser & Strauss, 1967) emerges from extensive research conducted across a number of contexts. The questions asked of each context change as a better understanding emerges from each study, eventually leading to the formulation of a formal grounded theory (Bogdan & Biklen, 1998). Analysis of data from this study prompted new questions for investigation as emerging themes were identified; this study is described, therefore, as working towards developing a grounded theory rather than a formal grounded theory. A formal grounded theory about the role of computer-based technologies in literacy learning would require further research to be conducted beyond the scope of this inquiry.

## ***Study Design***

Research, methods of data collection and methods of analysis may be conducted in a number of different ways and each method has strengths, weaknesses and limitations. The methods of data collection and analysis are selected to suit the context of the study and the nature of the information required.

An interpretivist method of research is most appropriate for a study such as this because it aims to observe a teacher and children in their classroom working at their usual daily literacy experiences. Within this

interpretivist paradigm, an ethnographic design was used to compile case studies of the four (4) sets of children engaging in literacy learning experiences.

The model in Figure 3.1 depicts the research methodologies selected for the study. A rationale for selecting each part of the research design follows.

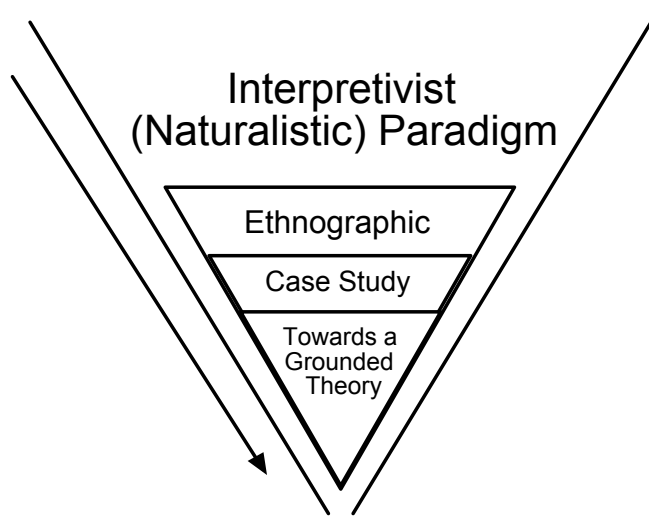


Figure 3.1 - Research methodologies

To address the purpose of this study, interpretivist methods of research were selected as most appropriate in meeting the needs of this study.

## ***Interpretivist (or Naturalistic) Design***

Merriam (1998, p 6) describes interpretivist (or qualitative) research as a form of inquiry concerned with the 'reality that is constructed by individuals interacting with their social worlds'. Key to this type of research is the interpretive role of the researcher (Stake, 1995) in understanding the event from the perspective of the participants - the insider's view (Merriam, 1998).

Outlined below are characteristics of qualitative research as described by Cresswell (2003, p 181-183) and Bogdan and Biklen (1998, p 4-7). Each of these is discussed in relation to the study.

*Qualitative research takes place in the  
natural setting and views social phenomena  
holistically*

Throughout the 3-month data collection phase of this study, I visited the classroom setting each week during the scheduled literacy teaching time in an attempt to better understand the role that computer-based technologies plays in classroom literacy experiences. I required a deep understanding of the context of this classroom in order to gain participant perspective because 'human behaviour is significantly influenced by the setting in which it occurs' (Bogdan & Biklen, 1998, p 5). Data were collected within the context of the classroom setting as the children engaged with their daily literacy learning experiences. The Wollongong Catholic Education Office was an additional site visited as part of the data collection process. This interview provided data surrounding systemic schools' policies for developing and using computer-based technologies in schools, allowing me to construct a 'complex and encompassing' perspective of the school and the community that it reflects (Cresswell, 2003, p 182). The data collected through interview and document analysis at this site informed the Diocesan Story, part of the background information about the school that was presented in Chapter One (Appendix E is a full transcript of the Interview with the Director, Appendix D is the Agenda 2005 document).

*Qualitative research uses multiple methods  
that are humanistic and interactive*

The data collected throughout this study were gathered in print, sound and image mediums. Hand written and word

processed notes, PowerPoint presentations, web pages and emails (artefacts) along with traditional interview and observation techniques (Cresswell, 2003) served to build a rich description that demonstrated what this Year 4 classroom was really like (Strauss & Corbin, 1990). Such description is necessary for the paradigm within which the study is located. I was a participant observer in the classroom, which allowed for interaction between the participants and myself as the learning occurred. This type of observation required sensitivity on my part to ensure that the children and teacher were not unnecessarily disturbed and to withdraw from a situation when an intrusion appeared to inhibit the learning process. Interviews provided detailed accounts of the process undertaken by participants as they used the computers and the Internet to achieve learning goals.

*Qualitative research is emergent rather than tightly prefigured*

This research did not aim to test any theory (Merriam, 1998); rather it looked to induce theory (Bogdan & Biklen, 1998, p 6) through observations and understandings about the role that computer-based technologies play in literacy learning in the digital age. Putting pre-conceived notions and beliefs aside allowed themes to emerge from careful analysis of the data as pieces interconnected to construct a picture (Bogdan & Biklen, 1998) of literacy learning in this multiliterate classroom.

*Qualitative research is fundamentally interpretive*

The data for this study were analysed and interpreted by identifying categories emerging from the data, drawing conclusions and discussing these in relation to the questions originally asked and, finally, posing questions for further investigation (Cresswell, 2003, p 182). No data were ignored or discarded (Bogdan & Biklen, 1998) because any one piece of information could have contributed

to understanding the problem. My 'personal lens' (Cresswell, 2003) through which the data were filtered influenced and shaped the interpretations made and the subsequent conclusions that were drawn. Throughout the entire process frequent discussions occurred between my supervisors and me to explore these conclusions in connection with the data. In addition, data collected on the child case studies were shared with the classroom teacher to ensure accuracy in interpretation and to add to the depth of the analysis.

*The qualitative researcher systematically  
reflects on their impact on the study*

Interpretation of data requires a researcher to reflect often on the impact of their presence on the study (Cresswell, 2003). I reflected on the data collected in this study by triangulating the different sources of data to justify any conclusions made and by requesting that peer debriefers review and ask questions of the data so that 'the account will resonate with people other than the researcher' (Cresswell, 2003, p 196). This allowed for both systematic and reflective analysis of data.

*The qualitative researcher uses complex  
reasoning*

Complex thinking is both cyclical and recursive as a researcher moves back and forth between data collection and analysis to reformulate the problem and then return to the data (Cresswell, 2003) as categories emerge and develop into theory. This study required systematic comparison, classification, abstraction and analysis of a range of data in order to understand the interactions between participants and their teacher and between participants and computer-based technologies.

*'Meaning' is the essential concern of this  
approach*



Capturing each participant's understanding of their reality – the participant's perspective (Bogdan & Biklen, 1998) – is the aim of a qualitative researcher. My observations and field notes were enriched by interview questions that allowed the participants to bring their perspectives and their understandings to the study. Participant perspectives in this study were captured through interviews, children's work samples and the teacher's program, observations, audio and video footage. The analysis of these data enabled me to capture and represent the 'meaning' each of the cases articulated and demonstrated.

## **Ethnography**

Merriam (1998, p 14) describes ethnography as a 'socio-cultural analysis of the unit of study' and it is this focus on the cultural context in which events occur that differentiates ethnography from other forms of qualitative research. Ethnography requires certain commitments from a researcher (Burns, 1997). These are outlined below with an explanation of how this study meets each commitment:

### *A commitment to understanding and interpreting groups and their actions within their social context*

A classroom is a reflection of the community within which it sits (Burns, 1997), so to conduct this study within the context of the school classroom allowed the social context to contribute to a greater understanding of these children. Events in the classroom occur not in isolation from other social interactions, but as an integral part of cultural beliefs, attitudes and values (Merriam, 1998) so the data collected for this study were analysed and interpreted within the context of the 'totality of human interactions' (Charles & Mertler, 2002, p 239). It is for this reason too that I spent time talking with key stakeholders in the

system within which the school is situated to better understand the broader context.

*A commitment to investigating participants in their natural rather than contrived settings*

The focus children in this study remained in their natural setting - the classroom, allowing for observation of interactions and collaboration between participants in the environment where it would normally occur. This ethnographic approach to collecting data allowed me to capture the 'social reality' (Burns, 1997) of students working on tasks that are part of their regular classroom experiences.

*A commitment to emphasising the process of generating meaning rather than on a fixed entity*

In this study, careful decisions were made about what data to collect and at which stages throughout the period of the research they should be collected. These decisions were based on my interest in the children's process of learning to and about writing with the support of computer-based technologies. I was most interested in investigating the learning process rather than the work product outcome. This focus on the learning process allowed me to examine the development of relationships between the children, between the children and their teacher and between the children and the technology that they used.

*A commitment to the assumption that there are multiple perspectives of reality and multiple techniques required for capturing and interpreting data*

The interpretations that people make about events are based on the life experiences they bring to that event and the

biographical make up of that person (Burns, 1997). In attempting to understand the perspectives of these Year 4 children, I spent a total of fifteen (15) hours observing them in their classroom at work both independently and in collaboration with others. The children were asked questions in an attempt to clarify my understandings and to gain greater insight into their perspectives. Video footage provided opportunities for me to be further immersed in the context of the classroom and to make detailed observations with minimal interruption to the children.

## **Case Study**

A case study is defined as both a process,

'...an empirical inquiry that investigates a contemporary phenomenon within its real life context, especially when the boundaries between phenomenon and context are not evident' (Yin, 1994, p 13)

and a product,

'... an intensive, holistic description and analysis of a single instance, phenomenon or social unit' (Merriam, 1998, p 27).

Through a case study, a researcher aims to gain an in-depth understanding of the situation being explored and the meaning for those who are involved (Merriam, 1998). A case study approach to conducting research focuses on: the process of the events under observation rather than on the outcome, the overall context of the environment rather than on a specific variable and on discovery rather than confirmation of a theory (Merriam, 1998).

The literature identifies many types of qualitative case studies, each with its particular focus and procedures to employ (for example, Bogdan & Biklen, 1998; Cresswell, 2003; Merriam, 1998), but qualitative case studies have common features. Case studies are:

Particularistic - they focus on a specific event or situation

Descriptive - words and pictures depict a rich image of the event for the reader

Heuristic - new understandings about the event can result for the reader (Merriam, 1998, p 29-30)

Determination of the most appropriate type of case study to use emerges as a researcher identifies the purpose of their study.

As it was the intention of this study to examine the role of computer-based technologies in literacy learning in a Year 4 classroom, an ethnographic case study methodology was selected as an appropriate method of analysing and recording data and then reporting the interpretations of that data. An ethnographic case study is concerned with the cultural context within which the actions and interactions occur, making it particularly suitable for this study, which occurred in the social context of the classroom, observing children interacting during their usual classroom events. Such a case study allows for the 'thick description' (Bogdan & Biklen, 1998) of the classroom, children and teacher that will provide the reader with a vivid image of the events that occurred in this classroom over the three-month period of the study.

## **Validity**

An issue when using case study methodology is the validity of study - the trustworthiness of its results. The case study depends on the information that a researcher chooses to present and his/her interpretation of that information (Guba & Lincoln, 1981). Validity has particular significance in fields such as education where changes to classroom practice have direct consequences in children's lives (Merriam, 1998). Lincoln and Guba (1985, p 301) assert that the key to credibility in research begins at the data collection stage of the study with 'prolonged engagement, persistent observation and triangulation' and continues throughout the study by member checking and peer debriefing. Stake (1995, p 110) supports the view that

triangulation and peer debriefing contribute to validity, explaining that researchers 'try to present a substantial body of incontestable description' by comparing data, identifying commonalities and discussing ideas and emerging themes with peers.

Although the case study has limitations, its strengths make it appealing to many educational researchers:

- Case studies report on real life events, providing a holistic and lifelike perspective to the study (Merriam, 1998).
- Case studies afford 'thick description', an important component of interpretivist research that allows readers to understand the context of the study and to evaluate it in their own context (Guba & Lincoln, 1981).
- Case studies allow researchers to select appropriate methods of reporting essential information in a narrative form rather than in the form of technical tables and statistics (Guba & Lincoln, 1981). Ordinary language and narrative descriptions provide readers with opportunities to make personal interpretations of the events alongside the interpretations of the researcher (Stake, 1995).
- Case studies are grounded in the theory emerging from the data (Guba & Lincoln, 1981), which is important in contributing to the validity of the research. 'Gathered carefully, they [data] serve as the stubborn facts that save the writing you will do from unfounded speculation' (Bogden & Biklen, 1998, p106).
- Case studies can focus the reader's attention on the essential interpretations of the information, offering insights and illuminating meanings that expand the

reader's experiences (Merriam, 1998) and build on the reader's 'tacit knowledge' (Guba & Lincoln, 1981).

- Case studies contribute to the knowledge base of their field of research, potentially altering processes and practice within that field and shaping future research based on emerging hypotheses (Merriam, 1998).

The strengths associated with using a case study to report on events allow me to use rich description to depict Year 4 children and their teacher engaging with literacy experiences. This rich description forms a narrative that informs readers and challenges their understandings of the role of computer-based technologies in literacy learning.

## ***Locus of the Study***

### **Ethical procedures**

The University of Wollongong Human Research Ethics Committee (HE05/174) and the Wollongong Catholic Education Office granted ethical approval for commencement of this study.

The Principal gave informed consent to the research being conducted at her school and provided support throughout the period of the study through regular enquiries, providing release time for the teacher and ensuring that disruptions during periods of data collection were kept to a minimum. I approached the classroom teacher who expressed interest in becoming the focus of the study. On reading the information sheet, he consented to participate in the research.

When the classroom teacher and I had collaboratively selected children as potential participants in the study, each child's parents were contacted by telephone to explain

the nature and purpose of the study. These parents read the information sheets and granted informed consent for their child to participate in the study. Each child was then invited to provide consent and sign a child consent form.

As video footage of the children and teacher at work formed part of the data collection procedure, a negative consent form was distributed to the remaining members of the Year 4 class. No parent withdrew consent for their child's image to be captured throughout the proceedings of the daily literacy teaching time. Pseudonyms were used for all participants in this study. At no time was I alone with a child during the period of the study; the children were withdrawn in their case study groups for the purposes of conducting the final interview, but each interview occurred in a common teaching area within the school.

## **School Site**

This independent primary school is located in metropolitan New South Wales, south of Sydney. The 2005 enrolment at the school is 230 children, most of whom identify English as their first language. It is a one-stream school (that is, one of each grade) with a 'bubble' of two (2) streams in Years 2 and 3, the result of a large residential development in the area. There are nine (9) classes in the school and twenty-two (22) ancillary and teaching staff. The Year 4 class focused on in this research has 31 children - 21 girls and 10 boys.

This school is an appropriate research site because the staff, along with the Parent and Friends' Committee identified as a priority the regular and integrated use of computer-based technologies in all classroom programs. To support this initiative considerable financial commitments toward the purchase and maintenance of computer-based technologies throughout the school have been made.

Classroom teachers at the school regularly meet to share ideas and teaching approaches in an effort to successfully integrate computer-based technologies into daily learning experiences for the children.

## **Participants**

The participants for this study are the Year 4 classroom teacher, Mr Aloisi and seven (7) children from his class. The children - four (4) girls and three (3) boys - represent a range in academic ability and personal interests within the Year 4 class. Three (3) of the girls, Jillian, Andrea and Suzy, elected to work together for their Personal Interest Project, while two (2) boys, Mark and Phil worked together. Seth and Shannon each elected to work alone. Each of these child groupings forms a case study, hence four case studies.

### *Mr Aloisi*

A graduate from the University of Wollongong with a Bachelor of Teaching in 1997, Mr Aloisi is employed as a classroom teacher in the Diocese of Wollongong. He has worked in the Macarthur area, southwest of Sydney and in schools north and south of Wollongong, teaching a range of grades from Year 1 to Year 5. He has taught at the inquiry school for three years.

A keen soccer player and musician, Mr Aloisi explained to me that he encourages his children to pursue personal goals both at school and in the community and to share these experiences with the class (SSI 29.7.05). He is acknowledged within the school context (by staff, parents and children) as having genuine interest and concern for the children's academic and personal well-being.



### *Shannon*

Shannon is nine (9) years old and has a younger sister aged seven (7) in Year 2 at the inquiry school. Classroom and school assessments have revealed that Shannon is an accomplished student who demonstrates a mature understanding of many concepts and uses more sophisticated language structures. Shannon identifies English and Maths as her preferred subjects at school, as long as they are not 'too easy and repetitive every day [because] it gets too boring' (SSI 23.8.05). Shannon's literacy achievements are recognised by Mr Aloisi as being well above the average literacy levels of this class (SSI 29.7.05).

Shannon is involved with many extra-curricular activities, including piano, violin, swimming and ballet lessons. Shannon competes in swimming carnivals at weekends and sits two practical and two theory exams in piano each year (SSI 23.8.05).

Shannon is shy when speaking to and interacting with adults, although she is courteous and friendly when she feels more at ease (CO 17.8.05; CO 23.8.05). Her teacher identifies that she is popular with many classmates, Shannon plays, laughs and chats with her friends in the playground and during 'free' time in the classroom (SSI 29.7.05).

### *Seth*

Seth is nine (9) years old and lives with his parents and four (4) year old brother. Seth's younger brother will begin Kindergarten next year, when Seth is in Year 5.

At school, Seth enjoys English, sport and writing sport stories, but during an interview, explained that what he really likes is 'all the things that have to do with outside school' (SSI 23.8.05). Throughout the inquiry, Seth demonstrated a range of problem solving skills when using computer-based technologies and a willingness to seek

help when he needed it (CO 23.8.05; CO 30.8.05). Seth's literacy levels were reported as being at the average literacy level of the class (SSI 29.7.05).

Seth plays cricket on Saturday mornings with Phil, another participant student in this study. He plays soccer in the winter and competes in surf club during the summer months. Seth identified his aspiration to become the fastest boy in NSW (SSI 23.8.05).

### *Jillian*

Jillian is nine (9) years old. She has an older brother who attends a non-government high school in the local area and a younger brother who is in Year 2 at the focus school. Jillian's mother is of American descent and Jillian has visited America to visit her relatives and learn about the country.

Jillian lists craft, Maths and English as her preferred school subjects, Jillian specifically identified journal writing and silent reading during English as her favourite literacy experiences (SSI 30.8.05). At recess and lunch breaks, Jillian was observed playing tip and handball on the playground with her friends in Year 4. Jillian's literacy achievements were described by Mr Aloisi as being slightly below the average abilities of the class (SSI 29.7.05).

### *Andrea*

Andrea is nine (9) years old. She is the youngest of three (3) children. Her brothers attend a local non-government high school.

Andrea lists her preferred school subjects as Maths, sport and drama. She likes 'late marks' at school, but not early marks because 'it's boring sitting there [in the playground] waiting for the bell to ring' (SSI 30.8.05). In her free time, Andrea enjoys playing sports, especially handball. Mr Aloisi described Andrea's literacy

achievements as below the average level of the class (SSI 29.7.05).

### *Suzy*

Suzy is nine (9) years old. She is the only child in her family.

Mr Aloisi described Suzy as a friendly girl who is keen to please others. She maintains a small circle of friends and describes Andrea as her best friend. Mr Aloisi identified Suzy's literacy achievements as being below the average level of the class (SSI 29.7.05).

Initially, I selected three (3) case study groups, consisting of four (4) girls and one (1) boy who were achieving from below to above average results in literacy in their Year 4 class. After consultation with my Supervisors, Mr Aloisi and I selected another case study group - two (2) boys (Mark and Phil) who were achieving average literacy results in the class. The purpose for selecting Mark and Phil was twofold: to better represent boys in this study and to allow for more extensive analysis of the role of computer-based technologies in the literacy learning experiences in this classroom by adding another case to the study. When Mark and Phil joined the study, they had already selected their topic (Solar System), composed and refined the broad questions that would frame their research and finished gathering information around their topic. My initial interview with Mark and Phil served the dual purposes of exploring the boys' understandings about literacy learning with the aid of computer-based technologies and to 'catch up' with their Personal Interest Project.

### *Mark*

Mark is ten (10) years old. He is the oldest of three (3) children; his sister attends his school and is in Year 2 while his younger brother remains at home.

During interview, Mark reported enjoying sport and art at school, but not Maths. On weekends, Mark surfs at the beach and plays football in the winter (SSI 13.9.05). Mr Aloisi reported that Mark's literacy achievements are about average in the literacy levels of this class (UI 17.8.05).

### *Phil*

Phil is also ten (10) years old. He has two (2) older sisters who attend a local non-government high school.

Phil lists his likes at school as Maths, sport and parties, but he dislikes homework (SSI 13.9.05). Phil leads an active lifestyle outside of school hours, playing basketball at the Police Boys Club on weekdays, soccer and cricket on weekends. He also enjoys time spent on the Playstation. Mr Aloisi described Phil's literacy achievements to be about average in the literacy levels of his class (UI 17.8.05).

## ***Study Procedure***

The focus of the study was originally guided by my interest in exploring the ways that teachers in Stage 2 integrate computer-based technologies into their classroom literacy experiences. It was decided that an appropriate site for this study would be the school in which I was employed because of ease of site access but also its commitment to the purchase and maintenance of computer-based technologies throughout the school.

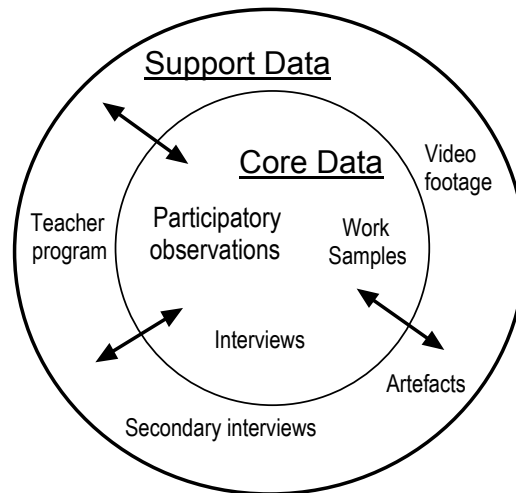
The Year 4 teacher had planned to begin a project with his class that incorporated the use of computer-based technologies in his planned daily literacy experiences. Following consent for the study to proceed, interviews were conducted with the teacher where he described his plans and intentions for literacy learning for Term 3. Weekly data

collection sessions were then scheduled to coincide with the daily literacy block and the days that participant children would be working with computer-based technologies. Periods of classroom observation usually occurred on Tuesday mornings between 9.15 and 10.45 from August to October. In total, I visited the classroom ten (10) times, collecting data over a fifteen (15) hour period.

Data analysis commenced from participatory observations, audio and video recordings, work samples, interview transcripts and field notes. These were interpreted according to the focus of the study.

## **Data Collection Methods**

I assumed the role of a participant observer of the children and teacher as they engaged with literacy learning experiences in their classroom. Informing the data were semi-structured interviews with all participants, the teacher's teaching program and the collection of work samples from each case study group. Further data were collected to support the core data through video footage of the interactions in the classroom, collection of artefacts pertaining to the teaching decisions made by the teacher and an interview with the Director of Education for the Diocese of Wollongong that provided an outsider's perspective of the school in the wider community. The model in Figure 3.2 demonstrates the relationship between the core data and support data.



**Figure 3.2 - The Relationship Between Core and Support Data**

Three questions framed this study and data were collected in response to each question. For this reason the data collection methods are described in reference to each of this study's framing questions. Some data collected contributed to answering more than one question and this is indicated through an audit trail of the data collected (Appendix A). Each piece of data collected was recorded and coded in the audit, allowing it to be referenced throughout the reporting of the cases (See Appendix A for a description of the collected data and the codes assigned for referencing in text).

*What does the teacher believe about using computer-based technologies in literacy teaching?*

**Table 3.1 - Purpose and methods of data collection**

METHOD	IMPLEMENTATION
Semi structured interview (teacher)	<p>Semi structured interviews were planned for the commencement and culmination of the period of study. These interviews explored the teacher's purpose in planning the Personal Interest Project (SSI 29.7.05; SSI 14.10.05).</p> <p>Along with the planned interviews, spontaneous interviews occurred as the classroom teacher reflected and assessed his teaching and the children's learning gains throughout the period of study. He sought me out in order to share his thoughts and his</p>

	developing understandings, providing rich data for answering this question (UI 17.8.05).
Participatory observations, audio and video recordings	<p>The classroom teacher in the study began each literacy lesson throughout the period of the study with the children grouped in front of the whiteboard to observe a teaching point being made through the data projector, either from the Internet or on Microsoft Word (for example, CO 9.8.05; CO 23.8.05; CO 6.9.05).</p> <p>These sessions were audio taped and transcribed for analysis. Field notes assisted in providing the context of the classroom environment within which the recordings were made and video footage was taken to aid in triangulating the data (for example V 30.8.05; CO 30.8.05).</p>
Teaching Program	The teacher's literacy program was collected and analysed. Some questions emerged following my analysis and these were asked in a follow up interview with the teacher after the periods of classroom observation (TP 29.7.05; I 21.11.05).
Artefacts	Artefacts were obtained throughout the periods of classroom observation in an attempt to understand the professional development that shaped the classroom teacher's pedagogy. They included course outlines for professional development courses implemented by the Wollongong Catholic Education Office and the Diocese of Wollongong's 2005 Agenda (A 9.11.05; A 21.11.05 and in Appendix E).

*What literacy skills do children use when constructing text with computer-based technologies?*

**Table 3.2 - Purpose and methods of data collection**

METHOD	IMPLEMENTATION
Semi structured interviews (all case participants)	Semi structured interviews occurred with each child in the study at the commencement and culmination of the period of data collection (for example, SSI 23.8.05; SSI 30.8.05; SSI 13.9.05).

	<p>In these interviews, the children were asked about the reading and writing processes and the ways that computer-based technologies have changed their classroom literacy experiences. Their likes, dislikes and outside interests were also discussed here in an effort to build rapport with the children and to locate them in a broader context.</p> <p>Aspects of collaboration and independent work were also explored during these interviews, I probed further into responses that children shared from my pre-planned questions in an attempt to gather a more intricate understanding of each case (Appendix B).</p>
Participatory observations and recordings	<p>Using a dictaphone, the children were recorded working on the Personal Interest Project as instructed by their class teacher. Captured on these recordings were interactions between children in the group, the children and their teacher and the children and me. It was important throughout the observation period that I was sensitive to each student's openness to my interruptions. When the children appeared focussed on their work, or deep in collaboration, I would make the decision not to ask questions, but to continue observing in silence (for example, CO 23.8.05; CO 13.9.05; CO 14.9.05).</p> <p>Field notes assisted in providing the context of the classroom environment within which the recordings were made.</p>
Video footage	<p>The video camera sat on a tripod in the corner of the classroom and was used to record footage of general classroom events during the literacy teaching time. At times, it was focused specifically on a certain case study group working at the computer (for example, V 23.8.05; V30.8.05; V6.9.05).</p> <p>Video footage provided further evidence of the role and purpose of computer-based technologies in literacy learning, allowing for triangulation of the data.</p>
Work samples	Work samples were collected throughout



	the period of study with the permission of each child and their parents. They included the planning worksheet that produced the questions that framed each child's project, hand written and word processed notes and PowerPoint presentations (WS 13.8.05; WS 23.8.05; PW 14.10.05).
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*What relationship exists between the teacher's beliefs and what the children do?*

This question drew on all the methods of data collection explained in the first two questions as data were analysed and explored to identify connections that formed the relationship between the teacher's beliefs and the children's action.

## **Data Analysis**

The following data were collected throughout the study:

- Participatory observations
- Audio recordings of children and teacher at work
- Work samples
- The teacher's program
- Video footage
- Interviews and transcriptions of interviews

A description of the analysis for each type of data collected follows.

### *Participatory observations*

Collecting data through simple observation will allow a researcher to notice the details about events and people that would normally remain unnoticed, contributing to the thick description necessary for interpretive research. Simple observation of a person's actions and reactions along with careful listening to the conversations being conducted can provide a researcher with more information than would be available in a verbal account (Neuman, 2004).

Simple observation allows the focus of a study to be observed without interruption.

Participatory observation, however, allowed me the added benefit of building rapport with the children and teacher in the class (Bogdan & Biklen, 1998) throughout the period of the study. This rapport produced rich data because the opportunity to ask questions and have discussions with the participants provided greater clarity about certain events and understandings than could have been achieved through simple observation.

Data collected through observation were triangulated with other methods of data collection such as interviews, video footage and collection of work samples. Analysis of the observations, field notes and audio recordings in this way contributed to the rigor of the study by enhancing its consistency and validity (Adler & Adler, 1998).

Field notes provided rich data in this study during observation of children at work at the computer and interacting with their teacher and each other. These field notes were triangulated with data collected through interviews, video footage and analysis of work samples.

### *Interviews*

Conducting interviews as a method of data collection provides rich data as the researcher and participants use language to achieve a 'sharedness of meanings' in the context of the interview (Fontana & Frey, 1998). Semi structured interviews allow these meanings to emerge as the interviewer follows the lead of the interviewee - interpreting, questioning and discussing events and understandings with an aim to better understanding the problem.

Semi structured interviews with the classroom teacher and children were conducted at the beginning and end of the

period of data collection in this study. The interviews with the classroom teacher occurred outside the classroom teaching time in the classroom or in a common teaching area, initial interviews with children occurred during class time in the context of the classroom. The decision to keep the children in the classroom during this interview was made so that the children would not feel isolated or singled out by being withdrawn from the classroom. The children did leave the room for the final interviews because I felt that the rapport that had grown between the participants and myself was sufficient that the children would not suffer discomfort at leaving the room with me, minimising disruptions to the classroom environment and to the interview being conducted. Although the interviews were conducted outside the classroom, they occurred in a common teaching area near the principal's office. Children who worked alone were interviewed individually, while those who worked in groups were interviewed in those groups.

Transcripts from interviews were used to 'make comparisons' and to 'ask questions' of the data (Strauss & Corbin, 1990) and themes began to emerge using this 'constant comparative method of analysis' (Glaser & Strauss, 1967).

### *Artefacts*

Artefacts gathered in this study include work samples, teacher program, PIP page, PowerPoint presentations and professional development course outlines. Analysis of student generated work samples reflected different stages of their learning experiences. Data were compared with the data generated from other sources such as interviews, audio and video recordings using the 'constant comparative method of analysis' (Glaser & Strauss, 1967).

Figure 3.3 represents the procedure that I followed in collecting and analysing data. The model demonstrates the recursive nature of data analysis using grounded theory methodology as I moved back and forth between the stages in

the process to identify the emerging themes. At the base of the model, an arrow returns the reader to the first stage (collecting data). This arrow demonstrates the need for future research in formulating a formal grounded theory about the role of computer-based technologies in literacy learning.

Following Figure 3.3, each stage in the process of data analysis is explained in more detail.

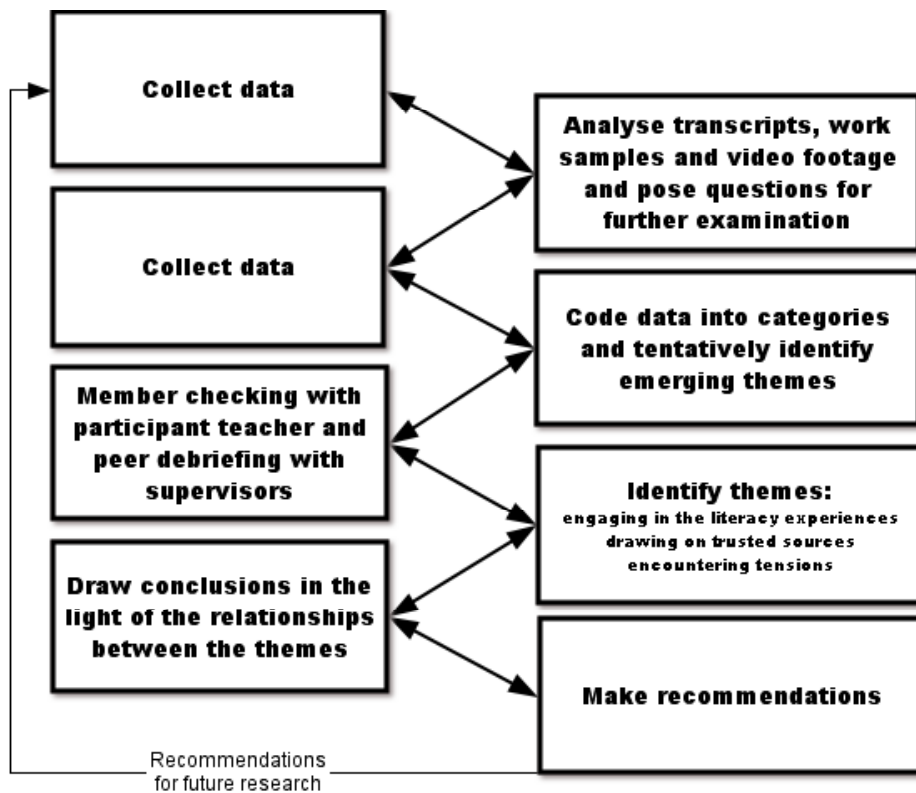


Figure 3.3 - Using the 'zigzag' method to analyse data

In order to ensure that the data were providing the necessary 'thick description', preliminary analysis was conducted after each period of classroom observation. I began to analyse these data by reading through the field notes I had made, downloading and watching the footage recorded by the video camera and transcribing the audio recordings from interactions between the members of the classroom. This initial analysis allowed me to reflect on the collected data to ensure they were relevant to the

focus of the study and to note early categories that emerged from the analysis of the data. Early data analysis also allowed me to pose questions for further investigation. These questions guided me as I returned to the field for subsequent periods of observation.

The early categories that emerged centred around organisational elements, 'controlling the computer', 'working independently' and 'experiencing tensions'. A further early category questioned the usefulness of students working in small groups at the computer. When the period of data collection had finished, I had a 'feel' for the information that had been collected, assisting in making a final analysis.

Early data analysis occurred in the same order as data were collected during the study, because they were analysed immediately after they were collected. Following the final period of classroom observation, the data were re-examined, compared and contrasted and the relationships between the categories were investigated. This second phase of data analysis was completed using a coding system, where I took note of the emerging themes of the study as I carefully examined each part of the collected data (for an example of this analysis, see Appendix J). To ensure that my interpretations truly reflected the environment from which they were collected, I returned to the focus school at certain times throughout this phase of the analysis as a form of member checking. The classroom teacher and I discussed my analysis of the data, during which time he further clarified my understandings and confirmed my interpretations of his classroom.

There were a number of emerging themes at this stage of the data analysis; the tensions that the children experienced because of their limited knowledge of the Internet was emerging as important, so too was the idea that there were people and texts that children considered to be

'trustworthy' and that they could rely on as 'expert' in giving guidance.

Weekly peer debriefing meetings with my supervisors occurred at this stage of the data analysis, where I described my perceptions about the relationships between the categories. Together we investigated which emerging themes were most powerful in developing my understanding of the role of computer-based technologies in literacy learning in this classroom. During this debriefing and further analysis stage, I analysed the data from a variety of perspectives in an effort to understand the relationships between the emerging themes. For example, I had already analysed the data in chronological order, following this, I analysed all of the interview transcripts, video data and field notes collected from one case. This differing perspective allowed me to understand the literacy learning experiences that one (1) student group had encountered, allowing a greater understanding of the relationships between the themes. Another system I used for analysis involved selecting all of the data collected that was grouped as one category. These data were compared with the other categories to understand the relationships between them and their relationship to the emerging themes.

As a result of this extensive analysis procedure, three (3) themes emerged that began to explain the role of computer-based technologies in the learning and teaching of writing:

- Engaging with the literacy experiences
- Drawing on trusted sources
- Encountering tensions

## ***Credibility Issues***

### **Limitations of the Study**

#### *Data collection*

Data collection for this study had to occur within the nominated timeframe planned by the teacher in his class program. As such, time did not permit the inclusion of a longer, more in depth analysis of the children in this study. This research was conducted in a single classroom in one (1) school. For these reasons, rather than formulating a grounded theory, the results from this study will assist me in moving 'towards' a grounded theory. The findings presented in this study may work to inform further research.

Data were collected for this study through semi-structured interviews, observations and work samples. Although these methods are useful in gaining a holistic and intimate understanding of a social context, they are not without their limitations. Following is an exploration of the limitations of the data collection techniques that are significant to the reported study:

#### **INTERVIEW**

In conducting an interview, the sequence of questions can affect the respondent's ability or willingness to participate and a researcher's questioning technique can impede proper communication between the participants and researcher (Fontana & Frey, 2000). In this study, interviews were of a semi-structured nature, allowing the interviewee to share only the information they felt comfortable to reveal. A semi structured format also allowed the interviewer to follow the lead of the respondent as they shared this information rather than enforcing strict guidelines on the interviewee.

Respondents in interview situations can manipulate their answers to please the interviewer or perhaps to enhance the interviewer's opinion of them (Fontana & Frey, 2000). In this study, student and teacher responses to interview questions were cross referenced with field notes taken during periods of classroom observation and video footage captured as the children and teacher engaged in the learning environment in an effort to triangulate the data.

#### OBSERVATION

Observation of children at work can interrupt the normal flow of classroom events because the children become self-conscious about the presence of another person in the room. However, perhaps because of the familiarity that the students felt toward me from my regular presence in the classroom during the community learning project, indications of discomfort rapidly declined as the nature of the participatory observations allowed the children to adopt an expert role; sharing their work, describing the processes they were using and justifying the decisions they had made.

Observation becomes more difficult when a researcher tries to observe a number of events simultaneously and this can result in an over focus on minor examples or events (Kellehear, 1993) rather than the overall picture. In this study, video footage was captured during each period of classroom observation. The classroom observations, triangulated with video footage and transcripts from interviews enabled me to maintain an informed perspective of the events within this classroom. Themes emerging from the analysis of this data were shared with the teacher and children throughout the study in an effort to better understand the context within which this learning occurred and their responses to the learning experiences.

#### WORK SAMPLES



A sample of work from a student may be unfinished and therefore difficult to analyse (Cresswell, 2003). Samples collected throughout this study were collected at different times during the writing process, allowing me to analyse the process at various stages and as a finished product, enriching the final analysis.

Work samples from children working with computer-based technologies can be difficult to store. For example, images and text in a web page or iMovie create a very large file that uses considerable space on the computer's hard drive and takes considerable time to copy and store. In this study, large video files were downloaded then compacted before being saved into a password-protected computer at Wollongong University. Screen captures of large files such as Internet pages were taken and stored rather than attempting to copy an entire file. When I identified useful work samples throughout the period of observation, they were collected (with the students' permission) on my portable USB drive and transferred to the password-protected computer at Wollongong University following the observation time.

## **Delimitations of the Study**

The children in the study were encouraged by their teacher to 'do their best' and children were often heard encouraging each other with the same motto. This collaborative environment created a rich source of data as children enthusiastically shared their ideas with their teacher and classmates.

The classroom is well equipped with computer technology. Four (4) eMac computers are clustered at the back of the room, with a further three (3) iBook (laptop) computers available for taking to work at a desk. The Internet connection is achieved through a remote connection (an airport) along with a networked system for storing work (the shared folder). All of the computers are linked to a

laser printer in the school office where the children are able to access their printing at any time.

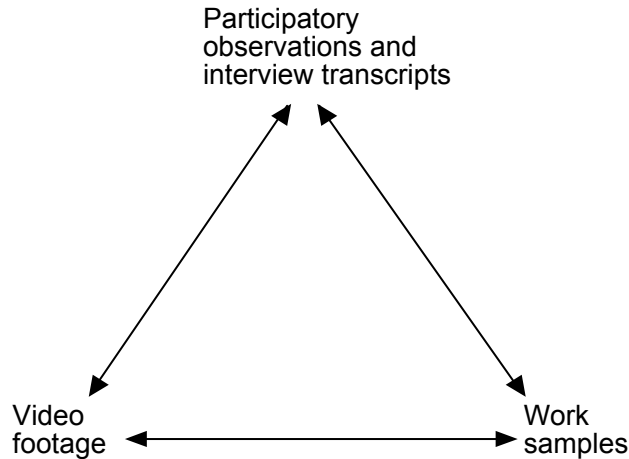
This Year 4 classroom of 31 children is similar in appearance and make up to many others. Teachers and educators may identify children's abilities, interests or personalities in these case studies that echo those in their own class and can therefore make links between the findings of this study and their own literacy teaching.

Guba and Lincoln (1989) prescribe the following methods of data collection and analysis as necessary in contributing to the trustworthiness and credibility of a naturalistic study: persistent observation, prolonged engagement, triangulation of data, member checking and peer debriefing. The following measures were taken to ensure the trustworthiness and credibility of this study:

Prolonged engagement with the children and teacher in this Year 4 classroom allowed me to become familiar with the context of the classroom and to build rapport with the children and teacher. The three (3) month time period spent in this classroom meant that the children and teacher were comfortable with my presence and so the collection of data could proceed with minimal interruptions.

Persistent observation of the children at work at the computers with their classmates and teacher provided depth to the data, as I was able to observe similarities and differences between different children and different tasks.

Triangulation of the data was achieved by comparing core data with support data. The main triangulation occurred when data collected through participatory observations and interviews were compared with video footage and student work samples. This triangulation is represented in Figure 3.4.



**Figure 3.4 - Triangulation of the data**

Member checking was a crucial technique in achieving credibility in this study. Member checking occurred formally through several meetings with the classroom teacher and informally through email dialogue where further questions were clarified so that the information in the study would be as accurate as possible.

Peer debriefing was an ongoing technique used throughout this study. Regular meetings were held with colleagues to identify researcher bias, explore the meaning of what was analysed in the data and to investigate the basis of the interpretations being made.

## ***Conclusion***

Conducting this study within the interpretivist research paradigm was considered appropriate. The needs and intentions of the study were met using qualitative methods of data collection and analysis incorporated within this paradigm.

Results from data collection and analysis were used to compile four (4) case studies of literacy learners, allowing me to create a 'thick description' of the children as they made use of computer-based technologies in literacy learning experiences. A grounded theory about the role of

computer-based technologies in literacy learning began to emerge from this analysis and description.

# Chapter 4

## Results

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The purpose of this study is to examine the role of computer-based technologies in literacy learning in a Stage 2 classroom. This chapter describes the gathered data and subsequent analysis in response to the questions posed by this study. These questions were:

- What does the teacher believe about computer-based technologies and their role in literacy teaching?
- What literacy skills do children use when constructing texts with computer-based technologies?
- What relationship exists between the teacher's beliefs and what the children do in the classroom?

This Chapter is described in three parts.

Part One describes Mr Aloisi (the Year 4 class teacher) and his teaching program. The learning experiences observed throughout the period of the study required the children to research a topic of personal interest within task guidelines determined by Mr Aloisi (SSI 29.7.05). This description of the socio-cultural context of the classroom contributes to the understanding of the learning journeys of the children in it.

Part Two describes the learning experiences the children participated in over a period of ten weeks. I focused on three types of interactions. The first was the interaction between the children in the class as they participated in their regular literacy learning time. The second type of interaction observed was between the teacher and the children. The final focus was the interaction between the children and the computer-based technologies they utilised. General categories and themes emerging from the data will also be examined through interpretive summaries. Part Two provides a context for Part Three where findings from data collection are reported.

Part Three, therefore, is presented as four (4) case studies, which describe the learning journeys of seven (7) participant children. Each case study is discussed within

the themes that emerged from careful analysis of the data.  
Themes emerging from this study are:

- Engaging in the literacy experiences
- Drawing on trusted sources
- Encountering tensions

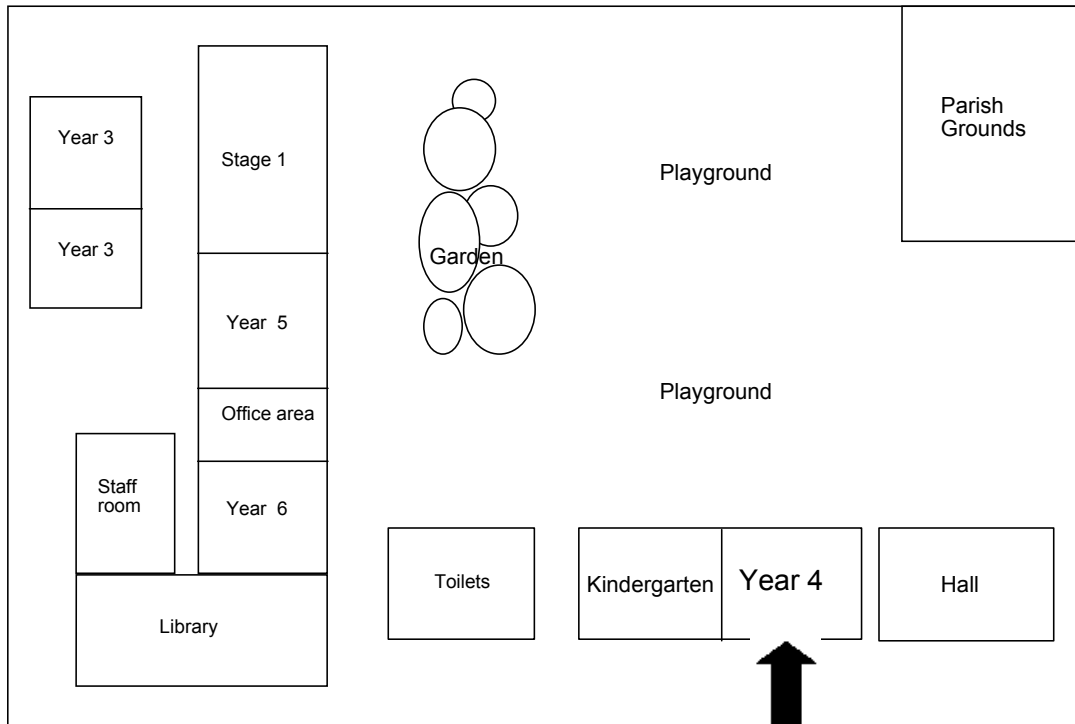
## ***Part One***

### ***Socio-cultural context of the classroom***

#### **The Learning Environment**

This study was conducted at an Independent primary school on the south coast of New South Wales, Australia. At the time of the study, the school had 230 children enrolled in nine (9) classes. Historically a one stream school, considerable population growth in the local area created pressure on enrolments and two Kindergarten classes were enrolled in 2001 and 2002. This 'bubble' of children was in Years 2 and 3 at the time of this project.

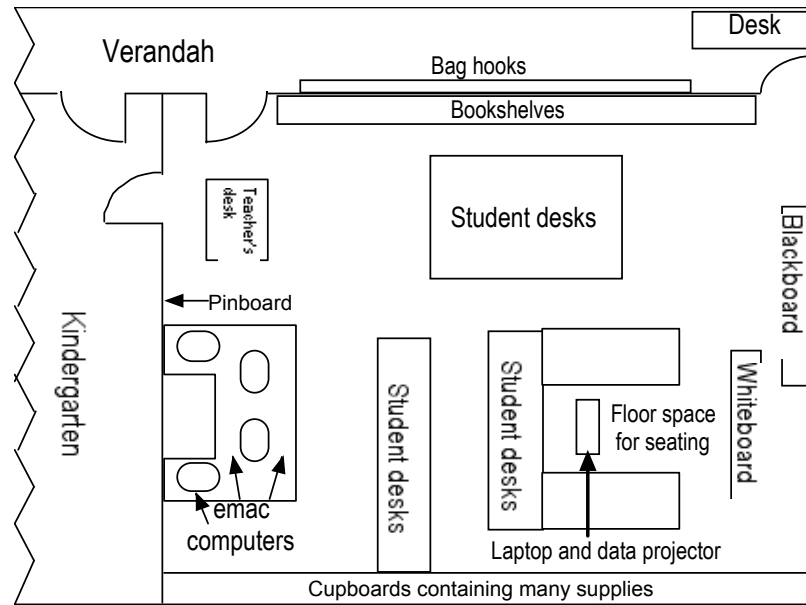
This research was conducted in the Year 4 classroom at the school. Year 4 is a single stream class with 31 children – 21 girls and 10 boys. The children in this class at the time of the inquiry project were aged between nine (9) and ten (10) years. Figure 4.1 presents a diagrammatical representation of the location of classrooms within the school.



**Figure 4.1 - A school map locating the Year 4 classroom**

Figure 4.2 presents a diagrammatical representation of the classroom. Although cabling for digital technology has been installed, this classroom (constructed in 1956) maintains a traditional feel. A large, old blackboard (rarely used) is mounted on the wall at the front of the room and cupboards along the length of one wall are filled to capacity with brightly coloured paint bottles, brushes, art paper, 'scrap' paper, coloured paper for folding, maths equipment and many other essential classroom supplies.





**Figure 4.2 - Layout of the Year 4 Classroom**

An adjoining door links Year 4 with the Kindergarten classroom. Both the Year 4 and Kindergarten teachers acknowledged in incidental discussions that it is rarely opened for the purposes of collaborative learning. Another door provides access to the southern end of a long verandah where the classroom teacher had placed a desk for groups to use during independent work; this verandah also houses the children's school bags on bag hooks.

The children's desks form three (3) groups - one (1) large island seats approximately 14 children, a horseshoe shape also seats 14 and a row behind the horseshoe seats another six (6) children. A double-sided white board on wheels stands in front of the horseshoe, providing a space to project images or to record on. Children who sit at the horseshoe and the row behind remain in their seats to view this board, while the remaining children move to sit inside the horseshoe on the carpet. All of the literacy lessons observed for this study began here with an image projected onto the whiteboard.

Located at the rear of the room is the teacher's desk and four recently purchased eMac computers clustered together

around the power and Internet points. Three (3) laptop computers are also allocated to this class from 8.50am until 1.20pm daily, although often one or two will be unavailable for a variety of reasons (such as, a flat battery or a 'frozen' screen) (SSI 29.7.05). A large pin-board behind the desktop computers displays the planned structure of the literacy block and the learning teams that the children will work in during literacy tasks.

Literacy groups are labelled red, green and blue and Mr Aloisi described them as mixed ability, interest-based groups (SSI 29.7.05). These groups were formed after the children selected the topic for their Personal Interest Project (PIP). The groups remained stable throughout the period of classroom observation (approximately 15 weeks). The red group included children researching two topics: the Solar System and the local community, children in the blue group worked either on electricity or life cycles and members of the green group investigated animation, healthy living or sound (TP 29.7.05).

## **The Teacher**

### *Background Information*

Mr Aloisi graduated from the University of Wollongong with a Bachelor of Teaching in 1997. As an employee of the Wollongong Diocese, he has worked in the Macarthur area, southwest of Sydney and in schools north and south of Wollongong, teaching a range of grades from Year 1 to Year 5. He has taught at his current school for three years, as classroom teacher, sport teacher and technology coordinator (I 21.11.05).

Mr Aloisi describes his teaching approach as favouring student centred learning in the belief that children learn from direct experience and the opportunity to discover new learning for themselves. In our final interview he quoted the adage 'Tell me and I forget, show me and I remember,

involve me and I understand'. He further explained that this inspires and directs his planning for classroom teaching. He described the appropriate integration of technology as 'essential to teach the 21st century child' (I 21.11.05).

### *Teacher professional growth and development*

During interviews, Mr Aloisi described professional reading and short professional learning courses provided by the system within which he is employed as being influential in shaping his classroom planning and teaching (I 21.11.05). Among these courses, he described as particularly valuable the Good First Teaching literacy course and the TEACHnology course for effective integration of technology into classrooms.

### *Timetable*

An expectation of the Diocese of Wollongong is that teachers provide uninterrupted daily literacy teaching time - 'the literacy block' - where children have the opportunity to read and write both with support and independently of teacher assistance on authentic, meaningful literacy tasks (A 21.11.05). Mr Aloisi's timetable reflects his attempts to provide these opportunities to his students both when he is in the classroom (Tuesday, Wednesday, Friday) and when he is not (Monday, Thursday)

**Table 4.1 - An overview of the Literacy Block (TP 29.7.05)**

<p><b><u>MONDAY</u></b> - The librarian takes the class  Reading 20 minutes  Independent Silent Reading (including computer reading)  Guided Reading  Writing 100 minutes  Modelled Writing - Spelling</p>		
<p><b><u>TUESDAY</u></b>  Reading 20 minutes  Independent Silent Reading (including computer reading)  Guided Reading  Team tasks 75 minutes</p>		
Teacher Guided	Independent	Independent
Modelled writing/ Comprehension	Reader's theatre Independent writing and handwriting	Personal Interest Project (PIP)
Guided writing/ Independent writing	Journal writing Creative writing	
<p><b><u>WEDNESDAY AND FRIDAY</u></b>  Serial Reading 15 minutes  Reading 20 minutes  Independent Silent Reading (including computer reading)  Guided Reading  Team tasks 75 minutes</p>		
Teacher Guided	Independent	Independent
Modelled writing/ Comprehension	Reader's theatre Independent writing and handwriting	Personal Interest Project (PIP)
Guided writing/ Independent writing	Journal writing Creative writing	
<p><b><u>THURSDAY</u></b> - The relief teacher takes the class  Serial Reading 15 minutes  Reading 20 minutes  Independent Silent Reading (including computer reading)  Guided Reading  'Blast off' literacy unit 85 minutes  Shared reading  Modelled writing  Independent writing</p>		
<p>English is integrated with Science &amp; Technology, Human Society and Its Environment and Personal Development &amp; Health (TP 29.7.05)</p>		

Mr Aloisi planned to teach a number of episodes in the Year 4 literacy block. For the purposes of this study, only the ones pertaining to the completion of the PIP will be further examined.

## **Literacy Episodes**

### *Shared Reading*

In his classroom program, Mr Aloisi identified that he incorporated the shared reading episode within his literacy block in response to Stage 2 Outcomes RS2.7 and RS2.8 (BOS, 1998, p 33, 35)

The rationale behind Mr Aliosi's shared reading episode was drawn from the Good First Teaching guidelines; to 'provide the opportunity to explicitly highlight features of particular texts' (A 21.11.05), specifically, websites. Throughout this research, it was observed that the children were exposed to Internet texts projected onto the whiteboard during this episode. During these periods of observation, Mr Aloisi spoke to the children about the features of the information texts he had selected for their research project. He appeared to focus primarily on the structure of the texts and how the children could extract the information they required using skim reading techniques (CO 23.8.05; CO 30.8.05).

### *Independent writing*

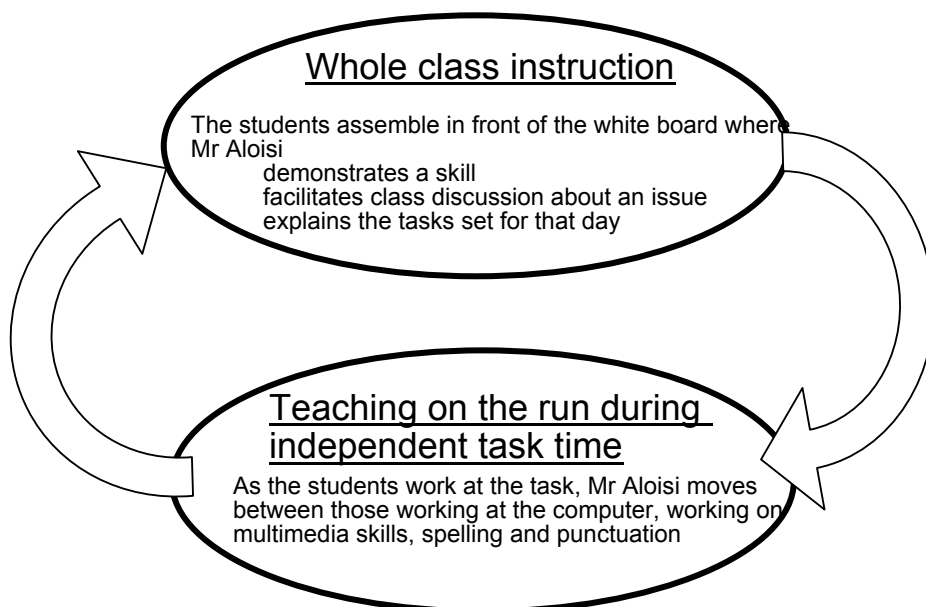
In his classroom program, Mr Aloisi identified that he incorporated independent writing in his literacy block in response to Stage 2 Outcomes WS2.9, WS2.10, WS2.11, WS2.12, WS2.13, WS2.14 (BOS, 1998, p 19).

The rationale for Mr Aloisi's independent writing episode was also drawn from the Good First Teaching guidelines; for children to use writing strategies they have learned in order to compose meaningful texts without the support of the teacher (A 21.11.05). Independent writing episodes include sufficient opportunities to compose, record, proofread and edit text over a period. Experiences where children share text, both published and in draft form,

allow them to reflect on their writing and deepen their understanding of the writing process. The children were observed to engage in this episode at every classroom visit throughout the study except for the final period of observation as they presented their published work (CO 9.8.05; 17.8.05; 23.8.05; 30.8.05; 6.9.05; 13.9.05; 14.9.05; 20.9.05). As the children worked on their PIP, Mr Aloisi was observed moving between groups, watching the children, then taking opportunities to engage children in learning that he perceived was relevant to their needs at that moment. Mr Aloisi referred to this as teaching 'on the run' (SSI 17.8.05).

### *Teaching strategies*

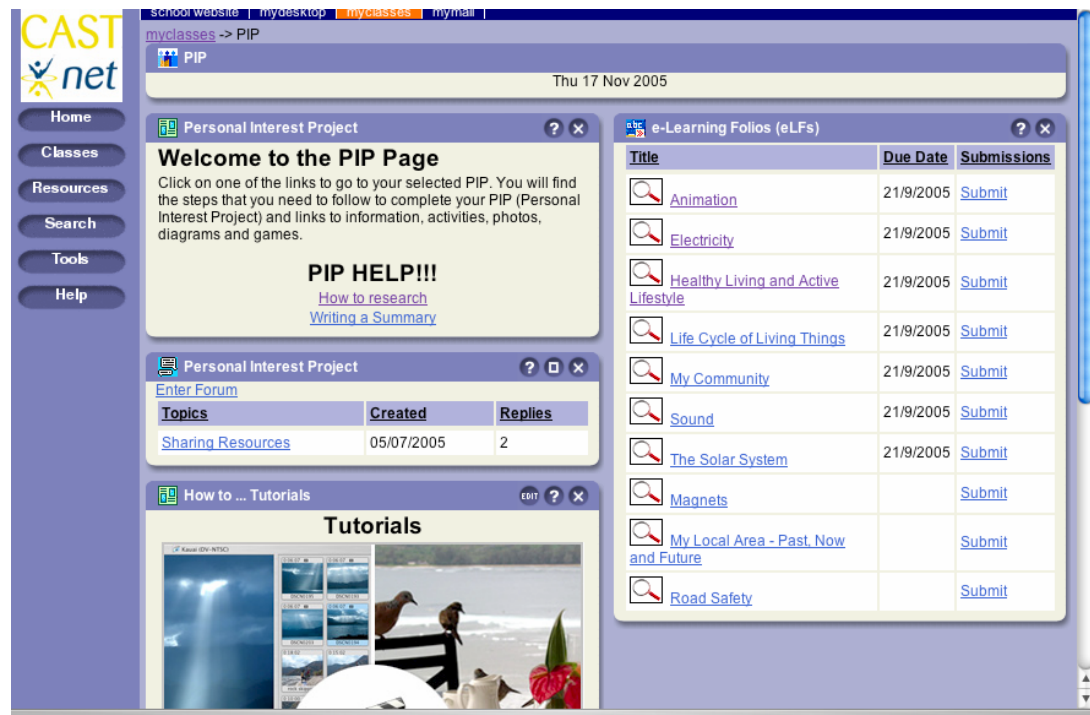
Throughout the period of classroom observation, Mr Aloisi was observed employing a teaching/learning cycle that encouraged the children to work independently of his support. Mr Aloisi's planned instruction involved demonstrations to the class as a whole, usually followed by opportunities for children to use the demonstrated skills independently. The teaching/learning cycle used by Mr Aloisi is represented diagrammatically in Figure 4.3.



**Figure 4.3 - Teaching cycle observed during PIP time**

### *The Task – a Personal Interest Project (PIP)*

Mr Aloisi planned a literacy learning and teaching program that drew its content from the Key Learning Areas of Science and Technology, Human Society and Its Environment and Personal Development and Health. He used CASTnet to create a myclasses page entitled PIP (Personal Interest Project) and inserted links to websites for the children to use as they conducted research about a topic from one of these areas (See Figure 4.4). The children could access this page and the links from any computer in the school and at home if the child had an Internet connection.



**Figure 4.4 – Personal Interest Project myclasses Page**

By clicking on a topic in the list, a file opened that contained a planning tool (KWL chart) and links to web sites that Mr Aloisi considered to be both useful and appropriate in answering questions around the chosen topic. To begin the task, the teacher directed the children to identify an area of interest and to select a working partner if they wished, although they were allowed to work alone. Each group/person then completed a KWL chart that

identified what was known and what was yet to be known (See Figure 4.5). Following this, the children wrote a broad question (also described as a rich question) and contributing questions that would assist in answering the rich question.

Topic: _____		
<b>KWL CHART</b>		
<b>K</b>	<b>W</b>	<b>L</b>
What do I <b>k</b> now?	What do I <b>W</b> ant to learn? (Why? When? Where? What? And How?)	What did I <b>l</b> earn?
2. Where will you find the information you need? _____		

**Figure 4.5 - KWL chart (Appendix C)**

The children were asked to create a Microsoft Word document for their notes and save it in their file on the shared folder. During this activity, children were to summarise the notes into their own words and then publish a report using computer-based technologies in preparation for a presentation to the class. The options for publishing are listed in Figure 4.6.

6. Your project is to be presented using technology. You may choose to use PowerPoint iMovie Dreamweaver Inspiration Garage Band Apple Works (PP 29.7.05)
--

**Figure 4.6 - Publishing options for students (Appendix C)**

As the children worked through their research, Mr Aloisi identified other items that he required to be submitted at the culmination of the PIP. For example, during the fourth (4th) period of classroom observation, Mr Aloisi conducted a tutorial with the whole class about citing references on



a reference sheet (CO 30.8.05). Having demonstrated the skill of citing a reference, he stated 'print this page because you will also hand this page in to me as part of your report, part of your research' (CO 30.8.05). Published work was to be placed in Mr Aloisi's shared folder file on the school's Intranet so he could access and assess each group's work (CO 14.10.05). A printed document containing the summarised notes that were used in designing the published work and the reference list were to be submitted to Mr Aloisi at the culmination of the work (CO 30.8.05).

## ***Part Two***

### ***The learning experiences***

Part Two reveals the learning and teaching experiences in which the teacher and children participated to conduct research around a topic of personal interest. Within this Year 4 classroom, the teacher aims to integrate computer-based technologies into literacy learning experiences where computer skills and applications are taught in the context of that literacy learning. A description of the teaching strategies and learning experiences that occurred during the literacy block is recorded for each classroom visit. My observations from transcribed audio and video footage are interwoven into these accounts to add to the 'thick description' necessary for the interpretive paradigm.

### **Interview with teacher and collection of teaching program**

29th July, 2005

#### *Description*

Mr Aloisi participated in an informal interview in his classroom. He provided background information about the

learning experiences he had designed for the children during Terms 1 and 2 as context for the decisions he had made for Term 3 (SSI 29.7.05). Mr Aloisi described five (5) aspects of classroom learning and teaching that he had considered when planning the PIP as a literacy learning experience; grouping the children, the content of the research focus, organising the research, teacher support and the role of computer-based technologies. For each of these aspects, he explained how he would select a teaching focus that built on the children's prior classroom experiences and encouraged them to reach out to new learning. These explanations made by Mr Aloisi during our initial interview (SSI 29.7.05) are summarised below:

### *Grouping the children*

In the past, the children worked in ability based learning teams, but for the PIP, they would work in interest-based groups of mixed ability. The teacher planned for groups to be formed as each child selected a topic of interest and identified children with similar interests. It should be noted, however, that the children grouped themselves according to friendship rather than interest and then they selected a common topic to work on. The children were expected to follow the classroom routines and work with those of different abilities, but it should also be noted that the partners selected by the focus children were of similar academic ability within each group.

### *Content*

In previous learning experiences, Mr Aloisi selected the content according to syllabus outcomes. While he was still bound to work toward these outcomes, Mr Aloisi aimed to provide a range of topics for selection by the children, placing children at the centre of the decision making process. The children were expected to identify a topic of interest to them. They had little difficulty selecting a topic but appeared to find locating a partner more

challenging. Mr Aloisi supported the children in selecting their topic by providing the appropriate time necessary for them to share their thoughts and negotiate relationships.

### *Organising the research*

Mr Aloisi wrote rich questions for children in the past, but now, his focus shifted and the onus fell to the child to direct his/her learning by identifying what they already knew and how they would find out more. Mr Aloisi planned to support this process by providing the KWL chart and by monitoring the questions that each child posed.

### *Teacher support*

Mr Aloisi's program initially planned for the PIP to be completed independently of teacher assistance, allowing for other small group instruction that focused on literal and interpretive comprehension of print based texts (TP 29.7.05). Analysis of Mr Aloisi's teaching program suggests that he considered the students capable of directing their own learning with computer-based technologies, but that more support would be required in traditional reading and writing learning experiences.

### *The role of computer-based technologies*

Presenting published work using computer-based technologies was optional for these children during Terms 1 and 2, but Mr Aloisi made it compulsory for the PIP so the children could work toward being confident users of computer-based technologies. The PIP page was the focus of the project, with both traditional and digital texts selected by the teacher to support the research.

### *Observations*

Mr Aloisi demonstrated a reflective approach to planning these new learning experiences by selecting tasks that

would build on the children's existing knowledge. He appeared knowledgeable about the abilities of the children to use computer-based technologies as he planned not to work with these children as they researched their topic, but with others as they completed more 'traditional' reading and writing tasks. Analysis of this excerpt from Mr Aloisi's timetable shows that he intended to work on 'modelled writing, comprehension and guided/independent writing' while two other groups worked independently. One of these was the PIP group working at the computers (See Figure 4.7).

#### TUESDAY

...

Teacher Guided	Independent	Independent
Modelled writing/ Comprehension	Reader's theatre Independent writing and handwriting	Personal Interest Project (PIP)
Guided writing/ Independent writing	Journal writing Creative writing	

**Figure 4.7 - Excerpt from literacy timetable (TP 29.7.05)**

#### *Periods of classroom observation*

What follows is a description of each period of classroom observation. The frequency of observation is revealed, as are the key processes the children and teacher were viewed to engage with.

9th August 2005

- The children studied the 'PIP Page' and selected a topic of interest. Groups were organised to reflect these interest groups, labelled red, green and blue.
- The teacher and children discussed what makes a rich question 'rich'. The teacher instructed the children that questions that start with 'how' or 'why' are rich because they 'led to more information' (CO 9.8.05)
- The children selected working partners within their colour coded interest-based teams.

#### *Observations*

The children took some time negotiating with friends and other classmates as they selected a partner with whom they could collaborate on this research project. Four (4) children rejected invitations from their classmates and chose to work alone. The children appeared excited and highly motivated to begin work immediately.

17th August 2005

- Mr Aloisi demonstrated the research skills of locating and identifying information on the computer using a dummy question; 'How does clay animation work?'
- The teacher described how this research would look using books (print based texts), reading the contents page to locate information and reading the text to identify if it answers the question or not.
- Groups began to complete their KWL charts and the process of locating and identifying relevant information and taking notes from the sources of information.
- Five (5) case study participants are identified, two working alone and three grouped together.

A spontaneous interview occurred with Mr Aloisi after this lesson. Mr Aloisi reported experiencing some tension between the way the children were completing the PIP and the way he had planned it in his program. Three (3) issues were of concern to him and he reflected on possible solutions to the problems. Some solutions applied to future lesson plans and others could be resolved immediately. Summarised in Table 4.2 are the tensions and solutions that Mr Aloisi described in the spontaneous interview (UI 17.8.05).

**Table 4.2 - Summary of a spontaneous interview with Mr Aloisi  
(UI 17.8.05)**

TENSIONS	POSSIBLE SOLUTIONS AS DESCRIBED BY MR ALOISI
Because the topic choice is broad, the children are working on a broad range of text types,	All children could work on the same topic and compose a rich question around that in future

challenging Mr Aloisi's focus on explicit teaching of text structure	projects.
Interest based grouping has mixed the literacy abilities of the children, challenging Mr Aloisi's focus on spelling, grammar and 'general writing skills' (UI 17.8.05)	Mr Aloisi will consider grouping the children according to ability to aid explicit teaching in future projects. OR Mr Aloisi will focus only on issues surrounding computer use and teach spelling, grammar and text structure at another time for the remainder of this project.
Many of the children are less capable with manipulating the computer applications than Mr Aloisi first thought and he is concerned about spending too much of his time teaching computer-based 'skills rather than working on general writing skills' (UI 17.8.05)	Mr Aloisi will introduce computer skill development workshops outside the literacy block where development of 'multimedia skills' allows for flexibility of skills across software applications for the remainder of the PIP. AND Mr Aloisi will adapt his teaching program so that he is available to work with whichever group is working on their PIP, leaving the two (2) remaining groups working independently on other literacy experiences for the remainder of the PIP.

### *Observations*

Mr Aloisi reflected and reset goals as he endeavoured to use computer-based technologies in literacy learning. His teaching appears to reflect a belief that traditional and new literacy learning experiences complement each other as he demonstrates skills on the computer and links them to traditional methods of researching with linear texts. He was not observed demonstrating research methods using print based texts, only giving verbal reminders to the children to use them (CO 17.8.05).

Mr Aloisi located all of the information that he considered the children would require to complete their PIP - he identified 'trustworthy' and 'relevant' web sites for children to use and linked them to the 'PIP page' (CO 17.8.05). He also selected appropriate books from the library, identified the sections of the books that he believed would be relevant to each child's research, then photocopied and laminated the pages for children to read. He provided the same level of support to all children in his class, regardless of their individual abilities.

I observed at this point that integration of literacy with computer-based technologies in this Personal Interest Project might be jeopardised by Mr Aloisi's decision to modify his teaching program to focus on 'multimedia skills' before 'general writing skills' (UI 17.8.05). It is possible that the PIP could become a computer task rather than an opportunity for children to engage in literacy experiences with the support of computer-based technologies.

23rd August 2005

- The teacher revised research skills. Together he and the children listed the required stages:
  - o locating information about the topic
  - o skim reading for the information that answers your question
  - o identifying the appropriate information
  - o taking notes
  - o summarising them into 'your own words'
- The teacher described the links between researching using contents lists and page numbers on print-based texts and using the Internet.
- These skills were demonstrated using the Internet and a Word document. He copied and pasted ('note taking') relevant information into the Word document, then reminded children that this information is not ready for publishing, but must be summarised in 'your own words'.

- Today's task: to continue researching the topic using a range of sources (print-based and digital) then print any information saved on Word so it can be 'summarised' without the aid of computer technology at a later time.
- Children worked in team tasks as determined by the teacher's program.
- Interviews of five (5) participants are conducted informally as they work in their groups.

### *Observations*

All children appeared to know which task they should be working on and independently moved to their learning area to begin. The children in pairs or groups were animated in their discussions about Internet research. The topic of these conversations was organisational in terms of logging on to the Internet, locating the shared folder and saving work into each person's file. The child controlling the computer was directed and supervised by the onlooking partner(s). The children and their teacher used a metalanguage of keyboard shortcuts to describe the stages involved in completing certain tasks, for example, note taking when using the computer and Internet involves '• A, • C, • V, • Q' - select all, copy text, paste text, quit from the application.

Two (2) children were observed experiencing difficulty logging on to the Internet. Both children had misspelled their username but quickly rectified the problem.

30th August 2005

- Mr Aloisi displayed a new property on the myclasses page designed to assist children with research. He demonstrated the process of logging on to the Internet and accessing this property (See Figure 4.8).





**Figure 4.8 - PIP Help**

- The teacher read and discussed each stage of the process with the children.
- Considerable time was spent investigating the link that described a good website and the importance of analysing and reviewing websites as authentic or not.
- The teacher then moved to the link 'Cite Sources' and selected a child to read this to the class. Citing sources was the focus for today's lesson. The children were instructed to print the citing sources page (See Appendix D) and to fill it in by thinking back to the various sources they had used.
- The children were directed to their independent group tasks - the PIP group was to continue researching but to also print and complete their reference sheet.

### *Observations*

Mr Aloisi adjusted his teaching program as he had planned in order to work with PIP teams, troubleshooting and teaching on the run. There were many components to today's whole class instruction time and some children became restless and began to fiddle with items on their desks. There were no questions at the end of the tutorial on citing references and the children quickly set to work. Although many children printed and collected the reference sheet, no child was observed referencing any material. One group (Jillian, Andrea and Suzy) had difficulty printing out their sources sheet and required the teacher's assistance to complete this task,

*JILLIAN It didn't work. (Tries again) It won't print!*  
*(Andrea clicks cancel)*  
*JILLIAN (annoyed) No! I was reading information!*  
*It said something was too big. Mr Aloisi, it*

won't let us print this worksheet.  
MR ALOISI Oh, OK. (Mr Aloisi attempts to print,  
reads the options, chooses 'scale image') What  
do we do next?  
JILLIAN Print  
MR ALOISI That's right. Now  $\square Q$  and we need to  
trash that one.  
(Jillian does this and Mr Aloisi moves to the  
next PIP group)  
(CO 30.8.05)

This group required much of Mr Aloisi's time today as they experienced difficulty locating the information provided by the teacher on the myclasses page, and then they were unsure about identifying it as relevant or irrelevant in relation to their rich question and contributing questions.

6th September 2005

- Mr Aloisi's input to the whole class was very brief, 'We are going to work on our literacy rotations for an hour. So the green team you are working on computers, blue team you are on the rotation starting with handwriting and red team you are starting with readers' theatre. OK go to your tasks, please.'
- The teacher planned not to work with his planned program of modelled writing/comprehension, guided and independent writing, but to work with the PIP team for Tuesday. He moved between these children, discussing issues surrounding their research, such as proofreading and editing, locating and identifying information for the entire literacy block.

### *Observations*

Each PIP group required Mr Aloisi's expertise in troubleshooting the various technical difficulties, research and writing challenges that they faced, so during classroom observations Mr Aloisi spent no time on planned instruction with the PIP group and all of the time teaching 'on the run'.

Jillian, Suzy and Andrea continued to struggle to identify relevant information. Transcripts of interactions between Mr Aloisi and the girls show that Mr Aloisi encouraged the

girls to make independent decisions about the information they read, '...do you think that might be helpful? (They answer in the affirmative)...OK well maybe you can highlight that and put it into your word document and you might be able to use that later.' (CO 30.8.05).

The metalanguage of keyboard shortcuts confused members of this group too,

*ANDREA Mr Aloisi, we didn't know any apples before, so that's how we found out (CO 30.8.05).*

Seth and Shannon, the children who elected to work alone, were observed to interact rarely with others as they conducted their research, preferring to focus on the Internet sites and their information pages. However, as Seth and Shannon began to publish their work, they became more interested in collaborating to solve problems while Mr Aloisi was busy working with Suzy, Andrea and Jillian.

13th September 2005

- Mr Aloisi brought the whole class together for just a few moments before reminding them of today's tasks and setting the children to work.
- Teacher and children quickly fell into their group tasks routine. As most PIP children are now publishing their writing, Mr Aloisi worked on proofreading, editing and publishing skills with today's PIP group. The most popular medium appears to be Microsoft PowerPoint.
- Selection and interview of the final two (2) participants, Mark and Phil, is conducted

### *Observations*

In this period of observation, Jillian, Andrea and Suzy researched at a computer next to Shannon, who worked independently at her computer. Unlike the collaborative relationship that Seth and Shannon share, Shannon tended to ignore this group, preferring to work alone. The classroom was far noisier than during other observation sessions as

the children excitedly shared their PowerPoint works in progress.

Video footage captured Mr Aloisi speaking to different groups of children, asking them to lower their voices to a more appropriate level (V 13.9.05). He is now observed during periods of observation to work solely with PIP groups, leaving the students working on print based texts to complete their tasks independently.

14th September 2005

- Mr Aloisi quickly reminded the children of their team tasks (one group on computers and two groups working with print based texts) and the children enthusiastically set to work.
- Mr Aloisi worked individually with each PIP group for that day on proofreading and editing skills as they focussed on the affordances of PowerPoint technology, such as sounds and animations.
- A child, Jeff, identified 'resources' as a spelling error on Mark and Phil's presentation and tried to fix it. The boys objected to the help. He spelled the word for them anyway.
- Mr Aloisi worked with Mark and Phil on the spelling rules when using 'c' and 'k'.

### *Observations*

Mr Aloisi worked with PIP children as they edited written text. His focus was on careful proofreading of text for spelling in preference to any other component of the work. For example, Phil and Mark were testing their slide transitions and custom animations when Mr Aloisi walked past. 'Just before we continue with our flashy animation... Did you check the spelling?' (CO 14.9.05). Mr Aloisi worked in depth with Mark and Phil to teach a spelling rule about the soft and hard 'c' sound. Analysis of transcripts from classroom observations suggests that the children's

focus was on using the tools of computer-based technologies to create attractive presentations and that Mr Aloisi's focus was on language conventions. No observations were made where the children or teacher discussed the message that the text conveyed or the intentions of the author.

20th September 2005

- Mr Aloisi delivered a lengthy lesson to the whole class on the strengths and weaknesses of the PowerPoint application as a publishing tool. He and the children discussed the appropriateness of sounds, illustrations and custom animations in their own and other PowerPoint presentations.
- Jeff brought Phil and Mark's misspelling of resources to the attention of the class to highlight the limitations of spellchecker as a proofreading tool.
- The independent task (for those working on their PIP) is to reflect on the presentation and the appropriateness of sounds, backgrounds and animations, using this reflection as an editing strategy.

### *Observations*

When Jeff alerted the class to Mark and Phil's misspelling of 'resources' during the whole class discussion, Mr Aloisi confirmed the importance of collaboration, saying, 'Phil and Mark were lucky that day that Jeff was walking around and picked it up, OK? Very lucky that he read it.' (CO 20.9.05). Video footage captured images of Mark and Phil making eye contact with each other and rolling their eyes while Jeff described their mistake to the class, suggesting that they found this public airing of their error somewhat tedious and uncomfortable (V 20.9.05). From analysis of this classroom observation and video footage, it appears that Jeff is valued as an 'expert' in the area of literacy by his teacher, but not by Phil and Mark.

SCHOOL HOLIDAYS

14th October 2005

- The children presented their work to the class. The room was rearranged to resemble a movie theatre, with the chairs in concentric semicircles for an uninterrupted view of the movie screen (whiteboard).
- Mr Aloisi began the lesson by trying to calm the nerves of those who were worried about their presentation. Some children felt they had not had adequate time to prepare and complete their work, others were nervous because the attention would be on them. He explained that it was neither content nor computer-based skills that would be assessed today, but the quality of their oral presentation.
- Mr Aloisi asked Jeff to locate each group's file in the shared folder and begin the slide show for each presentation. Each child/group presented their work to this audience.
- Following the presentations, children gave their opinions about each other's work and Mr Aloisi made some observations.
- Final interviews conducted with all seven (7) children following their PIP presentations.

### *Observations*

Analysis of classroom observations and video footage reveal that most children were excited about viewing the work of others. The audience was supportive of each speaker and appreciative of the efforts they made, clapping enthusiastically and making constructive comments when Mr Aloisi invited them,

*JEFF Everyone presented well with quite good information.*  
*MARK People spoke clearly*  
*WILLIAM Everyone tried their best. (CO 14.10.05; V 14.10.05)*

All participant children interviewed expressed pride in their work and each was able to articulate learning gains in the use of computer-based technologies. One (1) child only mentioned new learning in literacy.

Although Mr Aloisi had asked Jeff to 'make sure the others (each child's work) are ready to go', video footage shows that some children rejected Jeff's expertise, located their own files and began their own slide show (CO 14.10.05; V 14.10.05). After four (4) groups had completed their presentation, analysis of classroom observations suggests that Mr Aloisi noticed the tension between Jeff and the other children,

*MR ALOISI Thank you Jeff. Now before we continue with the next ones I might just ask the children that are presenting to do the, uh, Jeff you can continue getting it ready for them, but we'll just let them click on it, OK?*

*JEFF Sure*

*MR ALOISI Good, so then they're presenting their own work. So you get it ready for them (CO 14.10.05).*

During an interview with Mr Aloisi after the children had presented their work and left the room, he described feeling disappointed about the quality of the presentations made by all of the children (SSI 14.10.05). He observed that the children read their notes directly from the screen, most did not embrace the genre of PowerPoint to use bullet points as springboards to more elaborate explanations and they neglected to make eye contact with their audience (SSI 14.10.05). Analysis of transcripts from classroom observations reveal that prior to the first presentation, Mr Aloisi explained what he expected from the children, 'This morning I am only going to be marking you on your presentation of your PIP. So the way that you talk to the audience, the way that share what you learned with us' (CO 14.10.05). Following the final presentation, Mr Aloisi instructed the children:

*MR ALOISI ...Put up your hand if you shared with us how you went about finding out the information? (no hands). Put up your hand if you shared with us how you decided what questions to answer (no hands). You need to remember that when we started this PIP I didn't give you the questions, you decided what questions you were going to answer. You chose your topic, so in your presentation I was at least expecting you to tell me WHY you went to find out about that particular question (CO 14.10.05).*

Perhaps the children understood the instruction to 'share what you have learned with us' (CO 14.10.05) to mean that they should share their new knowledge about the topic they researched, rather than sharing how they went about conducting the research.

## ***Part Three***

### ***Analysis of the children***

The learning journeys of the seven (7) case study children are presented in this section. These have been designed to build upon the teacher activity and lesson overviews presented in the previous sections to capture the responses to the task of the students in the different cases. As the children had the option of working in a group, with a partner or independently in the completion of this task, each response to the task (completed by a group, a pair or an individual child) is presented as a case. Four different cases are explored in detail.

Shannon

Seth

Mark and Phil

Jillian, Andrea and Suzy

Through these cases emerging themes are identified from the analysis of the data. Emerging themes from this study are:

Engaging in the literacy experiences

Drawing on trusted sources

Encountering tensions

### ***Case Study One - Shannon***

#### ***Background***

Shannon is nine (9) years old and has a younger sister aged seven (7) in Year 2. Classroom and school assessments have revealed that Shannon is an accomplished student,



demonstrating a mature understanding of many concepts and using more sophisticated language structures. Shannon lists English and Maths as her preferred subjects at school (SSI 23.8.05). Shannon's teacher described her literacy achievements as well above the average literacy levels of this class.

Shannon is shy when speaking to and interacting with adults, although she is courteous and friendly when she feels more at ease. Her teacher identifies that she is popular with many classmates, Shannon plays, laughs and chats with her friends in the playground and during 'free' time in the classroom.

## **Emerging Themes**

### *Engaging in the literacy experiences*

#### ORGANISING THE RESEARCH

Shannon organised her study using the KWL chart to identify the knowledge she already possessed about her selected topic, 'Sound':

*You hear sound with your ears  
There are loud and soft sounds  
There are many different sounds in the world  
Nearly everything makes a sound (WS 23.8.05)*

She then posed some questions that she felt would expand and develop this knowledge:

*Why do humans and other living things make sounds?  
Why did God make sound?  
What is sound?  
What is sound measured in and how do waves work?  
How does sound help us and save us in our lives?  
What instruments are used to save our lives? (WS 23.8.05;  
SSI 23.8.05)*

Finally, Shannon coded the questions she posed in the 'What do I Want to learn?' column as CQ (Contributing Question) or BQ (Big Question). Shannon explained that the contributing questions were easier to answer than the big (or rich) question and that answering these easier questions made the big question easier to answer (SSI

23.8.05). Shannon's big question is 'How does sound help us and save us in our lives?'.

Shannon conducted all of the planning and organising stage of the project by completing the KWL sheet independently of teacher assistance. She competently demonstrated her understanding of the role of the contributing questions as assisting in answering the rich question and that this planning was an important part of the process of writing.

#### CONDUCTING THE RESEARCH

Shannon used the stages of the research process as taught by Mr Aloisi:

- o locating information about the topic,
- o skim reading for the information that answers your question,
- o identifying the appropriate information
- o taking notes
- o summarising the notes into 'your own words' (CO 23.8.05)

In locating information on the Internet, Shannon was observed to busily and efficiently scroll and click on links at a 'dizzying' pace as she skimmed and skipped over the information on offer. When relevant information caught her eye, Shannon pounced for her pen, hastily scribbling notes onto the notepad at her side (CO 23.8.05). However, where there was a large amount of text, Shannon used the shortcuts identified by Mr Aloisi (□C, □V) to record the notes on a Microsoft Word document. This multifaceted process of locating relevant information, taking notes by hand and using computer shortcuts is a feature of Shannon's research method and was observed regularly through classroom observations and video footage (CO 23.8.05; 30.8.05; 6.9.05; V 30.8.05; 6.9.05). Using the affordances of the computer-based technologies, she demonstrated that she was easily able to integrate the information drawn from print based and digital sources ready to compose her own text about sound.

## THE WRITING PROCESS

Shannon composed text by reviewing her handwritten notes and the notes displayed in the Word document on screen. She clicked on a new word processing document, mentally composed the information into her own words and typed them quickly and quite accurately into the new document. Following this, she clicked back to the notes document and the cycle continued. As each paragraph was completed, Shannon checked her work. She controlled and used proofreading and editing skills together, simultaneously reading for meaning as well as for correct spelling and grammar until she was satisfied with her report on sound (CO 6.9.05). The combination of the tools of technology, such as having a number of windows open at once, allowed Shannon to condense the traditional stages in the writing process. She was observed to compose, proofread and edit quickly and efficiently on a single draft without having to rewrite the text a number of times by hand in order to achieve a second or even third draft.

As her summarising ended, Shannon's writing resembled the text structure of an information report (WS 14.10.05). Her summarised text was recorded in paragraphs, using full sentences that built upon each other to explain the phenomenon of sound, demonstrating her competence in using this (print based) text type to communicate her message to an audience.

Her final stage in the writing process was to prepare a presentation using computer-based technologies - a requirement of the Personal Interest Project (PP 29.7.05). This presentation would be delivered to the Year 4 audience at the culmination of the Personal Interest Project. Although Shannon had utilised the Internet, intranet and word processing applications to research and draft her report on sound, Mr Aloisi's requirement of using computer-based technologies as a presentation tool created some tension for Shannon as she searched for the appropriate

software application. This and other tensions are addressed within the theme emerging from this study - *encountering tensions*.

Shannon described the process of researching and constructing text with the help of computer-based technologies as a positive experience. She explained that the computer is 'quicker because I can type fast', creative because 'you can change the font and it looks really nice' and that the spell and grammar check support the composition process (SSI 14.10.05). She recognised the computer and computer-based technologies as just one of a range of ways to achieve literacy learning goals, acknowledging that 'you can still use books and interviews and stuff' (SSI 14.10.05).

### *Drawing on trusted sources*

#### INFORMATION SOURCES

Shannon identified a number of trustworthy sources of information that would assist her in completing this research task. First were Mr Aloisi's selected sites on the PIP page. Shannon began her research here, but explained that if Mr Aloisi had not selected sites that answered her question, she would go to a broader Internet search using the Google search engine (SSI 23.8.05). Other trusted sources identified by Shannon include 'books, encyclopaedias, magazines and maybe newspapers' (WS 23.8.05). Shannon considered her parents as knowledgeable and trustworthy sources of information, along with the Bible and herself. When asked about the sources of her information, statements she made included,

*'I used Mum and Dad, they really helped me a lot and I used some of Dad's high school books.'*

*'I put a verse from the Bible'*

*'I just got it (the information about why God made sound) out of my head' (SSI 14.10.05).*

Shannon modified her opinion of the search engine Google as a trustworthy and helpful source of information as she gained experience with it, describing the results of the Google search as unhelpful because it was 'just people selling stuff and people saying, 'Buy it' and selling it and all that stuff and it really wasn't what I needed' (SSI 14.10.05). Observations revealed that Shannon drew much of the information for the contributing question 'How does sound save our lives?' from the website [www.howstuffworks.com](http://www.howstuffworks.com), a site that Mr Aloisi selected and linked to the PIP page (CO 6.9.05), confirming Mr Aloisi and his PIP page as trustworthy.

#### EXPERTS

Shannon demonstrated a preference for working independently at this research task and was observed to rarely defer to the expertise of others. She seldom raised her hand during class discussions to contribute ideas nor when she worked at the computer to seek Mr Aloisi's assistance (V 23.8.05; 30.8.05; 6.9.05; 13.9.05; 14.9.05). Shannon was observed making decisions about her learning that often contradicted Mr Aloisi's directions. For example, he asked each person to print out the notes they made from Internet research for two reasons; for summarising later without the aid of computer-based technologies and so that each person could have notes in front of them as they worked at the computer (CO 23.8.05). This instruction demonstrated Mr Aloisi's understanding of the value of integrating print-based and digital methods and made allowances for the limited access each child has to the computer-based technologies as they share the resources. Shannon did not print her notes for the purposes of editing, proofing and summarising, rather she was able to complete this process quickly and easily by moving between the windows open on her desktop within the restrictions of the time limits imposed.

Shannon was forced, however, to seek assistance from a more knowledgeable source on some occasions. For example, as

she attempted to answer each of the contributing questions, she encountered some difficulties because of the wording of the question and her inadequate use of keywords during Internet searches. Shannon sought Mr Aloisi's expertise and he worked with her to modify one question, 'What instruments are used to save our lives?', explaining that she 'already knows what instruments are used to save lives' but it is HOW these instruments are used that is the unknown content (CO 23.8.05). Together they changed the question to 'How do sounds save our lives?' and she was able to resume her status as independent researcher. She had not, however, developed more sophisticated key word searching strategies.

On another occasion, Shannon requested Mr Aloisi's expert knowledge to learn how to copy an image from the Internet to her notes document in Microsoft Word. She had exhausted her bank of problem solving strategies, explaining, '...when I copy and paste it, I can't get the picture' (CO 6.9.05). Mr Aloisi offered his expertise rather than simply giving advice, Shannon accepted this, and he demonstrated the steps needed to copy the image into the document. When he finished this process, Mr Aloisi deleted the image and challenged Shannon 'You have a go now' (CO 6.9.05), demonstrating his belief 'children learn by doing' (I 21.11.05). Shannon was observed to easily repeat the steps, thanked her teacher and turned back to her work.

Throughout the study, Shannon appeared to consider few of her classmates as experts, or even as being of equal ability to her.

*SHANNON When you work with a partner sometimes they have different ideas from yours and then you've got to put your idea aside and give them a chance to do theirs, especially if they don't know as much as you and then you've got to give them a chance to put in their ideas.*

*RESEARCHER And you don't like that?*

*SHANNON Not really because you won't do all your own work and you want to get the most marks for both of you.*

*RESEARCHER Have you worked with partners at other times?*

SHANNON Well for my Dreamweaver [project] I did because Louise really wanted to work with me, so I worked with her, but for all of my other projects I just work by myself.  
RESEARCHER What was good about working with Louise?  
SHANNON Well she's the same level as me and we cooperated together, so it was OK. (SSI 14.10.05)

Although rejecting other children as experts, Shannon shared her expertise freely with Seth when they worked side by side, publishing their work at eMac computers. In Table 4.3, an interaction between Seth and Shannon is recorded in the left column and my observations of Shannon's actions are in the right column.

**Table 4.3 - Interaction between children (CO 6.9.05; V 6.9.05)**

Interaction between Seth and Shannon	Researcher observations
<p>SETH Oh no. What have I done? Shannon, do you know how to get the title thing back up? SHANNON You probably... SETH No I deleted it before I saved it SHANNON □Z SETH Thanks [They return to their individual tasks] SHANNON Now you go to insert. Now I don't know. SETH ...You just click here to delete and insert. SHANNON Yeah SETH Thanks ... SETH Temperature goes down (speaks as he types) ...(to Shannon) Do you think that would be suitable? SHANNON (emphatically) You said that was in winter. It is NOT winter! It is spring! SETH (just as strongly) Why? SHANNON (Sarcastic) It's September! That is in Spring.  SETH Oh No. Look! (reads from the slide) When in the year is it time to watch your health SHANNON (changing the topic) You should put a question mark there. SETH Oh I forgot that! I'm dumb. SHANNON (returns to her aggressive</p>	<p>Shannon was called upon as a possible expert with PowerPoint applications and together she and Seth solved the problem.</p> <p>Shannon's expertise was again required, this time in literacy. She responded in a far more authoritative way, drawing attention to his error in meaning.</p> <p>Shannon volunteered her self as expert editor, highlighting errors of punctuation. Her expertise was accepted and the changes made.</p>

typing style).

SETH I wanted those words but I can't put it, it doesn't make sense. Shannon, why doesn't it make sense?

SHANNON Write - 'so that when you're inside you can exercise, not don't have to exercise.'

SETH Yeah! Hooray, that makes sense! (makes changes and rereads)...

Silence between Seth and Shannon for several minutes as each works on their own.

SHANNON What's your big question?

SETH Why do we have to keep fit and what happens if we don't?

SHANNON But what happens if you don't keep fit?

SETH (types) 'Already answered'

SHANNON You shouldn't really do that. You should... answer it again. You've forgotten to put in question marks.

SETH There (puts one in)

Types on, computer makes error alert

SHANNON What are you trying to do?

SETH I'm trying to get it on the start. Oh it already goes there.

(Types) resources. How do you spell it?

SHANNON Don't you know how to spell it? (Spells it for him).

The title goes in the 'wrong' spot  
SETH How come it's there? I want it over there.

SHANNON It's because of the background you've chosen, you can't write over the top of that (points to slide images)

SETH OK then, I'll delete it then do it over here. (retypes as Shannon spells it). Mr Aloisi (first reference)

SHANNON You can't write Mr Aloisi as a resource, you have to write Mr Aloisi's web links or something, then you can have some acknowledgement, like thank you Mr Aloisi for giving you the opportunity to do the project. And under resources you have to list

Seth struggled here to construct text that conveyed his intended message and called on Shannon's expertise again. She quickly identified the problem and instructed him on how to solve it.

Shannon engaged Seth now and identified another opportunity to demonstrate her expertise. This time, she was interested in the structure of Seth's text, but soon returned to details of punctuation. Again, Seth accepted Shannon's expertise.

Shannon was ready to give advice to Seth at any opportunity. She demonstrated her expertise in spelling...

and in using PowerPoint...

and in citing sources.



<p>every single web page you went to, not just writing websites. (Seth shakes his head but Shannon insists). They don't know Mr Aloisi! You have to list every single-</p> <p>SETH (interrupts) Oh Shannon! I'm going crazy with you and all your doing... (He leaves the table and Shannon goes back to work. Seth returns and makes Shannon's suggested changes). I did the websites (CO 6.9.05; V 6.9.05).</p>	<p>Upon experiencing rejection, Shannon simply returned to her own writing as Seth's actions confirm (if somewhat begrudgingly) her status as an expert in literacy and in computer-based technologies.</p>
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Seth is the only child that Shannon was observed with in this expert role throughout the study. She did not appear to be confident in sharing her expertise with everyone, video footage shows her writing alongside other children at the same eMac computers. In most instances, she simply ignored the child(ren) and continued with her own work. On one occasion, she sat beside Jillian, Andrea and Suzy who were noisily struggling with identifying relevant content on the websites that Mr Aloisi had selected for them to read. Shannon was seen in the video footage silently observing these children for some time, but making no effort to guide, instruct or interact with them, then, as Mr Aloisi redirected the group back to the task, she returned to her own writing (V 13.9.05).

### *Encountering tensions*

#### TIME

Shannon appeared to experience tension between the process associated with researching the large amounts of information available to her through the Internet and the pressure to complete tasks quickly. Her ability to work quickly was affirmed by Mr Aloisi when he complimented Shannon for being '...a quick learner' and she responded with a shy, but proud smile (CO 6.9.05). During our initial interview, Shannon explained that using the copy/paste application was beneficial to her literacy learning because

she could complete her work faster so that she was prepared 'if Mr Aloisi tells us to finish off (pack up work for the day)' (SSI 23.8.05). Classroom observations and video footage showed Shannon moving between Internet sites, rapidly skim reading text, scribbling notes in her note pad and using keyboard shortcuts to work between software applications on the computer screen (CO 23.8.05; CO 30.8.05; CO 6.9.05; V 30.8.05; V 6.9.05; V 14.9.05) in an attempt to meet the deadline for presentation set by Mr Aloisi. Shannon abandoned her aspiration to use iMovie for her presentation because 'it takes too long' (SSI 14.10.05), selecting PowerPoint instead.

On the day of the presentations as other children sat and chatted excitedly amongst themselves, Shannon appeared troubled as she explained to Mr Aloisi that she had not had sufficient time to complete her PIP and was not ready to present her work on that day (CO 14.10.05). Mr Aloisi attempted to alleviate her concern by assuring Shannon that the audience would appreciate whatever work she had managed to complete (CO 14.10.05). She referred to the shortage of time in our final interview and the impact it had made on the quality of her work, explaining, 'Mr Aloisi just forgot about the extension time I asked him for' (SSI 14.10.05). Following this, she shrugged her shoulders and said, 'Anyway, it's OK' (SSI 14.10.05), but Shannon did not smile or make eye contact, gestures that suggested that it did matter.

#### PUBLISHING AND PRESENTATION

Shannon initially identified iMovie as an appropriate application for publishing her report on sound. She made this selection because she had never used it before and would 'like to know how it works' (SSI 23.8.05). Later, though, she questioned her ability to utilise the components, 'I don't really know if I can record myself' (CO 30.8.05). Eventually, she rejected iMovie because 'it takes too long' (SSI 14.10.05) and selected PowerPoint,

explaining that she had used it previously and will 'stick to one way of presenting all the way through' (SSI 14.10.05). Shannon appeared to understand the genre that is most appropriate for PowerPoint as she presented her work in bullet points and attempted to use each one as a springboard to a verbal explanation in her presentation (V 14.10.05). Shannon resolved the tension she experienced with the use of one application (iMovie) by reverting to another, better known one - the safer option.

In adopting PowerPoint as the application of choice for a presentation about sound, Shannon was confronted by new tensions. Initially, she designed each PowerPoint slide with a different background and sound effects announcing the arrival of text on each slide (CO 20.9.05). Later, she altered the set up of the presentation, opting for a uniform background and eliminating many of the sounds she had selected. She justified this decision in terms of conveying her intended message to her audience, 'I felt that just one background would be good otherwise it would attract people's attention to the background and not to the information' (SSI 14.10.05). Shannon defended her retention of some sound effects, saying, '... because mine is actually about sound, it needs sound effects' (CO 20.9.05).

A further tension that Shannon worked to relieve related to the genre that PowerPoint affords as a presentation tool. Text on a PowerPoint slide is generally composed in point (or bullet) form and used as a trigger to further discussion. Initially, Shannon transferred all of her summarised notes using copy/paste shortcuts from her Word document. This resulted in each slide being filled with text and needing two or three slides to accommodate each paragraph. Shannon felt there were two problems with recording full text on the slides. The first related to the use of images in her presentation, 'I want to put in little pictures here and there and I won't have room for that if I have so much writing' (SSI 14.10.05). The second tension involved Shannon's perception of the 'correct' way

to use PowerPoint, 'if you look on big companies when they do speeches and they use PowerPoint, they only put up little bullet points and they explain it. They do the speech' (SSI 14.10.05). Shannon edited each slide, recording only the main ideas of the text in point form. When she presented, she tried to use them to 'do the speech', although she was very nervous and tended to read each point out to the class (V 14.10.05).

## **Interpretative Summary**

In achieving her aim of learning more about sound and the way it is used to save lives, Shannon demonstrated her ability to transfer skills and understandings about traditional literacies to new literacies. Shannon's approach to research was multi-faceted and somewhat chaotic to the onlooker as she opened a number of frames on the computer desktop as well as a notepad and writing book at her side. Shannon appeared to experience no confusion as she moved quickly between these information sources, instead, she appeared able to sift through large amounts of information in order to identify that which was relevant to her research. The affordances of the technology complemented this method of quickly locating and identifying information sources to draw on in constructing text. Using computer-based technologies, Shannon applied the literacy skills learned from working with traditional texts to the creation of new texts. It appeared that through the affordances of computer-based technologies that more information was available in close proximity, the tasks were completed more quickly and required faster reading and reviewing skills as she identified information sources that would meet her needs.

Shannon's tensions arose from the anxiety produced when she attempted to meet the publishing and presentation deadline, suggesting that perhaps a more able child such as Shannon may require more flexibility with completion dates. Additionally, Shannon was forced to modify her expectations

by switching to PowerPoint rather than iMovie because of time and technical constraints in an attempt to alleviate tension. Finally, Shannon was observed experiencing frustration throughout the fact gathering stage in the writing process. Analysis of the data suggests that the problem arose because of the inadequate keyword searches she performed using the Google search engine, challenging her teacher to provide support with developing searching skills.

The model depicted in Figure 4.9 summarises the process that Shannon employed to complete the Personal Interest Project. It identifies the enablers that allowed her to experience success with the project and inhibitors, which led to further consideration of the needs and responsibilities of the learner as technology is integrated with literacy learning.

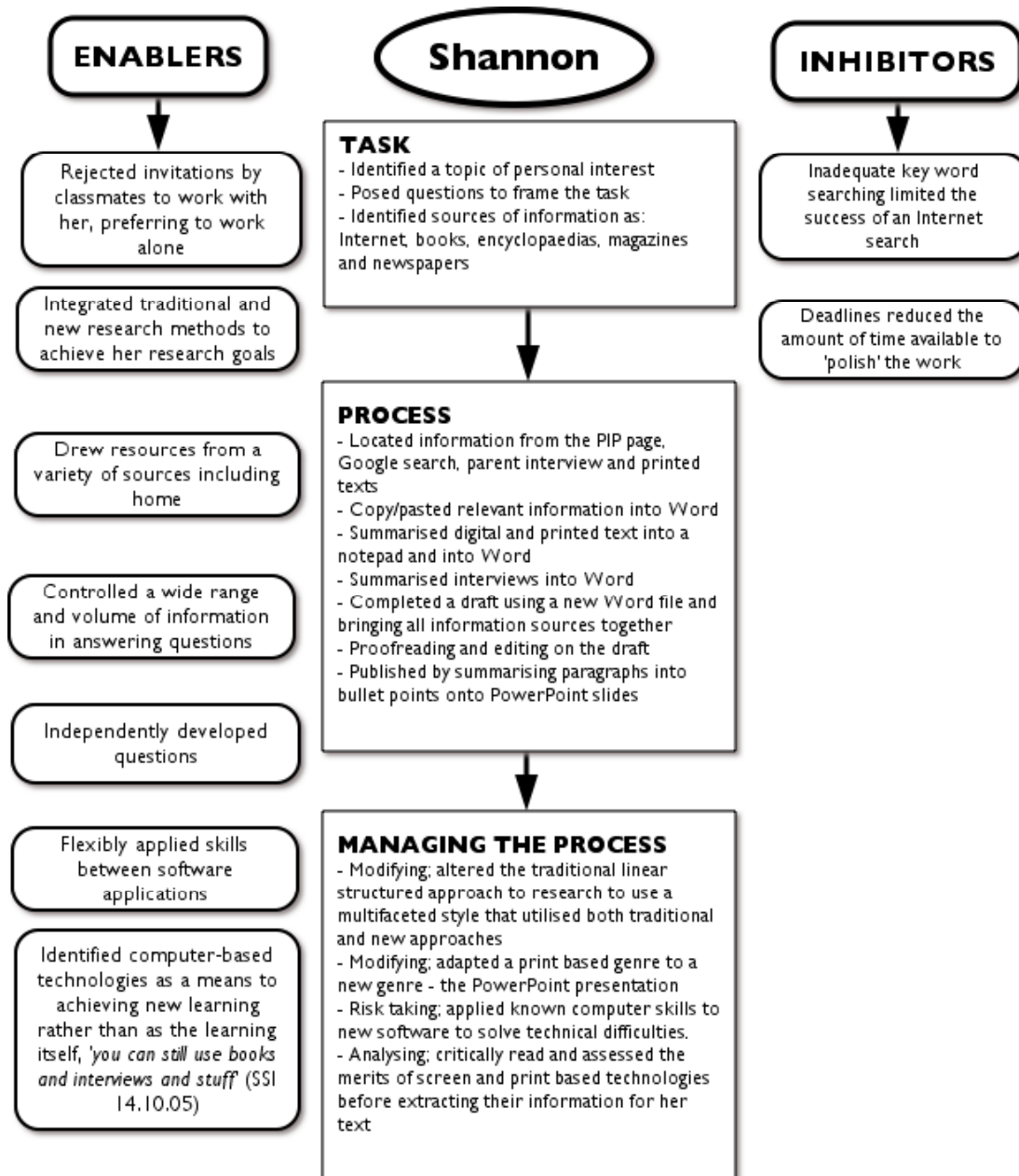


Figure 4.9 - Enablers and inhibitors to Shannon's work

## ***Case Study Two - Seth***

### **Background Information**

Seth is nine (9) years old and lives in the Wollongong region of New South Wales, south of Sydney with his parents and four (4) year old brother. Seth's younger brother will begin Kindergarten next year, when Seth is in Year 5.

At the beginning of the enquiry, Mr Aloisi identified Seth as an active and enthusiastic student who happily applies himself to all aspects of school life. Classroom and school assessments have revealed that he is a child with abilities at the average level of the class (WS 23.8.05). Analysis of his writing reveals that Seth prefers an informal mode of writing, employing a somewhat conversational style in his writing (PW 14.10.05).

Seth elected to work alone for the Personal Interest Project (PIP), explaining that it was normally his habit to select a partner and that he had decided to take the challenge of independent research (SSI 14.10.05). Throughout the inquiry, Seth demonstrated a range of problem solving skills when using computer-based technologies and a willingness to seek help when he had exhausted his repertoire of skills (CO 23.9.05; 30.8.05; 6.9.05).

### **Emerging Themes**

#### *Engaging in the literacy experiences*

##### ORGANISING THE RESEARCH

Seth organised his study using the KWL chart to identify the knowledge he already possessed about his selected topic, 'Healthy Living and Active Lifestyle':

*You eat fruit every day to keep healthy  
You can run every day to keep fit  
If you play sport on the weekend you can keep  
activated  
Don't eat junk food exselly (excessively) (WS  
23.8.05)*

He then posed some questions that he felt would expand and develop this knowledge:

*Why do we have to keep healthy and active?  
When would be the best time to play sport?  
What do I need to eat to keep healthy? (WS  
23.8.05)*

These questions were changed throughout the period of study to:

*How do we keep healthy?  
How do you keep active?  
What would be the most healthy diet?  
When in the year is the time to watch your  
health?  
Why do we have to keep fit and what happens  
if we don't? (WS 23.8.05)*

Seth completed the K and W sections of the organisation chart with the assistance of his teacher (CO 23.8.05). Changing or modifying the contributing questions reflects two aspects of Seth's research project. The first is that altering the questions with Mr Aloisi's help made the questions more answerable. The second is that the questions were altered to fit with the information that Seth found on the Internet sites previously selected by Mr Aloisi and linked to the PIP page (PP 29.7.05).

#### CONDUCTING THE RESEARCH

During classroom observations (CO 23.8.05), Seth sought Mr Aloisi's permission to work outside at the table on the verandah. He was observed to enthusiastically set himself up, taking some time to adjust his chair, the computer, his hair and clothes before clicking on the Safari icon in the dock to log on to the Internet (CO 23.8.05). Seth explained that he uses the research skills as demonstrated by Mr Aloisi:

- o locating information about the topic
- o skim reading for the information that answers your question
- o identifying the appropriate information



- o taking notes
- o summarising the notes into 'your own words' (CO 23.8.05)

However, he was later observed to discard this process in favour of a quicker method. Seth opened a Microsoft Word file, ready to record his notes and identified his place in the writing process, 'Now I have to skim this writing and see if I need it' (CO 23.8.05). Deciding that it did answer the contributing question that he was researching, Seth identified the information as 'relevant', highlighted the appropriate text, then copied and pasted it into the Word document. Mr Aloisi labelled this 'note-taking' (CO 17.8.05).

Seth continued the process of locating Internet sites, skim reading text for appropriate material then taking notes in the Word document for approximately fifteen (15) minutes, after which time, his enthusiasm lagged (CO 23.8.05). Seth appeared to believe he had enough information and was ready for the next stage in the process. Seth used the same language as Mr Aloisi to describe his actions throughout the writing process, for example, 'skim reading', 'relevant information' (CO 23.8.05) and 'summarising' (CO 30.8.05).

#### THE WRITING PROCESS

Seth designed a questionnaire in preparation for an interview he wanted to conduct.

##### *Qeustoins*

1. *do you know how to keep fit?*
2. *how do you keep fit?*
3. *can you tell me if you play sport?*
4. *does the sport (no sport) you play keep you fit or do you run around in your backyard to keep fit?*
5. *what kind of fruit is your favourite?*
6. *How much friut do you eat a day? (WS 23.8.05)*

Questions one (1) to four (4) demonstrate an understanding of how the answer to one question can be the springboard to another, or can be built on to answer a subsequent question. He also demonstrated his existing knowledge in

question four (4) about the types of activities that keep him fit, while making an assumption that the interviewee will eat healthy food in an effort to maintain fitness in questions five (5) and six (6).

While Seth could describe the research stages as taught by Mr Aloisi, he was observed following them only at the beginning of the research and first draft stages of his writing. When answering the contributing question 'How do you keep fit?', Seth logged onto the Internet, located relevant information, took notes and summarised them into his own words in his exercise book (WS 14.10.05). He did not use this information in his final PowerPoint presentation. When answering the remaining contributing questions, Seth explained that he did not proceed with this method of research, preferring a quicker method,

*SETH Well, I went onto the Internet and looked at a couple of Websites and I downloaded and copied the information into here (rifles through papers to show the [C/V information pages) and I put some information into this little, a couple of words in my own words into the book.*  
*RESEARCHER That's into this exercise book here.*  
*SETH Yep and then out of the information I didn't really do much. All I did was think of something. I didn't really use the notes, oh, I used some of the notes, but I just thought of something and put it down.*  
*RESEARCHER and you typed that straight into the PowerPoint presentation?*  
*SETH Yep. (SSI 14.10.05).*

Analysis of his published work (PW 14.10.05) suggests that using this method of simultaneously composing and publishing a final draft created difficulties for Seth. Writing in this way challenged Seth to control a number of components of the writing process at the same time:

- o Locate and identify relevant information
- o Planning and composing text
- o Recording, punctuating and spelling text using accepted conventions
- o Proofreading and editing the draft to ensure the author's intended meaning is conveyed and to

- monitor spelling, punctuation and sentence structure
- o Creating slides using PowerPoint
- o Selecting a background appropriate to the topic
- o Positioning the text on each slide
- o Selecting and applying slide transitions for each slide
- o Searching for and inserting illustrative diagrams or images

Each of these components is important in the writing process. Seth's confusion caused by attempting to control each of the components together is evidenced by errors of spelling, punctuation and sentence structure in his final draft. Additionally, the message that Seth wished to convey became uncertain as he attempted many different tasks at once (PW 14.10.05). Classroom observations suggest that Mr Aloisi had provided support structures for the children in an effort to avoid such confusion by teaching the children the stages to follow in conducting research (CO 9.8.05).

#### PROOFREADING AND EDITING

Seth demonstrated the understanding of the need for a multifaceted approach to proofreading his text. Initially he relied on the computer's spellchecker function to monitor his spelling, but understood that this approach had limited benefits, 'The computer doesn't know every word' (CO 30.8.05). Video footage shows Seth also proofread his text on screen to monitor the message and text conventions (V 30.8.05) and transcripts of classroom observations also reveal Seth seeking the advice of a classmate, Shannon, in solving challenging problems, 'How do you spell it (resources)', she told him the answer and he typed it into his presentation (CO 6.9.05).

Mr Aloisi also gave assistance to Seth in proofreading text (CO 6.9.05). Seth experienced difficulty reading his text

to Mr Aloisi because it lacked the appropriate punctuation, so there was no indication where Seth should pause or stop reading. Mr Aloisi provided a great deal of support to Seth so that he could work out where the capital letters and full stops belong,

*MR ALOISI ...I want you to listen to when you take a little breath I want you to see if you need to put a comma or a full stop. Now if you put a full stop, what should the next sentence begin with?*

*SETH A capital letter.*

*MR ALOISI (confirms) A capital letter. See how you go.*

*SETH (reads and completes the first sentence)*

*MR ALOISI That's excellent, well done. So what happens now?*

*SETH I have to keep reading and putting in full stops. (reads on)*

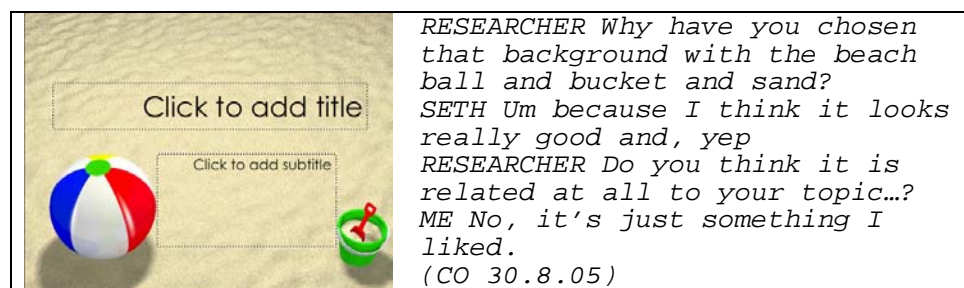
*MR ALOISI OK, so that's what I want you to do when you are working and you are reading through your information, just make sure that you read it out loud so that you can hear yourself read to see if you need a comma or a full stop. OK? (Seth nods). Now I want you to continue working on question 3 and then I'm going to come back and look at question 2 and do the same thing again and then what we'll do, we'll look at your other questions. Good work. (CO 6.9.05)*

Analysis of this interaction suggests that Mr Aloisi did not expect Seth to complete the task independently, but that he intended to return to help Seth to punctuate his remaining text. Although using basic grammatical features and punctuation conventions on text is an outcome that children in Stage 1 (Years 1 and 2) work towards (BOS, 1998), Mr Aloisi appears to provide a high level of support for Seth, who was identified as an average achiever in Stage 2 (SSI 17.8.05).

Seth demonstrated his ability to achieve Stage 2 Writing Outcomes during this same literacy time when he asked me for assistance (CO 6.9.05). Seth wanted me to spell hypothermia for him. I challenged him to 'Type it in (to the computer) and see what the spellchecker thinks of your effort', Seth articulated the word slowly as he correctly recorded it on screen, cheering when the red spell check line failed to appear. I asked how he knew that word, he

said he knew it meant 'that you are really, really cold', then he broke the word up, explaining that 'hypo' meant extra and 'thermia' was like a thermos which 'keeps it hot or cold'. Finally, he explained how he drew on further existing knowledge, 'my cousin's name is Mia so I know how to write that part' (CO 6.9.05). Writing Outcome 2.11 requires a child to use 'knowledge of letter-sound correspondences, common letter patterns and a range of strategies to spell familiar and unfamiliar words' (BOS, 1998), Seth demonstrated mastery of a range of spelling strategies and the ways that they can be combined to solve unknown words. Analysis of these two (2) interactions suggests that Seth may benefit from less explicitly structured teaching and further challenges to solve problems independently.

As Seth published his work, analysis of the data suggests that he considered text as the only tool for conveying meaning, while image and sound had the purpose of looking or sounding 'really good' (CO 30.8.05). Seth experimented with a background slide portraying a beach scene, complete with bucket and spade. I assumed that this background was deliberately selected to reflect the healthy lifestyle theme, but decided to ask Seth about his choice (CO 30.8.05). The transcript in Figure 4.10 is an excerpt from participatory observations that reveal Seth's true reason for selecting the slide background,



**Figure 4.10 - Background slide**

In his published text, Seth selected a different background and included no images or diagrams to present his findings on maintaining a healthy lifestyle (PW 14.10.05). He

applied some sound effects to his work, which occurred at seemingly random times in the presentation. These sound effects appeared to attract the attention of the audience rather than illustrate healthy living. Sound effects selected were: a crowd laughing, a gun shot, fireworks, chimes and a door bell (PW 14.10.05).

### *Drawing on trusted sources*

#### INFORMATION SOURCES

When completing his KWL chart, Seth identified possible sources of information upon which he could rely, 'I will find the information I need using the computer, books and interviewing people' (WS 23.8.05) and later referred to the news as a further source to be trusted (SSI 14.10.05). In fact, Seth used only the Internet and the news as sources of information, expressing disappointment at being unable to interview a sportsman as he had hoped (SSI 14.10.05). Neither Seth nor Mr Aloisi appeared to consider computer-based technologies such as email as a possible tool for accessing members of the broader community, such as sportspeople, to interview.

#### EXPERTS

Seth identified and relied on three (3) experts throughout the study. Predominantly Seth considered his teacher, Mr Aloisi an expert upon whom he could rely for help and to provide the information he required to complete the literacy tasks. During classroom observations and interviews, Seth explained many of his actions by beginning with the phrase 'Mr Aloisi said...' (CO 30.8.05; CO 14.10.05). These observations and transcripts reveal that Seth began sentences with the phrase 'Mr Aloisi said...' seven (7) times throughout the course of the inquiry and also referred to Mr Aloisi as a useful resource three (3) times (CO 30.8.05; CO 6.9.05; SSI 14.10.05). The excerpt

below demonstrates Seth's recognition of Mr Aloisi's expert status.

RESEARCHER When I saw you last week you were cutting and pasting information from the Internet. What happened after that?  
SETH Well, **Mr Aloisi** said that I'm summarising it and doing all this, that, that (Seth points to handwritten notes in his exercise book)  
RESEARCHER Where did all these handwritten notes in your book come from?  
SETH They come from here, (Seth points to the information pages of cut and pasted from the Internet). **Mr Aloisi** calls that summarising. Now what I'm going to do is each time I want to do a question I'm going to research it on here (information page) then put it into [PowerPoint] slides and then after I've worked out what I'm going to do on each slide I'll put it in there (the PowerPoint presentation). I'll write it in here (exercise book) so **Mr Aloisi** knows what my summary was (CO 30.8.05, my emphasis).

Seth cited Mr Aloisi as a resource in his reference list in the penultimate slide in his PowerPoint presentation (CO 6.9.05). This citation was later removed at the direction of Shannon, a class member to whom Seth also referred for expert advice and assistance (CO 6.9.05).

Seth's admiration of Mr Aloisi's expertise extended to an acknowledgement of his contribution to Seth's work, the final slide (See Figure 4.11) in Seth's PowerPoint presentation read,



Figure 4.11 - Seth's acknowledgement of his teacher (PW 14.10.05)

Seth considered two fellow classmates as experts possessing skills and talents he could trust and use in completing his literacy tasks. Seth sought Shannon's help as he was constructing the text for each slide of the PowerPoint presentation. Classroom observations (CO 6.9.05) and video footage (V 6.9.05) revealed Seth asking for Shannon's assistance with technical difficulties he experienced with the computer as well as issues surrounding text construction, punctuation and spelling. In Table 4.4, the interaction between Seth and Shannon is recorded in the left column as it was in Shannon's case study (Table 4.3). My observations of Seth's actions are in the right column.

**Table 4.4 - Interaction between children (CO 6.9.05; V 6.9.05)**

Interaction between Seth and Shannon	Researcher observations
<p>SETH Oh no. What have I done? Shannon... Do you know how to get the title thing back up? I deleted it before I saved it</p> <p>SHANNON □Z</p> <p>SETH Thanks (They return to their individual tasks)</p> <p>SHANNON Now you go to insert. Now I don't know.</p> <p>SETH OK I'll ask Mr Aloisi</p> <p>...</p> <p>SETH Temperature goes down (speaks as he types) so... Do you think that would be suitable?</p> <p>SHANNON (emphatically) You said that was in winter. It is NOT winter! It is spring!</p> <p>SETH (just as strongly) Why?</p> <p>SHANNON (sarcastic) It's September! That is in Spring</p> <p>SETH Oh No. Look! (reads from the slide) When in the year is it time to watch your health</p> <p>SHANNON You should put a question mark there.</p> <p>SETH Oh I forgot that! I'm dumb.</p> <p>SETH I wanted those words but I can't put it, it doesn't</p>	<p>Seth had a problem that he could not solve and tentatively identified Shannon as a person who could help. He was right, Shannon did help, but only with part of the problem, so Seth referred to a higher authority - Mr Aloisi.</p> <p>Seth sought Shannon's expertise again, this time in literacy. She proved herself a capable helper in literacy as well.</p> <p>Seth accepted Shannon's expertise in punctuation and made the suggested changes.</p>



make sense. Shannon, why doesn't it make sense?  
SHANNON Write - 'so that when you're inside you can exercise, not don't have to exercise.'

SETH Yeah! Hooray, that makes sense! (makes changes and rereads) so that when you are inside you can exercise instead of not doing exercise at all.

...  
The computer makes an error alert

SHANNON What are you trying to do?

SETH I'm trying to get it on the start. Oh, it already goes there. (Types) resources. How do you spell it?

SHANNON Don't you know how to spell it? (Spells it for him).

The title goes in the 'wrong' spot

SETH How come it's there? I want it over there.

SHANNON It's because of the background you've chosen, you can't write over the top of that (points to slide images)

SETH OK then, I'll do this. Delete it then do it over here. (retypes as Shannon spells it). Mr Aloisi (first reference)

SHANNON You can't write Mr Aloisi as a resource, you have to write Mr Aloisi's web links or something, then you can have some acknowledgement, like thank you Mr Aloisi for giving you the opportunity to do the project. And under resources you have to list every single web page, you went to, not just writing websites. (Seth shakes his head)

(Shannon insists) They don't know Mr Aloisi! You have to list every single -

SETH (interrupts) Oh Shannon!

Seth's frustration is evident as he now struggled to construct text that conveyed his intended message. He called on Shannon's expertise in literacy and, again, she proved herself worthy of Seth's trust.

By requesting her help, Seth has allowed Shannon to demonstrate her expertise in a range of areas: in spelling...

in using PowerPoint...

and in citing sources.

But it is too much help - Seth appeared overwhelmed by the volume of changes suggested by his expert classmate and withdrew from the interaction in confusion.

He returned, however, edited the file to include Shannon's changes and then

<p>I'm going crazy with you and all your doing. All I'm doing, OK now I'm going to get up. My PowerPoint's down there and I'm going. (He leaves the table and Shannon goes back to work. Seth returns and keeps working on his resources)</p> <p>SETH I did the websites (to Shannon, no answer. He types on to the end of the work session, adding a final slide 'Thank you for listening to my PowerPoint'.) (CO 6.9.05; V 6.9.05).</p>	<p>made peace with her, confirming her status with Seth as an expert in literacy and computer-based technologies.</p>
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Jeff was another child in this Year 4 classroom who Seth considered had expertise in the areas of literacy learning and computer-based technologies. Seth regularly used a keyboard shortcut (⇧TAB) to move quickly between software applications as he worked at the computer. I had not observed the teacher or any other child use this shortcut during periods of classroom observation and asked Seth about it. He explained 'Jeff showed me' (CO 23.8.05), possibly indicating that Jeff possessed some superior expertise with computer-based technologies. During an interview, Seth admired Jeff's academic skills and his ability to work independently (SSI 14.10.05). He appeared to consider Jeff to be a person to whom he could turn for help and as a role model for classroom learning, but assured me that he and Jeff were not friends, demonstrating that friendship is not important to Seth in this type of relationship (SSI 14.10.05).

*SETH ... I'm sort of like Jeff in this way. I don't know really, because me and Jeff sort of don't really get along very well, so I don't know how I'm saying this (laughs, a little embarrassed), but I think Jeff and me are kind of like the same because I know that Jeff doesn't like other people's ideas in his work. Just his plain ideas, all his things in his PowerPoint. Like even if you see him with a partner, you can see the bits that he's put in because they are just unique (SSI 14.10.05).*

Seth drew on a number of people as trusted sources of information and assistance. When asked during our final interview about the people and things that were useful to him throughout his research on healthy living, however, Seth immediately identified Mr Aloisi, the Internet and the computer, but made no mention of his classmates or their contribution to his final product (SSI 14.10.05).

### *Encountering tensions*

#### TIME

Classroom observations reveal that Seth likes to complete tasks quickly. He aspires to be the fastest boy in NSW and he bypassed Mr Aloisi's recommended steps in research in preference for a faster method, but the desire to complete tasks quickly was observed to frustrate him as he attempted to construct meaningful text (CO 6.9.05). Classroom observations of Mr Aloisi's language as he interacted with the children also reflects this urgency and the need to complete tasks quickly (CO 30.8.05; 6.9.05; 20.9.05), possibly creating further tension between creating thoughtful, well constructed texts and completing tasks quickly. The following excerpt is an interaction between Seth and Mr Aloisi as he called on Seth to proofread his work. It demonstrates the tension Seth experienced between quick completion of tasks and construction of quality text,

MR ALOISI OK, what I want you to do now,  
just **quickly**, we are going to do this  
really **quickly**, I want you to go back and I  
want you to listen to your voice as you  
read. OK just really **quickly**. This is  
just **quick** editing, this is not your final  
editing, it is just **quick** editing. When  
you are reading **quickly** I want you to... (CO  
6.9.05, my emphasis)

Interview transcripts reveal that Seth continued to struggle with the aspect of time and completing tasks quickly when he compared traditional methods of working (pen and paper) with new ways (digital technology) and he appeared uncertain whether the new ways were better or worse than the old (SSI 14.10.05). The tension was created

because when constructing text, Seth considered writing with pen and paper simpler, explaining that a person using the computer has to complete different tasks, 'you've got to move your fingers and all that' (SSI 14.10.05). However, when he described text illustration, he considered computer-based technologies simpler, '...it's easier on the computer because you don't have to draw it, you just click on it and it's done!' (SSI 14.10.05).

#### TONE

When constructing text, Seth adopted a casual syntax for his PowerPoint presentation on healthy living (PW 14.10.05). Throughout the period of classroom observation, this had been a source of ongoing tension between Seth and Mr Aloisi as Mr Aloisi attempted to alert Seth to the concept of tone in writing and in writing for different purposes (CO 13.9.05). Mr Aloisi shared his concerns with me following classroom observations (CO 6.9.05), wondering how he could approach teaching Seth about formal and informal writing styles. He decided that he would wait until Seth had finished the first draft and then tell him. Seth appeared to struggle in grasping the concept of formal and informal language. Through the teacher/child interaction, it is possible that Seth understood the problem to be with the word 'well' in his text, rather than in the overall tone of his work. Evidence of this emerged when he explained in an interview that 'Mr Aloisi said if I say 'well' it's like I'm talking in a conversation' (SSI 14.10.05). Seth's final draft contained 'well' as the initial word in beginning two of the sentences that answered contributing questions (PW 14.10.05).

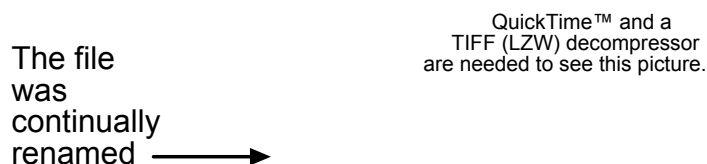
#### TECHNICAL DIFFICULTIES

Mr Aloisi's Personal Interest Project (PIP) required all children to present their work using computer-based technologies as a presentation tool (PP 29.7.05). Seth selected Microsoft PowerPoint as a publishing tool not

because he deemed it the most appropriate one, but because he had never used it before and wanted to learn (CO 30.8.05). Classroom observations reveal that Seth could use problem solving strategies to create a PowerPoint file and that he was willing to seek assistance when he had exhausted his repertoire of skills (CO 6.9.05). Seth also demonstrated a resilience and flexibility in solving the technical difficulties he was faced with, applying the keyboard shortcuts that he knew from other Microsoft applications to the PowerPoint application (CO 30.8.05; CO 14.10.05).

Seth's technical difficulties emerged from two sources. The first was custom animations in PowerPoint - an application not available with Microsoft Word, so he was unable to apply his knowledge of that software to the new software. The tension between wanting a particular effect on the screen and the inability to achieve the goal using all of his resources led Seth to seek the expert assistance of Mr Aloisi; 'Mr Aloisi helped me by changing the thing (custom animation) and he just did 'magnify' ' (SSI 14.10.05).

The second technical difficulty encountered by Seth was in saving his files in the shared folder on the school's intranet. Each time Seth saved his work, he used the pull down menu at the top of the screen and selected 'save as' rather than 'save' (See Figure 4.12). This forced him to rename the file each time and the result was a number of different versions of the research presentation (CO 30.8.05).



**Figure 4.12 - Technical difficulties**

When attempting to select the appropriate file for presentation, Seth realised his difficulty, explaining, 'There might be some issues with opening it because that one and that one are newer versions... and now, I don't know what happened here' (SSI 14.10.05). Tension developed for Seth with saving files because he would proofread, make changes and save his presentation, but then he would open old files again, forcing him to make the changes again. He appeared to consider the computer rather than himself at fault for this, 'I changed it and I saved it but it just keeps coming back to this one - I don't believe it! (SSI 14.10.05).

#### PRESENTATION

Seth experienced tension using computer-based technologies as he utilised the PowerPoint application as a tool to inform Year 4 about the importance of maintaining a healthy lifestyle. During interview, Seth compared his PIP presentation with his previous public speaking commitments, indicating a preference for traditional public speaking method of using hand written palm cards (SSI 14.10.05). Seth described feeling ill at ease using the PowerPoint application because it forced him to lose eye contact with his audience when he turned to the screen to read his slides, 'when you're reading off the screen you're thinking to yourself 'What am I going to see when I turn around, like people laughing or something' ' (SSI 14.10.05). His negative experience using computer-based technologies as a presentation tool led Seth to believe that such technology is too hard to use and he questioned the length of time required to master it (SSI 14.10.05).

### **Interpretative Summary**

Analysis of classroom observations portray Seth as a child who enthusiastically embraced the opportunity to utilise computer-based technologies in completing the literacy

tasks designed collaboratively with his teacher. Throughout the period of the project, Seth was observed as a risk taker both in using computer software applications to solve problems and in modifying the writing process to meet his needs.

In modifying the process, analysis of the data suggests that the affordances of technology allowed Seth to take shortcuts in the writing process, planning, drafting, proofreading, editing and publishing on the same document. However, rather than benefiting and improving the message he constructed, circumventing the process as taught by Mr Aloisi produced a report that lacked a comprehensive and cohesive argument for staying healthy. It would appear that Seth required a different level of support from his teacher in order to maintain a focus on constructing meaningful text while using his preferred research method.

The model depicted in Figure 4.13 summarises the process that Seth engaged with to complete the Personal Interest Project. It identifies the enablers that allowed Seth to experience success with his project and inhibitors, which led to further consideration of the needs and responsibilities of the learner as technology is integrated with literacy learning.

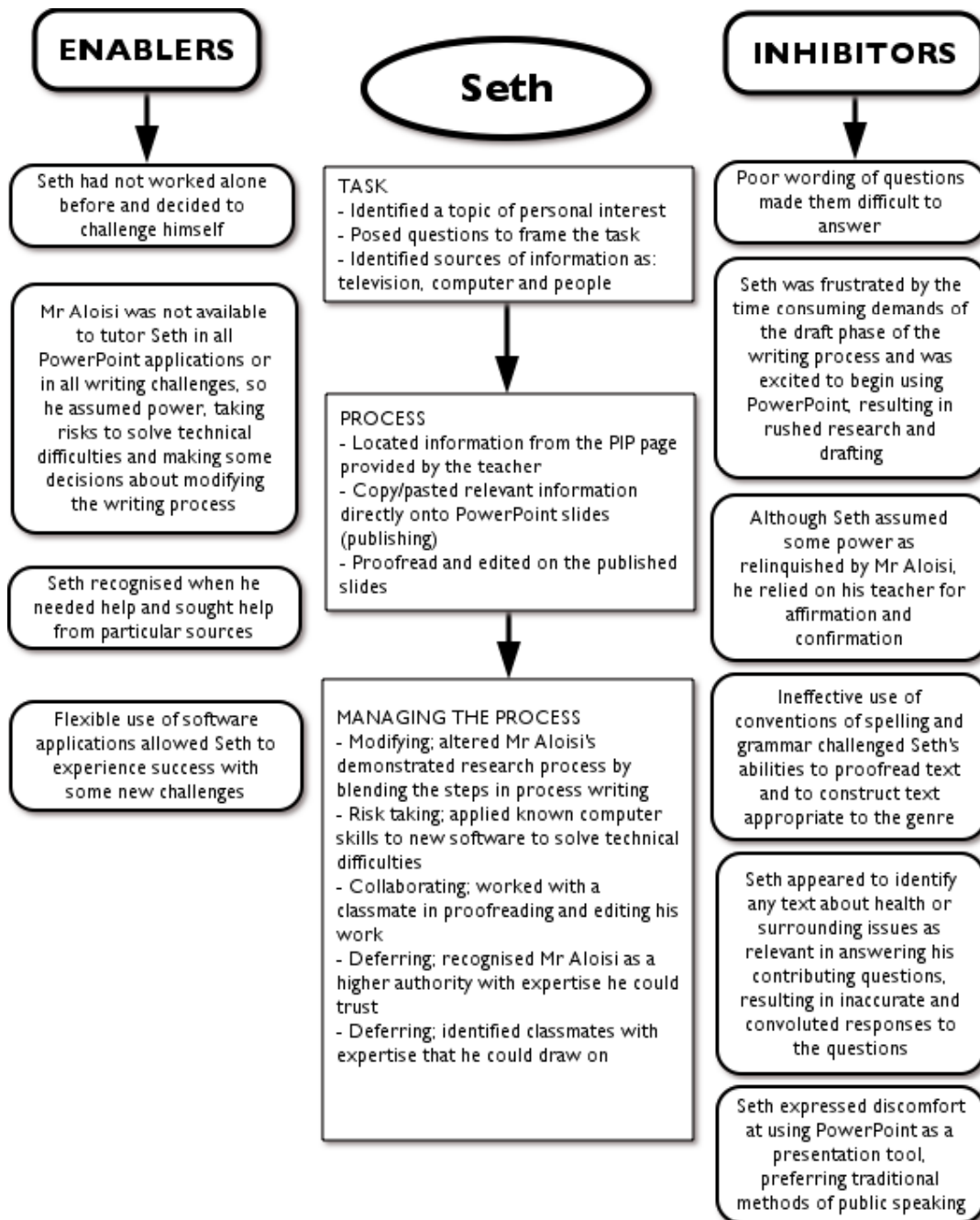


Figure 4.13 - Inhibitors and enablers to Seth's work



## ***Case Study Three – Mark and Phil***

### **Background information**

In consultation with my Supervisors, Mr Aloisi and I selected Mark and Phil to participate in the study after the first periods of data collection had commenced. The purpose for selecting these boys was twofold: to better represent boys in this study and to allow for more extensive analysis of the role of computer-based technologies in the literacy learning experiences in this classroom by adding another case to the study. When Mark and Phil joined the study, they had already selected their topic, posed and refined the broad questions that would frame their research and gathered information that answered the questions. The initial interview with Mark and Phil served the dual purposes of exploring the boys' understandings about literacy learning with the aid of computers and to 'catch up' with their research.

#### **Mark**

Mark is ten (10) years old and lives in the Wollongong region of New South Wales, south of Sydney. He is the oldest of three (3) children; his sister attends his school in Year 2 while his younger brother remains at home.

Mark reported in interview that he enjoys sport and art at school, but not Maths (SSI 13.9.05). Mark's interests outside school include surfing and football. Mr Aloisi ranked Mark's literacy abilities at about average in this class (SSI 17.8.05).

#### **Phil**

Phil is also ten (10) years old and lives in the Wollongong region of New South Wales, south of Sydney. He has two (2) older sisters who attend the local non-government high school.

During interviews, Phil listed his likes at school as maths, sport and parties, but not homework. Interview transcripts reveal Phil's active lifestyle outside school, he plays basketball, soccer, cricket and the Playstation at home (SSI 13.9.05). Mr Aloisi ranked Phil's literacy abilities at about average in the literacy levels of his class (SSI 17.8.05).

Mark and Phil elected to work in partnership for the Personal Interest Project (PIP), explaining that they felt 'more comfortable' and 'not so alone' when they worked in group situations (SSI 14.10.05). Throughout the inquiry, Mark and Phil were observed collaborating with one another and with other children in the class as they made decisions about the construction of their text.

## **Emerging Themes**

### *Engaging in the literacy experiences*

#### ORGANISING THE RESEARCH

Phil and Mark organised their study using the KWL chart to identify the knowledge they already possessed about their selected topic, 'The Solar System'. They then identified what it was that they wanted to learn through their research and posed questions that they felt would expand and develop this knowledge:

*What year did Max Armstrong land on the moon?  
Why dose (does) the earth revolve aroud  
(around) the sun?  
What is a black hole?  
How big is the sun?  
What is the hottest plant (planet)?  
What is the biggest plant (planet)?  
When does the sun blow up?  
How long is a stars life? (WS 13.9.05)*

With Mr Aloisi's assistance and direction, these questions were organised into seven (7) contributing questions and one (1) big question (PW 14.10.05).

The big question that Mark and Phil researched was 'How does living on earth differ from being in space or on the moon?' The contributing questions were:

*Why is the sun so hot?*  
*How was the moon formed?*  
*Who was the first person to walk on the moon?*  
*What is a black hole?*  
*Why is there no gravity in space?*  
*How are stars formed?*  
*Why does the earth revolve around the sun?* (PW  
14.10.05).

Analysis of the work sample collected during the planning stage of the PIP reveals that Mark and Phil intended to utilise a number of resources to gather information about their topic (See Figure 4.14).

**Figure 4.14 - KWL Planning (WS 13.9.05)**

Ultimately, they used just some of these sources of information: library books supplied by Mr Aloisi, information gathered from their parents at home and lessons learned from television viewing.

#### CONDUCTING THE RESEARCH

Mr Aloisi provided fifteen (15) websites on the myclasses PIP page that provided information about the Solar System (PP 29.7.05) along with texts he borrowed from the library before introducing the project to the class. Mark reported that 'We didn't really get any information off the Internet' and when asked to elaborate, Phil explained 'We didn't really know what types of websites to go to' (SSI 13.9.05). In preference to using computer-based technologies to conduct research, Mark and Phil extracted facts from library books containing relevant information at an appropriate reading level that Mr Aloisi had selected from the school library. Mr Aloisi had photocopied and

laminated the pertinent pages from each text for the children to read and summarise (TP 29.7.05).

Mark and Phil used three (3) library books to record facts about the Solar System in an attempt to answer their contributing questions. They recorded these facts in numbered bullets on the 'scrap' paper used for first draft writing in their classroom (WS 13.9.05). The boys recorded thirteen (13) facts, mostly about the characteristics of the sun. They used these facts along with information from their parents at home to begin publishing their work.

#### THE WRITING PROCESS

Mark and Phil located and identified information as relevant in the traditional texts provided by Mr Aloisi. The boys gathered information for their research without the aid of digital technologies, preferring traditional methods of reading and note taking (CO 13.9.05). They stored their notes in a ring binder, which they carried to their research desk each time they worked at their PIP (SSI 14.10.05). When asked about their decision not to use the myclasses PIP page with the Internet sites selected by Mr Aloisi, both boys expressed deep suspicion of the information provided by the Internet (SSI 14.10.05). The issue of trust and trustworthy sources of information is discussed within the emerging theme *drawing on trusted sources*.

Mark and Phil used their numbered bullet points and the information they brought in their heads from home to publish their writing directly onto PowerPoint slides. In answering contributing questions one (1) to four (4), analysis of work samples reveals that Mark and Phil elaborated on the numbered bullet points on their information sheets and drew on the information supplied by their parents to compose paragraphs of text that answered each question (WS 13.9.05; PW 14.10.05). All published

text was recorded in upper case text, using a variety of fonts in a Microsoft PowerPoint file (PW 14.10.05).

#### PROOFREADING AND EDITING

Classroom observations and transcripts of Mr Aloisi's teaching reflect his belief that computer-based technologies are one set of tools to be used in the writing process, particularly concerning proofreading text (CO 20.9.05). Mr Aloisi conducted a lesson with all of the children about using the Spellchecker function in a Microsoft application. In this lesson, he encouraged the children to explore the strengths and limitations of the tool and the ways they may compensate for the limitations of Spellchecker. Mark contributed to class discussion twice during this lesson. His first comment, 'They are all real words', demonstrated an understanding that the Spellchecker will not detect correctly spelled words out of context, (for example, writing waking instead of walking). His second comment, 'You should reread it (your story) because then you can see if it makes sense', described the important role that the author plays in monitoring his/her intended meaning, as this is not a function that the computer is capable of (CO 20.9.05).

Although Mark had described the importance of reading text to ensure it makes sense, he and Phil were observed on two (2) occasions proofreading their writing on the computer screen using only the Spellchecker function (CO 13.9.05; CO 14.9.05). They were never observed, however, manually proofreading their text in order to monitor their spelling in the context of the whole text or their intended meaning beyond the capabilities of the Spellchecker.

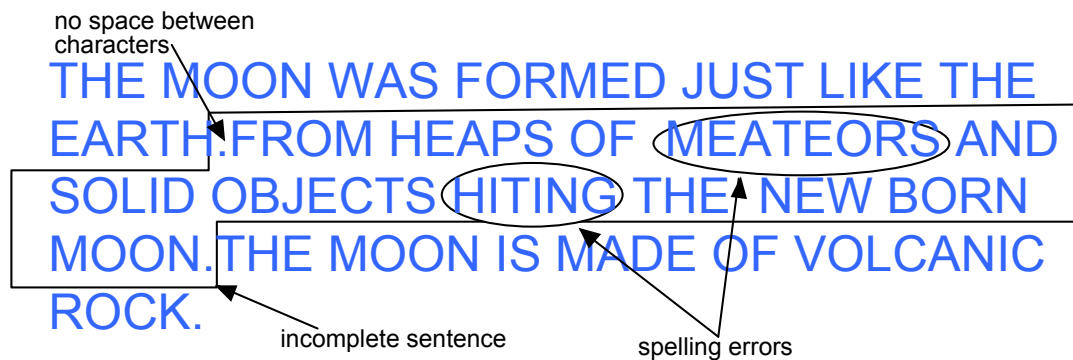
Mark and Phil wrote their entire text in upper case letters. Spellchecker on Microsoft PowerPoint does not monitor upper case text, resulting in spelling errors appearing in the final draft, despite Mark and Phil using

the Spellchecker function a number of times. Consider the example in Figure 4.15.

Slide 6 (PW 14.10.05)

\* THE MOON WAS FORMED JUST LIKE THE  
EARTH.FROM HEAPS OF MEATEORS AND SOLID  
OBJECTS HITING THE NEW BORN MOON.THE MOON  
IS MADE OF VOLCANIC ROCK.

Analysis of proofreading techniques



**Figure 4.15 - A single strategy approach to proofreading**

Figure 4.15 is an extract from Mark and Phil's PowerPoint presentation addressing the contributing question, 'How was the moon formed?' (PW 14.10.05). The first image is a reproduction of slide number six (6) and underneath is an

analysis of the text after Mark and Phil had applied their proofreading technique (CO 14.9.05). Although the boys' intended meaning becomes clear when the text is reread a number of times, their choice of case and font compounds the problems created by Mark and Phil's single proofreading strategy of selecting 'spelling' in the tools menu.

### *Drawing on trusted sources*

#### INFORMATION SOURCES

In response to Mr Aloisi's question, 'Where will you find the information that you need?', Mark and Phil listed ten (10) possible sources of information available to them (WS 13.9.05). Analysis of interview transcripts (SSI 13.9.05; SSI 14.10.05) revealed that this list was significantly reduced, with Mark and Phil drawing their information from their personal repertoire drawn from television viewing, parent interviews and teacher supplied texts. Television appears to be a trusted source of information for both boys, although they were discerning in their selection of true or false information, Mark and Phil described the value of television in completing their PIP during our initial interview (SSI 13.9.05):

*PHIL Some shows are funny, but they're actually educational at the same time... Even though it [Armageddon] is based on a true story, you can't believe all of it...*

*...*  
*MARK I watched this show where they got this caravan and they go back in time and find stuff out... and they went back into space to find out who was the first man to walk on the moon. And they end up going to the wrong place, but they tell you who was the first man to walk on the moon and stuff.*

*...*  
*PHIL ...the moon isn't made out of cheese, it's made out of volcanic rock.*  
*MARK That's like on Wallace and Grommet how they go to the moon to eat it because they think it's cheese... then they eat it because it IS cheese! (laughing)*  
*RESEARCHER (laughing too) It is cheese! That wouldn't inform your research at all, would it?*  
*BOYS (laughing) NO!*

Both Mark and Phil appear to hold traditional texts and research practices in high regard and they enthusiastically



embraced traditional methods of conducting research into the ways that living on Earth differs from living in space. Phil explained that books were of significant assistance to him in locating and identifying information and then summarising it into his own words as Mr Aloisi had taught the class to do. 'We just had to copy it (the information) from the book then put it into our own words, like rub out a bit and change it.' (SSI 13.9.05). Mark elaborated on this note taking and summarising technique, 'We had to look up in the dictionary to see what the word [was] that meant the same thing, so people can understand it better.' (SSI 13.9.05).

#### CLASSMATES AS EXPERTS

During classroom observations, video footage captured an incident that occurred between Mark, Phil and a third child, Jeff that challenged Mark and Phil's single faceted approach to the monitoring of spelling (CO 14.9.05). This incident was briefly described in Part Two of this chapter, but is revisited in more depth here to explore the relationships between the students when one adopts an 'expert' role. Jeff is a child in Year 4, identified as 'gifted' following psychometric assessments arranged by his parents (SSI 29.7.05). Mr Aloisi drew on Jeff's superior knowledge and academic abilities during class discussions and encouraged other children to seek Jeff's assistance when required (V 14.9.05; CO 20.9.05; CO 14.10.05). Video footage captured Jeff, hands in pockets, wandering, apparently aimlessly around the room glancing in a mildly interested way at each group working on the set literacy tasks. Mark and Phil had completed the proofreading as directed by Mr Aloisi and were working on the selection and application of custom animations and sound effects for their presentation on the Solar System. As Jeff ambled by, one glance at the computer screen alerted him to a spelling error and he immediately informed Mark and Phil of his observations, only to find that his expertise was not well received. In Table 4.5, the interaction between Jeff and

the boys is recorded in the left column and my observations are in the right column.

**Table 4.5 - Interaction between Jeff, Mark and Phil (V 14.9.05)**

Interaction between Mark, Phil and Jeff	Researcher observations
<p>JEFF That's not how you spell resources (They had spelled it recourses).</p> <p>MARK We did a spell check</p> <p>JEFF (insistent) That's not how you spell it</p> <p>MARK The computer was wrong, then because we did a spell check</p> <p>JEFF I'll show you how to check (Does a shortcut to spell check. It is not detected as an error). Wait. What's going on? (He starts to type in the correct word).</p> <p>MARK No, Jeff, you took out...</p> <p>PHIL Excuse me, Jeff, no (Raises his hand in a 'stop' motion).</p> <p>JEFF OK, this is how you spell it (dictates as Mark types)</p> <p>MARK That looks exactly like how we spelled it.</p> <p>JEFF No, you had the s there and the c there</p> <p>PHIL Oh, we just got mixed up (V 14.9.05)</p>	<p>Jeff volunteered his expertise and Mark defended his proofreading methods</p> <p>Jeff assumed that Mark did not have the expertise to conduct a successful spell check, but he faltered in his own skills, perhaps unaware that recourses is a 'real' word or that spellchecker works somewhat differently in PowerPoint than in Word.</p> <p>Both Mark and Phil rejected Jeff's assistance, but at his insistence, they took his advice...</p> <p>But would not concede that Jeff knew more than them</p>

I described the incident to Mr Aloisi, who decided to use it as an opportunity to highlight the limitations of the Spellchecker to Mark and Phil. Mr Aloisi attempted to recreate the spelling error and asked the boys to 'read that word and break it apart... look at all the different syllables' (CO 14.9.05). The boys were unable to decode the word using a phonics analysis, so Mr Aloisi chose a

spelling rule drawn from Stage 1 Writing Outcome WS1.11 (BOS, 1998) to help these children read the word:

*MR ALOISI When we have a c, the only time that a c makes a sss sound is when it's next to an i or an e. Now if you see it next to the vowel o or u or a it's going to make a kkk sound (CO 14.9.05).*

Although Mr Aloisi also referred to the use of dictionaries, both online and the traditional version, his emphasis remained on memorising this early spelling rule:

*Always remember now, I don't want you to forget that the c makes 2 sounds, a sss sound or a kkk sound. Excellent (CO 14.9.05).*

It is possible that Mr Aloisi's intention here may have been to link this new learning with an understanding about phonics that these students would have been taught in Stage 1.

#### APPROVAL OF PEERS

Mark and Phil were not observed seeking the expert assistance of others throughout the periods of classroom observation or on video footage, but analysis of transcripts and video data revealed that they sought affirmation for their work both from each other and from other class members. Phil reflected with pride that 'people' had admired their choice of slide background on the PowerPoint presentation and wanted to know where they could download it for their own presentation (SSI 13.9.05). Mark reflected on power in numbers, '... if two (2) people agree on it, or three (3), it would be pretty good, so you know that more than just you like it.' (SSI 14.10.05).

Perhaps this consciousness of the opinions of others led these boys to a greater awareness of audience; at times throughout the publishing process, Mark and Phil were heard to comment on their audience and the likely reaction a certain application may have such as looking 'cool' or 'great' (CO 14.9.05). During the final interview, they also expressed a desire for their audience to remain

engaged in their presentation because their interest is sustained,

MARK ...we've got a few funny pictures here.  
RESEARCHER Why have you chosen funny pictures?  
MARK I think it gets the people's attention,  
so they actually listen otherwise they don't  
listen and read.  
PHIL Yeah, and they get bored.  
RESEARCHER So, you think if they are laughing  
they will learn more?  
MARK Yeah (SSI 14.10.05).

#### PARENTS AS EXPERTS

The first indication that Mark and Phil's parents were important factors in the Solar System project occurred during the initial interview with the boys. Having explained about the role of television in informing the project, Phil proudly stated, 'I watched it with my Dad!' (SSI 13.9.05), perhaps implying that this gave the story more credibility because Phil's dad thought it was worth watching. Both boys interviewed their parents with questions about the ways that outer space differs from Earth, a recognition of their experience with school and the wider community, 'Our parents, they remembered stuff' (SSI 14.10.05).

Phil and Mark's parents also shared their views about the dangers and difficulties of the Internet with the boys, indicating a definite preference for traditional texts and research methods (SSI 13.9.05). In a classroom where new ways of literacy learning are encouraged, analysis of transcripts from classroom observations revealed tension for Phil and Mark as they balanced conflicting messages from school and home. These tensions are further discussed within the emerging theme *encountering tensions*.

### *Encountering Tensions*

#### CONFLICTING MESSAGES

Consider these extracts from interviews with Mark and Phil.

MARK ...We didn't get any information off the

*internet.*

*RESEARCHER Why is that?*

*MARK My mum and I think his (Phil's) mum too told us that usually books are more informative and they give you more stuff.*

*PHIL And people on the Internet can just lie.*

*RESEARCHER Tell me about that. What do you mean they can just lie?*

*MARK They can just make things up. But in books they usually take a bit more time.*

*...*

*PHIL If you look up in a book you know that it's true because people don't write it unless it's true.*

*MARK And they get it published.*

*...*

*MARK Yeah, 'cause anyone can make up a website. Books get published and the publishers can check if it's real or not. They can change it and stuff. But with the website they don't have to send it to a publisher.*

*PHIL Yeah, they can just put it in there (SSI 13.9.05)*

Analysis of the dialogue between the children and me demonstrates the children's belief (predominantly from their home environments) that the Internet should be approached with some caution. The boys applied this belief to their research on the Solar System, consequently using only library books to gather information. Mr Aloisi conducted a lesson with the whole class where he demonstrated the ways to check whether a web site is trustworthy and added a property to the myclasses page that would link the children to tutorials about trustworthy sites (CO 30.8.05). During this lesson, Mr Aloisi visited a website that listed the features of a trustworthy Internet site and assured the children that he had 'done the detective work in the holidays and put the right information there to help' (CO 30.8.05), indicating that the web sites he chose were trustworthy. Video footage reveals that both Mark and Phil were present throughout this demonstration, yet when I asked them about Mr Aloisi's lesson delivered to the class as a whole, neither child recalled it (V 30.8.05; SSI 13.9.05).

Mark and Phil were deeply sceptical about the value and trustworthiness of the Internet websites, but their confusion was further demonstrated when they described the

process they used to illustrate their PowerPoint presentation. All of the images selected and applied to the PowerPoint slides were chosen from the Internet, the boys had conducted searches using the 'images' application on the Google search engine (SSI 14.10.05). Because Mark and Phil were adamant that the information on the Internet was not true, I questioned their trust of the images from the same source and Phil explained that he knew the images were real 'because they are about the question' (SSI 13.9.05). This tension between what is real or not - what may be trusted or not remained unresolved for these boys throughout the classroom observation period, as Phil admitted he had found one Internet site that 'could have been useful' but they had already finished writing their text (SSI 14.10.05).

#### COLLABORATION

Transcripts from interviews and field notes from observations show that Mark and Phil worked comfortably together, they often completed each other's sentences when talking with me and worked productively but silently side by side for periods of time at the computer (CO 13.9.05; CO 14.9.05; V 14.9.05). Each time the boys worked at the eMac computer, Mark sat to the right and Phil to the left (CO 13.9.05; CO 14.9.05; CO 14.10.05), this meant Mark usually controlled the mouse and made changes to the file while Phil observed. At times, Phil became frustrated by this inequity and took control of the mouse, 'OK, now let's watch it from the beginning and I want to click' (CO 14.9.05).

Analysis of classroom observations suggested that Phil's computer skills were superior to Mark's skills and that Mark's desire to retain control of the project despite being unsure of how to solve some problems created tension between the boys (CO 14.9.05). In the following extract, Mark has applied two custom animations to the same text, making the text appear twice on the slide. Phil appears to

have the skills to fix it, but Mark is unwilling to take advice or relinquish control of the computer, instead repeatedly clicking on the same applications.

*PHIL (Patiently) ...it's doing two because you've already got one there.*

*MARK What?*

*PHIL (Repeats) It's doing two (points) because you've already got one there.*

*MARK OK (Unsure of what he means)... But I'm adding an animation to it.*

*PHIL (Slowly) But you have to delete one.*

*MARK Like that? (deletes one). If you just want one? (He goes to custom animation, magnification)*

*PHIL Now if you want magnification have that one, now delete (pointing) the other one because you can't have two. (Mark attempts this). No, No! You just deleted the one that you got. (He tries again.) Now delete the first one, yeah, yeah (CO 14.9.05).*

When asked, neither boy identified any disadvantages of working in partnership (SSI 14.10.05), suggesting that tensions surrounding collaboration between these boys were forgotten once a resolution was achieved.

#### PUBLISHING

Mr Aloisi's Personal Interest Project (PIP) required all children to present their work using computer-based technologies (PP 29.7.05). Although Mark and Phil were reluctant to use computer-based technologies in the process of researching their topic, they enthusiastically embraced it for the purposes of publication, 'We liked one [iBook] computer a lot, i-sobella' (each iBook computer at the school is named, e.g. i-spy, i-gnatus) (SSI 14.10.05). Mark and Phil selected Microsoft PowerPoint as a publishing tool not because they deemed it the most appropriate, but because they had experienced difficulty using iMovie and switched to PowerPoint because it was 'not as much fuss' (SSI 14.10.05). The boys reported difficulties using iMovie, for example, the screen turned green and they could not control the transitions between images (SSI 14.10.05), suggesting that their skills were not adequate for the software.

Mark and Phil appeared to feel more at ease using PowerPoint as they composed text for each slide using their handwritten notes. They expressed enthusiasm for PowerPoint as the tool for presenting this work because they found it easier to use than iMovie and they could utilise the Spellchecker to monitor their text (SSI 13.9.05). Of more pressing importance to the boys, though, was the selection of a background for each slide. The boys' rationale for selecting their background was that it 'gives attention to the writing' and the two rectangles on each slide provided a place for the contributing question and the answer to be positioned (SSI 14.10.05). Figure 4.16 depicts the slide background selected by Mark and Phil.



**Figure 4.16 - Slide background**

Mark and Phil's suspicion about the value and abilities of computer-based technologies resurfaced when they worked with PowerPoint to publish their work. During the final interview, Mark and Phil explained that they would change their proofreading strategies on future projects when the boys noticed an error of spacing between two (2) characters. Phil quickly asserted, 'We put that there, but it did not stay' and Mark added, 'I think the computer accidentally saved it wrong' (SSI 14.10.05). However, they



do remain positive about the use of computer-based technologies as a publishing tool, explaining that typing is less physically demanding than handwriting and that the colours and images available are better than their own drawings (SSI 14.10.05).

## **Interpretative Summary**

The boys appeared to shun computer-based technologies as a research tool and relied on traditional literacy learning methods to gather information, possibly a result of advice from home, or in reaction to the vast amounts of information overwhelming their efforts. Using the texts that Mr Aloisi had selected from the school library, the boys recorded facts in point form about the Solar System on 'scrap' paper. Their opinion about print based texts as being trustworthy because 'people don't write it unless it's true' (SSI 13.9.05) along with their unquestioning trust of images on the Internet, signals a need for greater teacher support for these children as they attempt to analyse and assess the validity and usability of digitally created information.

Through classroom observations, it became clear that, as the boys worked at their Personal Interest Project, they made decisions about the use of computer-based technologies in order to alleviate tensions they encountered in meeting the teacher's expectations. For example, the boys initially chose to use iMovie to create a published product about the Solar System, however, on experiencing difficulty manipulating the various iMovie applications, they modified their selection to a better known mode, PowerPoint. In another example, Mark and Phil reported feeling anxious about the type of information they downloaded from the Internet and, not recalling Mr Aloisi's tutorial about appraising Internet sites, they elected a more familiar method of fact gathering, reading and taking notes from print based texts.

The model depicted in Figure 4.17 summarises the process that Mark and Phil engaged with to complete the PIP. It identifies the enablers that allowed them to experience success with the project and inhibitors, which led to further consideration of the needs and responsibilities of the learner as technology is integrated with literacy learning.

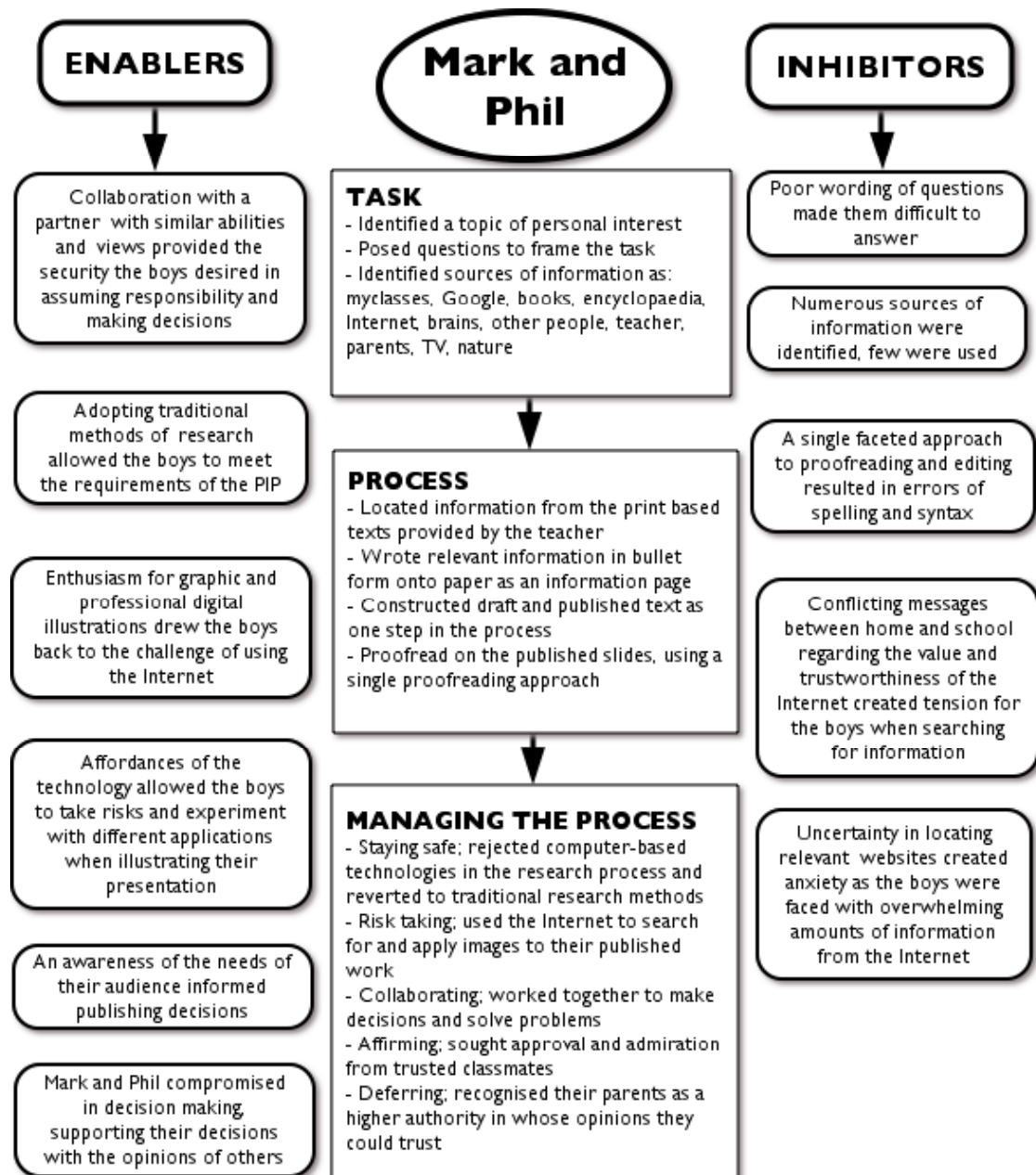


Figure 4.17 - Enablers and inhibitors to Mark and Phil's work

## ***Case Study Four - Jillian, Andrea and Suzy***

### **Background information**

#### Jillian

Jillian is nine (9) years old and lives in the Wollongong region of New South Wales, south of Sydney. She has one (1) older and one (1) younger brother.

Interview transcripts reveal that Jillian enjoys craft, Maths and English, especially journal writing and silent reading (SSI 30.8.05). Jillian also reported that she liked to play tip and handball on the playground with her friends in Year 4 (SSI 30.8.05). Mr Aloisi ranked Jillian's literacy abilities at slightly below the average level in this class (SSI 17.8.05).

#### Andrea

Andrea is nine (9) years old and lives in the Wollongong region of New South Wales, south of Sydney. She is the youngest of three (3) children.

Andrea lists her preferred school subjects as Maths, sport and drama (SSI 30.8.05). In her free time, Andrea enjoys playing sports, especially handball. Mr Aloisi ranked Andrea's literacy abilities at below the average level in this class (SSI 17.8.05).

#### Suzy

Suzy is nine (9) years old and lives in the Wollongong region of New South Wales, south of Sydney. She is the only child in her family.

Mr Aloisi described Suzy as a friendly girl who is keen to please others (SSI 17.8.05). She maintains a small circle of friends and describes Andrea as her best friend (CO 30.8.05; CO 6.9.05). Mr Aloisi ranked Suzy's literacy

abilities at significantly below the average level in this class (SSI 17.8.05).

Jillian, Suzy and Andrea were observed to struggle to complete the tasks set by Mr Aloisi. They encountered many difficulties with each stage of the research process and relied heavily on their teacher's guidance. In reporting this case through the emerging themes in the study, I will explore the role of the teacher in supporting these girls as they attempted to utilise computer-based technologies to investigate and report on their chosen topic - computer animations.

## **Emerging themes**

### *Engaging in the literacy experiences*

#### ORGANISING THE RESEARCH

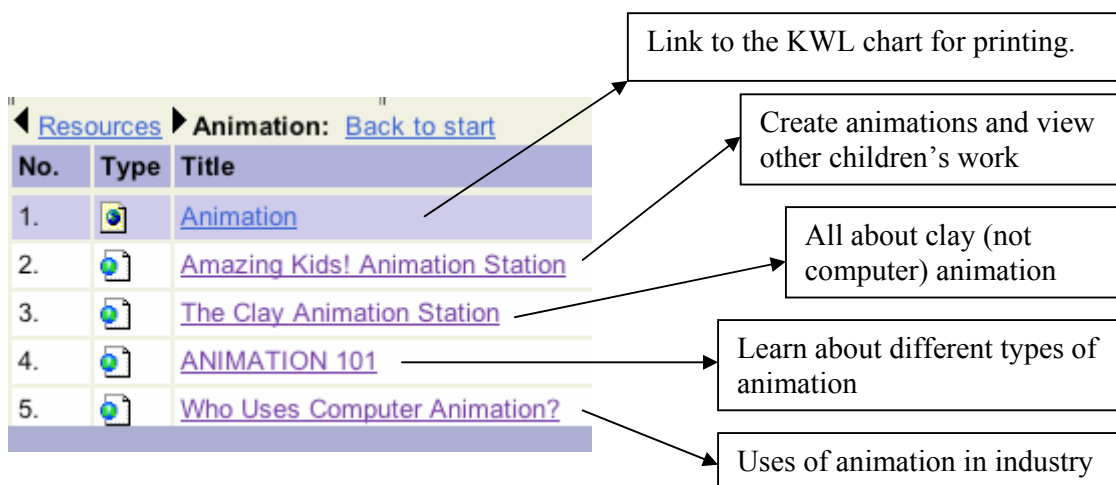
Jillian, Andrea and Suzy misplaced their KWL worksheet and therefore did not identify what they already knew and what they wanted to know about computer animations (SSI 30.8.05). Rather than print out a new one from the PIP page, Mr Aloisi worked with the girls to write a big question and three (3) contributing questions on the 'scrap' paper used for first draft writing in this classroom. Their big question was 'How do computer animations get on our computers?' and the contributing questions were numbered:

1. How are computer animations made?
2. Where were computer animations made first?
3. How successful were computer animations at the beginning? (WS 30.8.05)

Jillian, Andrea and Suzy did not identify possible sources of information, but classroom observations showed the girls gathered information from two (2) main sources; Mr Aloisi and the Internet (CO 30.8.05; CO 6.9.05; CO 20.9.05).

## CONDUCTING THE RESEARCH

Mr Aloisi provided four (4) websites on the myclasses PIP page that were about animation, requiring the researching children to locate information about computer animations within these sites.



**Figure 4.18 - Selected animation sites (PP 29.7.05)**

Investigation of these sites (See Figure 4.18) revealed that only one (1) contained relevant information for answering these children's questions, the others were either about a different form of animation or they simply contained examples of different computer animations that people had created.

When the girls had written their questions, they logged on to the Internet and conducted a keyword search for animation using the Google search engine (SSI 30.8.05), despite Mr Aloisi's instruction that they begin their search on the PIP page that he had created for them. As a result, the girls were required to delete the information they collected from Google and begin again, this time using the PIP page to guide their research. Mr Aloisi explained

that the girls were required to delete their work because the information they had located failed to answer the questions they were researching (SSI 6.9.05). Mr Aloisi had demonstrated the use of the PIP page to the class during whole class instruction and all three (3) girls were present.

Video footage and classroom observations showed that Jillian, Andrea and Suzy appeared happier and more comfortable once they understood that they were to research with the support of the PIP page and websites provided by Mr Aloisi (V 30.8.05; CO 30.8.05). During this classroom observation time (CO 30.8.05) it was the girls' turn to work on the iBook computer and they enthusiastically gathered around, with Jillian taking control of the mouse pad (CO 30.8.05). Their first task for that day was to print a reference sheet to be submitted at the end of the project with a list of resources they used. After some difficulty locating and printing the page, they sought assistance from Mr Aloisi. He printed it for them and they began to search for relevant information on the PIP page.

To conduct the research, the girls briefly skimmed then highlighted text on the websites provided by Mr Aloisi. They pasted the copied text into a Word document, which they described as their information page. They labelled this process 'C, V' (CO 30.8.05; CO 6.9.05) and appeared to consider brief, bulleted text as preferable to extended informative paragraphs. The need to read and identify the information as relevant or irrelevant did not appear to be important to Suzy as she looked for the quickest way to answer the research question, reflecting a belief that any information is good information,

*SUZY OK highlight that. Oh, there's too much writing! Will we highlight it?*

*MR ALOISI What are you highlighting?*

*SUZY That information (points to the screen)*

*MR ALOISI Why are you highlighting that information?*

*JILLIAN I don't know. It's not even good for it, our question.*

*SUZY But it is some information (CO 30.8.05)*

#### IDENTIFYING RELEVANT INFORMATION

Jillian, Andrea and Suzy were required to locate relevant information on the Internet websites provided by Mr Aloisi. Under their teacher's guidance, classroom observations reveal that the girls were encouraged to 'skim it [text] quickly' in order to identify information as relevant or not (CO 30.8.05). However, skim reading did not appear to assist the girls in making a decision about relevance; at different times when Mr Aloisi asked if a particular piece of information was helpful after they had skimmed it, the girls remained unsure,

*SUZY Um, not really.*  
*SUZY Yeah, sort of*  
*SUZY Um, I don't know*  
*SUZY I don't have a clue!*  
*ANDREA Maybe a little bit good.*  
*ANDREA Yep! I was thinking of that*  
*one.*  
*JILLIAN I don't think that will*  
*help. (CO 30.8.05, CO 6.9.05)*

Perhaps the big question was difficult to answer or skim reading was the wrong technique to use. Maybe the information on the websites was inappropriate for the question, or these children usually experience difficulty selecting relevant information in other learning situations; analysis of the data does not reveal the reasons why Suzy and Andrea in particular found this stage in the research process so challenging. It does, however, reveal that even after identifying and selecting relevant information with teacher guidance, Suzy continued to think about their topic only in very broad terms, '...we have learned that there's all different kinds of animations. There's millions! ' (CO 6.9.05) rather than thinking specifically about their focus - computer animation. Andrea adopted an even broader approach to identifying relevant information; I asked why they had deleted some text from their information page during the editing process,



*JILLIAN Well um some of the information didn't help to answer our question.*

*RESEARCHER How was it unhelpful?*

*ANDREA (quickly interjected) Well if it was about the Solar System, then that won't help to answer a question about animation. (CO 30.8.05)*

The deleted text was about clay animation, which they had copied and pasted into the information document from the webpage.

#### PROOFREADING AND EDITING

Classroom observations revealed Jillian adopting an active role in editing text while Andrea and Suzy looked on, offering advice and opinions (CO 30.8.05; CO 6.9.05). Jillian completed the task on the computer screen by highlighting and dragging each piece of text under the title of each contributing question and it was during this process that the girls discovered they had copied and pasted the same text from the Internet more than once, so there were repeated sections throughout the information document. As a result, Andrea changed her observation from '...we've got plenty of information' (CO 6.9.05) to '...we've only got five lines!' (CO 20.9.05). Again, this demonstrates the difficulty these girls experienced in identifying relevant information.

Mr Aloisi required the children to take turns in controlling the mouse pad when they worked in collaboration with others at the computer. Because there were three (3) children in this group, change of control forced a physical change where the girls swapped seats and the 'controller' sat between the other two girls. Transcripts of interactions between the girls reveals that this change-over time was lengthy, noisy and resulted in problems when editing continued, Andrea was less experienced with operating the computer and also more easily distracted from the task, resulting in tensions between group members (CO 30.8.05),

*JILLIAN OK Delete that paragraph, we've got it twice.*  
*ANDREA Which one?*  
*SUZY That one.*  
*ANDREA Why? (confused)*  
*SUZY Because we've got it twice!*  
*(exasperated)*  
*ANDREA Begins highlighting. Tell me when to stop.*  
*JILLIAN Stop! (annoyed)*  
*SUZY Now can I press delete?*  
*JILLIAN Yes! (still impatient)*  
*(Suzy and Andrea begin chatting about which part of the writing each of them pasted onto the information page).*  
*JILLIAN (infuriated) Please can we just get this work done! (CO 30.8.05)*

The children in this group were not observed proofreading their text to monitor their intended meaning or to check their spelling, grammar and punctuation throughout the period of the study.

Mr Aloisi's PIP required all children to present their work using computer-based technologies as a presentation tool (PP 29.7.05). At the end of the editing process, the girls elected to use Microsoft Dreamweaver to publish their information as an Internet website. Every other group in Year 4 had selected PowerPoint as a presentation tool (CO 14.10.05), but the girls felt comfortable using Dreamweaver, explaining that they already knew how to use it because 'we done one before about dogs' (Suzy, CO 20.9.05). The web site that the girls designed resembled those they had accessed on the Internet, the 'home' page attracted the readers' attention with cute animations, colourful background and large, attractive text inviting the audience to learn more (PW 14.10.05). The contributing questions were created as links from the home page, intending to further inform the reader about how and where animations are made (PW 14.10.05). The affordances of computer-based technologies allowed these children to create a non-linear text to meet their needs. The students' home page is shown in Figure 4.19.

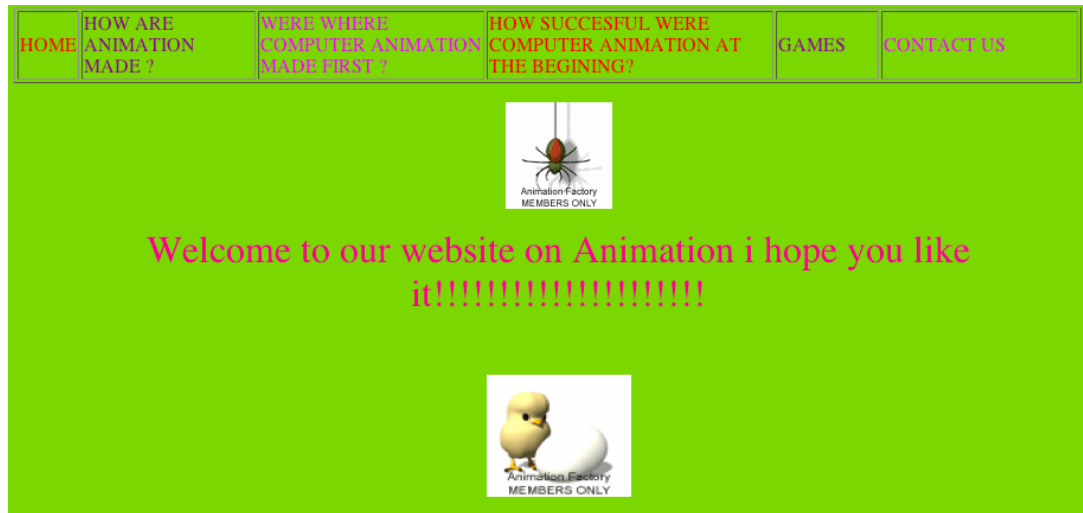


Figure 4.19 - Animation Home Page

Andrea, Jillian and Suzy described using computer-based technologies as a quicker way to complete literacy tasks; scrolling down the page and clicking on the desired links was described as preferable to 'flipping the pages (of a book)' (SSI 14.10.05). The girls reported that writing using a computer was easier than using pencil and paper because 'you have to copy it off the Internet', 'you don't have to write it with a pencil', 'you can just delete it quicker' and 'you can colour the background' (SSI 14.10.05).

### *Drawing on trusted sources*

#### INFORMATION SOURCES

During our final interview, Jillian identified the Internet as a useful source of information and Suzy identified Mr Aloisi's information (Internet sites) as helpful. Andrea was unsure about what was helpful, but she was keen to join the conversation,

RESEARCHER Was there anything else that was useful to you?

ANDREA Books.

RESEARCHER Which books did you use?

ANDREA We didn't use any books really, but um like we looked into the books and they had a bit of information, but it didn't help us much.

RESEARCHER So books weren't so helpful?

ANDREA It wasn't that useful, but a little bit.

(SSI 14.10.05)

#### EXPERTS

Transcripts from classroom observations and interviews suggest that Jillian, Andrea and Suzy identify adult people as experts. Suzy and Jillian referred to 'that guy that came' as being useful in helping them to answer a question (SSI 14.10.05). The 'guy' was a student from the Graduate Diploma in Education course at the University of Wollongong. He and other students from the University were visitors to the school observing classroom practice and teaching science lessons to the children. During the periods where they observed the literacy block, the girls asked the University student their second contributing question, 'Where were computer animations made?' and they recorded his answer in their published work (PW 14.10.05).

Suzy referred to her parents as people who know about computer animation, 'My mum told me they weren't very successful' (CO 6.9.05), 'My mum and dad told me that' (CO 13.9.05). Her brother was also a person whose information Suzy trusted, explaining to her teacher that her brother 'knows how to make them' (CO 6.9.05). Mr Aloisi challenged Suzy to elaborate on information that she had from home about why animations were not very successful in the beginning and to look to a wider range of sources than her mother's opinion, but she could not, 'Well that's all my Mum told me.' (CO 13.9.05). Jillian supported Suzy's brevity by explaining to Mr Aloisi, 'It's been hard for us to find anything else' (CO 13.9.05), again highlighting their difficulties in locating relevant information.

Andrea identified Mr Aloisi as being of help to them during their project (SSI 14.10.05). Although one of Mr Aloisi's goals in providing these learning experiences for the children was for them to work independently to research a

topic of their choice, this group was unable to complete any part of the task unaided (SSI 29.7.05; TP 29.7.05). Classroom observations reveal that Mr Aloisi adopted the role of expert a number of times as he attempted to guide these children through each stage of the research process, including their presentation at the culmination of the project. He assisted them by troubleshooting technical difficulties, '...remember there's a little box there that helps you change the colours... Click on control and anywhere on the page, have a look.' (CO 20.9.05). He helped them to identify relevant information and to copy/paste it into their information page, 'I want you to be looking at anything that tells you about computer animation and anything that's going to help you with how computer animations are made... make sure you □S that and go to the web page again' (CO 6.9.05). He also completed some tasks for these children, for example, printing their resources page because it did not print on their first attempt, naming and saving their files as they published their work (CO 30.8.05; CO 20.9.05).

### *Encountering tensions*

#### INFORMATION OVERLOAD

*'Oh, there's too much  
writing!'  
(Suzy, CO 30.8.05)*

Although Mr Aloisi had significantly narrowed the breadth of information available to the children by selecting appropriate web sites and creating the PIP page, the volume of information provided on the web pages overwhelmed this group. Much of the information that Mr Aloisi supplied about animations was not relevant to the questions that Jillian, Andrea and Suzy posed about computer animations (See Figure 4.18). This irrelevant information further challenged the girls because identifying relevant information would have required deeper reading of the on-screen text, something they were neither observed nor

encouraged by their teacher to do, '...you need to read the information, skim it quickly' (Mr Aloisi, CO 30.8.05).

Analysis of work samples reveals this group struggled to locate, identify and summarise information that explained how computer animations are created (PW 14.10.05).

Although the girls demonstrated an understanding of the genre of a website, much of the text they used was copied and pasted from one Internet site accessed through the PIP page. Figure 4.20 is an analysis of one (1) frame created by the girls in an attempt to answer the 'big question' - How do computer animations get on our computer? The text at the bottom of the sample is a copy of the screen that the girls created using Dreamweaver. Above this image is the text reproduced in black and white to optimise the readability of the text being analysed.

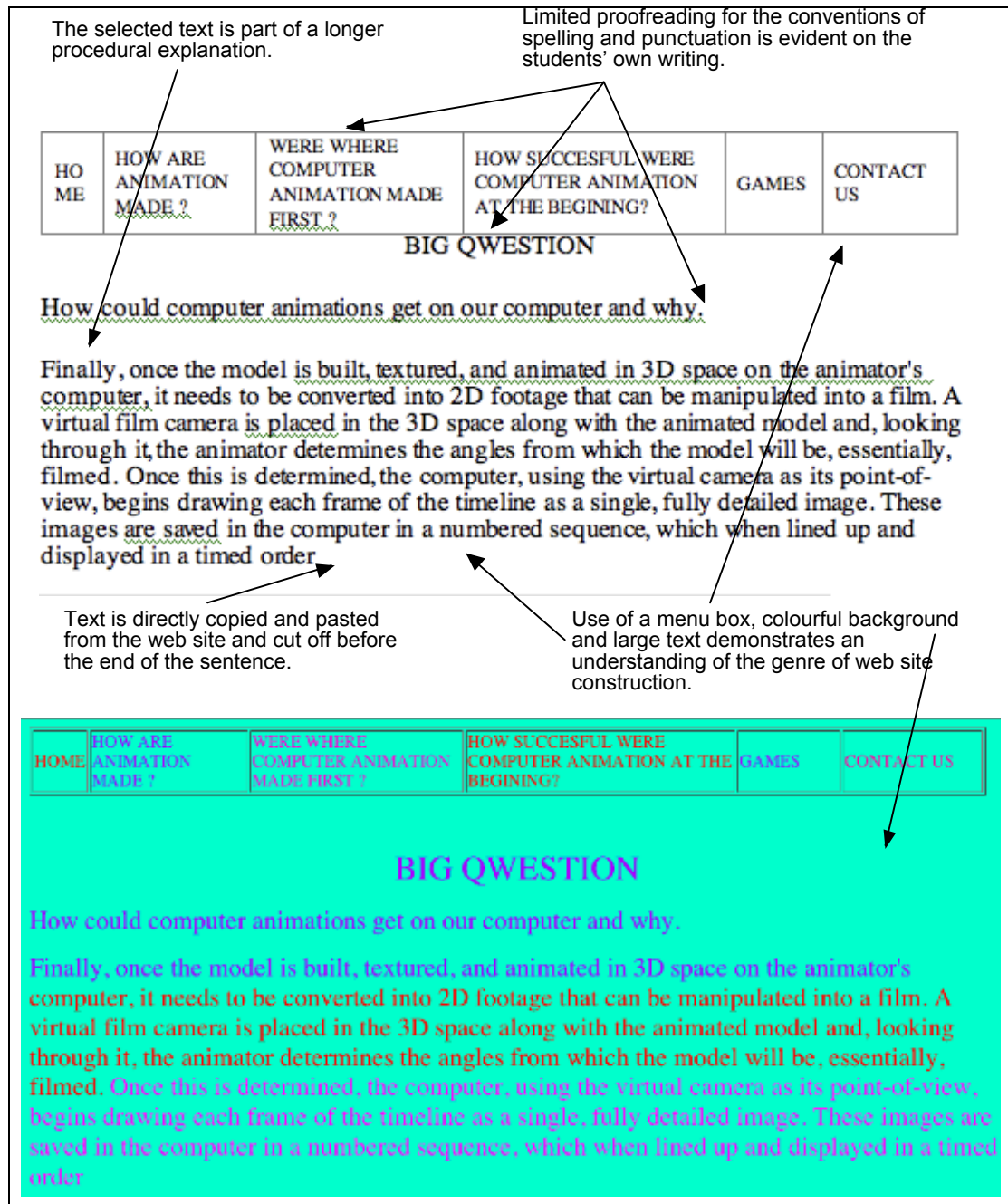
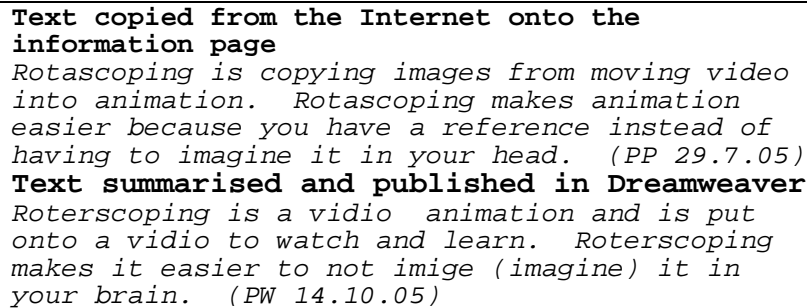


Figure 4.20 - Analysis of published work

From analysis of this text, it is evident that the text had been pasted from another source and, because only part of the text was extracted, it neither answered the question, nor made sense (PW 14.10.05).

In a second frame, the group attempted to answer their contributing question, 'How are computer animations made?'

(PW 14.10.05). Analysis of this sample (See Figure 4.21) reveals that, as with previous frames, Jillian, Andrea and Suzy used Mr Aloisi's recommended research method of copying and pasting the desired text from the Internet, but in this frame they used a further stage in the research process, they attempted to summarise the text in their own words,



**Text copied from the Internet onto the information page**  
*Rotascoping is copying images from moving video into animation. Rotascoping makes animation easier because you have a reference instead of having to imagine it in your head. (PP 29.7.05)*

**Text summarised and published in Dreamweaver**  
*Roterscoping is a vidio animation and is put onto a vidio to watch and learn. Roterscoping makes it easier to not imige (imagine) it in your brain. (PW 14.10.05)*

**Figure 4.21 - Analysis of text structure and content**

Although they have attempted to use the research procedures required, the problem of identifying relevant information remains, rotascoping is an animation technique that was used before the invention of computer animation. It is not a technique used in computer animation at all. The girls located this information through a link entitled 'What were the Techniques before Computer Animation?' (PP 29.7.05), further highlighting their confusion.

#### COLLABORATION

Observations made in the classroom, video footage and transcripts from two (2) interviews show the girls as enthusiastic participants in their group discussions, regularly interrupting and talking over one another (SSI 30.8.05; CO 30.8.05; V 30.8.05; CO 6.9.05; V 6.9.05; CO 20.9.05; V 20.9.05; SSI 14.10.05). Although this created an atmosphere of collaborative group work, closer analysis suggests that the interactions between the girls interfered with location and identification of information, effective proofreading and editing of the writing in draft form and the quality of their published work. The following interaction occurred between the group members and Mr



Aloisi as he tried to help them to identify relevant information by considering the needs of their audience.

*MR ALOISI So keep reading, let's see what else it says.*  
*SUZY (reads) 3D animation is probably the most advanced of all*  
*MR ALOISI Is that good?*  
*SUZY Not really, but...*  
*ANDREA (interrupting) No.*  
*MR ALOISI Why not?*  
*SUZY Um... I don't know.*  
*MR ALOISI Jillian, what do you think?*  
*JILLIAN I think it's not good information because it doesn't really tell us how they're made, like it's telling us about...*  
*SUZY (interrupting Jillian) It's telling us that 3D is the most advanced*  
*ANDREA (interrupting Suzy) It's not as good as the top bit, the top bit is much better than that little bit.*  
*MR ALOISI So what are we learning about the 3D animations there, girls?*  
*SUZY Nothing, really, except...*  
*ANDREA (interrupting) No. Nothing.*  
*SUZY It says that it's the most advanced, but we already...*  
*MR ALOISI (interrupting patiently) I know you know that, but...*  
*JILLIAN (interrupting and impatient, finishing Mr Aloisi's sentence) Some people don't. (CO 6.9.05)*

During this interaction, Mr Aloisi appeared to use a questioning technique to encourage the girls to share as much information as they could about the relevance of their information, but, because each of the girls interrupted each other and their teacher, the purpose of the interaction became confused.

During another classroom observation, I participated in their discussion about the decisions that had been made by the girls during the publishing process. With guidance, the girls demonstrated a capacity to conform to the conventional norms of dialogue where each person listens to the other before beginning to speak (CO 20.9.05). During this classroom observation, I asked Andrea to wait until Jillian had finished speaking before she began to speak. The result was that both she and Jillian were able to contribute their ideas to the discussion (CO 20.9.05).

*RESEARCHER Mr Aloisi was talking today about checking the background of the frame that you*

*design. Does that apply to you?*  
*JILLIAN and SUZY Yes, because um...*  
*JILLIAN ...because we have to choose*  
*ANDREA (interrupts) Yeah... (I stop her by raising my hand)*  
*RESEARCHER Go on Jillian*  
*JILLIAN (finishing her sentence) ...a background that makes the words easy to read and that is about our topic.*  
*RESEARCHER I see. Andrea, what were you going to say?*  
*ANDREA Well, um if we don't put a colour background then no one would really like it. It would just look dull. (CO 20.9.05)*

A further challenge to successful collaboration was the differing level of computer-based skills between group members. Jillian and Suzy demonstrated confidence in moving between software applications and in using a variety of Microsoft keyboard shortcuts to complete tasks. They assisted Andrea when she was unsure of what to do (CO 6.9.05, CO 13.9.05), but at times Jillian and Suzy did become frustrated by Andrea's lesser computer skills and Mr Aloisi's assistance was required to restore group harmony. The following interaction occurred as the girls worked on selecting an appropriate font size for their web page,

*SUZY Mr Aloisi, is that big enough?*  
*MR ALOISI I think so, but how about you go and check in Safari to see what it looks like?*  
*ANDREA Um, Safari? (Unsure how to do that)*  
*SUZY (annoyed) Yesssss Safari! (Andrea clicks on the icon in the dock)*  
*JILLIAN (annoyed too) Nooooo!*  
*MR ALOISI (patiently) No, remember you go to file. You have to click on it, Andrea. Preview in Safari. There. Is that big enough?*  
*SUZY and JILLIAN Yeah.*  
*MR ALOISI Good. (Mr Aloisi then returns Andrea to Dreamweaver with a click of the mouse) OK. This goes back to Dreamweaver (CO 20.9.05).*

Another tension that strained group relations and impinged on successful writing was the tendency of group members to become distracted and engage in conversations about issues other than the PIP. Analysis of the data reveals that Andrea was the child whose concentration regularly lapsed and that Jillian was the child most frustrated by Andrea's distractions (CO 30.8.05; CO 13.9.05; CO 20.9.05). Apart from distracting her group, Andrea attempted to engage other classmates, Mr Aloisi and me on topics such as lunch

orders, Suzy's address and our methods of transport to and from school (CO 30.8.05; CO 13.9.05; CO 20.9.05).

Observation of group interactions revealed that Andrea's behaviour caused some tension for Jillian, as she attempted to fulfil the requirements of the PIP. On one occasion, Andrea composed a song about copying and pasting text and Jillian lost her temper, exclaiming, 'Stop it! I hate being in your group!' (CO 30.8.05).

When Andrea was 'on task', her main concern appeared to be about font size and colour at all stages of the writing process. During interactions with Andrea, Mr Aloisi patiently and consistently reminded her of the focus for that day. For example, the group had pasted some information that they thought was relevant into a Microsoft Word document. This file contained large text in a variety of colours,

*ANDREA (to Mr Aloisi) I like that writing, don't you?  
MR ALOISI OK, well, we're not too worried about the writing for now. What we are worrying about, Andrea, is the question. Where are your questions? (CO 30.8.05).*

Her interest in colour persisted throughout the period of the study. During the final interview with this group, I had asked Jillian about the big question and how they obtained an answer,

*RESEARCHER This is your home page. Where is the big question?  
JILLIAN Um the big question is the blue one (she opens it)  
ANDREA It's actually greeny blue  
RESEARCHER ...and where did that information come from?  
JILLIAN Mr Aloisi.  
RESEARCHER I see.  
ANDREA Actually it's aqua, I remember what colour it was, it was aqua (SSI 14.10.05).*

Andrea's interest in the colour of text and background was observed to distract the group from their task, even after Mr Aloisi had reminded the girls to stay focused. For example, Jillian, Andrea and Suzy were publishing their text during one of the final periods of classroom observation (CO 20.9.05) and Mr Aloisi had reminded them again of the importance of recording the information before

selecting colours and fonts. Analysis of the transcripts highlighted Suzy's off task behaviour as she became involved with Andrea in selecting colour and Jillian's despair of ever finishing the task,

*ANDREA I can't remember how you put a colour on the back.*

*JILLIAN We don't need that now.*

*SUZY No.*

*...*

*ANDREA So do you want to make it this colour?*

*SUZY Mr Aloisi doesn't want to see any colour.*

*ANDREA Oh yeah.*

*SUZY I reckon that's a nice colour.*

*ANDREA Me too, (puts it in)*

*JILLIAN (panic) No! Don't!*

*SUZY We can change it*

*ANDREA I reckon light purple, I reckon that one.*

*JILLIAN (annoyed) Don't click on those things.*

*ANDREA I'm not!*

*JILLIAN (sarcastic) Yeah right*

*ANDREA (ignoring Jillian's sarcasm) That background looks good (CO 20.9.05).*

Although analysis of the data collected revealed that the collaboration between the girls hindered their progress in completing the PIP successfully, when reflecting on their work, the girls did not report on these negative aspects of working together (SSI 14.10.05). Rather, they spoke in favour of sharing opinions and of presenting work together in order to share the workload, citing the only drawback of working in a group of three (3) as each having less time operating the computer (SSI 14.10.05). When stating their intentions for future work, Jillian indicated a desire to work with other people and Suzy expressed a preference for working in a group of two (2) rather than three (3) people (SSI 14.10.05). Perhaps each girl would have expressed different opinions had they been interviewed individually instead of in their group, or perhaps they do not perceive there was a difficulty.

## **Interpretative Summary**

From the analysis of the data, it appears that Andrea, Jillian and Suzy struggled at every stage in the process of completing the PIP. The children were not observed throughout the period of the project to independently

locate and identify information relevant to their topic. Similarly, the girls were observed to call on the expertise of their teacher whenever their first attempt at solving a problem failed. In one instance, Jillian did demonstrate flexibility with skills by applying an application from Microsoft Word to a Dreamweaver file in order to centre text, but I noted that Mr Aloisi was present during this time and had prompted the children to 'think about Word' (CO 20.9.05) as a clue to solving the problem.

In a classroom of 31 children, it would appear that the teacher is not able to provide the level of assistance these girls would need to achieve success in this project; modification of the original task would be required in order to meet the learning needs of these children.

The model depicted in Figure 4.22 summarises the process that Suzy, Jillian and Andrea engaged with to complete the Personal Interest Project. It identifies the few enablers that allowed them to experience limited success with creating a product and the numerous inhibitors, which created many tensions. These enablers and inhibitors led to further consider the needs and responsibilities of the learner as technology is integrated with literacy learning.

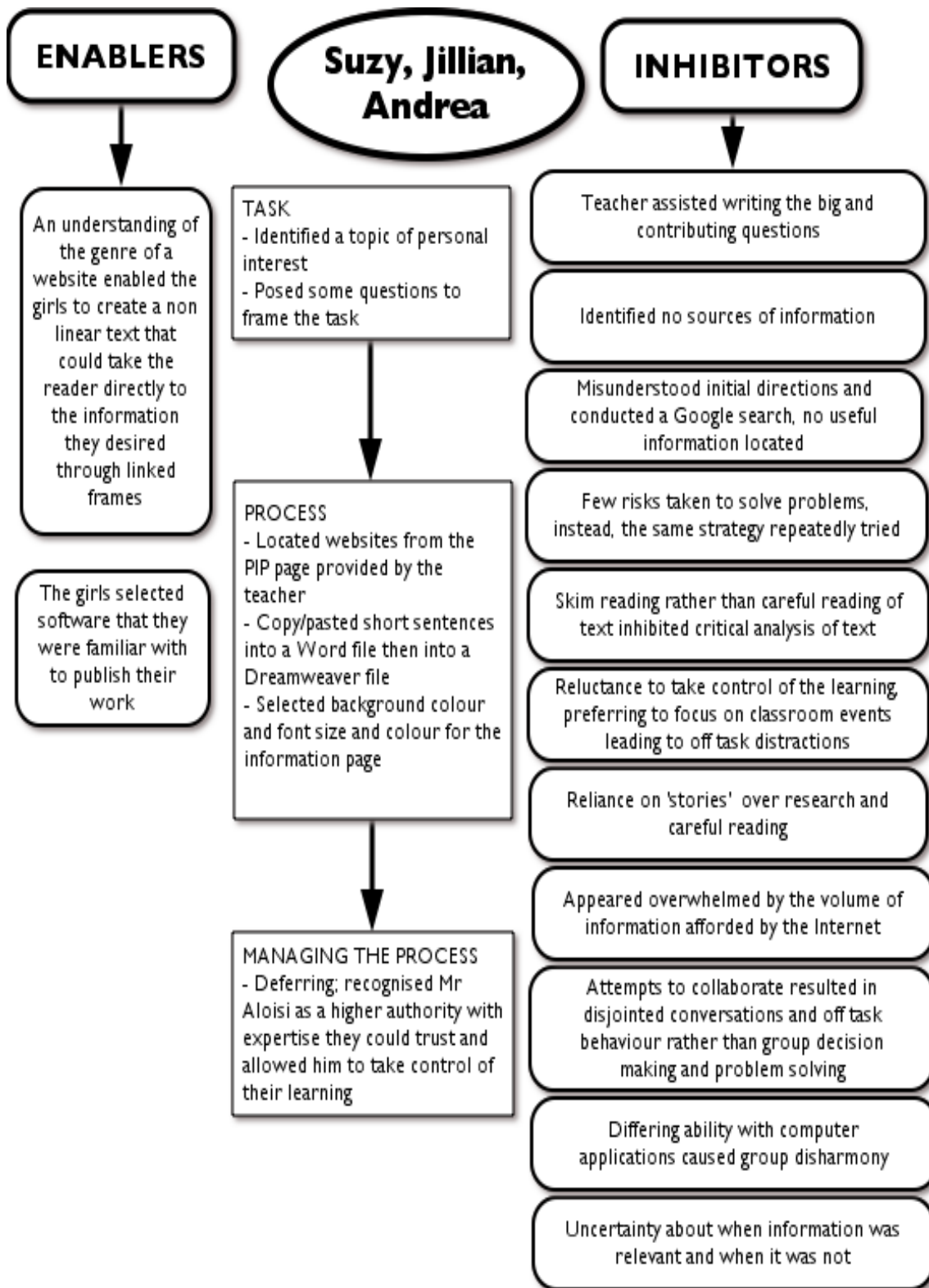


Figure 4.22 -  
Enablers and inhibitors to Jillian, Andrea and Suzy's work

## Chapter 5

# Conclusions and Implications

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The purpose of this study is to examine the role of computer-based technologies in a Stage 2 classroom during classroom writing experiences. Presented in this chapter are the conclusions that emerge from the analysis and discussion of collected data and the implications of these findings for future teaching practice.

The chapter is organised into two parts.

Part One will respond to each of the research questions that framed the study. Responses to the research questions are a consolidation of the key findings of this study.

Part Two explores the categories and themes emerging from analysis and interpretation of the data. These categories and themes and the relationships between them work towards a grounded theory (Glaser & Strauss, 1967) and are represented diagrammatically in Figure 5.3. The emerging grounded theory describes the responsibilities of both teachers and children in the teaching and learning of literacy with the support of computer-based technologies.

## ***Responding to the Research Questions***

### **What is the role of computer-based technologies in the learning and teaching of writing in a Stage 2 classroom?**

Analysis and triangulation of the data collected allows for the exploration of each of the contributing questions of this study. Through answering each of these questions, a deeper understanding of the overarching research question is achieved. Understanding is furthered through the explication of emerging themes to describe the developing grounded theory about the role of computer-based



technologies in the learning and teaching of writing in literacy learning.

### **What does the teacher believe about using computer-based technologies in literacy learning?**

This study revealed that Mr Aloisi valued the integration of computer-based technologies into daily classroom practice, evidenced by his description of such integration of these technologies as 'essential to teach the 21st century child' (I 21.11.05). Mr Aloisi's belief is supported by Leu's (2000) assertion that schools must prepare children for participation in a global community where effective use of technology to investigate and solve problems is highly valued in the workplace.

Numerous studies investigating the use of computer-based technologies in classroom environments have found that significant barriers to incorporating these technologies into daily literacy learning experiences are often the teachers themselves. Snyder's (1999) findings described the informal set of criteria that experienced teachers hold about what teaching practices will or will not succeed in their classroom and that it can be challenging to shift these teachers' views. Turbill and Murray's (2006) research found that some teachers regard 'playing' on computers as a reward for completing set classroom tasks rather than a valuable learning experience, while Leu (2002b) and Kuhn (2001) cite a lack of ongoing professional development and teaching support as a barrier to successful integration of computer-based technologies into teachers' classrooms. Conversely, the findings of this study revealed no such negativity toward the use of computer-based technologies in classrooms; Mr Aloisi had embraced the opportunity to utilise a range of computer-based technologies for student learning during his classroom literacy experiences.

Mr Aloisi is the technology coordinator at the school and explained during interview that he uses computer-based technologies to meet both professional and personal needs (I 21.11.05). Lankshear and Knobel (2003) found that teachers who know how to use computer-based technologies and utilise such technology for authentic purposes in their own lives are more likely to perceive the purpose and value of using these technologies in the school setting. Further, the depth of a teacher's knowledge and confidence when using computers in their own lives affects the way a teacher will approach the use of computer-based technologies in their classroom (Snyder, 1999).

It would appear, therefore, that Mr Aloisi's enthusiasm for the integration of computer-based technologies into his teaching program has developed from the authentic role that computer-based technologies play in his own life and his understanding of the working demands for his students in the future. It is possible that these factors eliminated the barriers to integration of computer-based technologies that many teachers experience as described by Kuhn (2001), Leu (2002b), Snyder (1999) and Turbill and Murray (2006).

Mr Aloisi described personal beliefs that reflected an inquiry-based philosophy about the ways that children best learn (I 21.11.05). He described his classroom program as taking a 'student-centred' approach where children 'seek resolutions to questions' as they 'construct new knowledge' (I 21.11.05). He also listed 'Inquiry Based Learning Papers' as professional reading that he had undertaken (I 21.11.05). Inquiry based learning focuses on creating a learning environment that encourages children to ask questions about problems or issues, explore solutions, discuss their experiences with others and reflect on their new knowledge. Mr Aloisi's intention to draw on the personal experiences and interests of the students in the class is echoed in the learning experiences reported on by Banaszewski (2002), Davis (1995), Castellani and Jeffs (2001) and Kervin and Moore (2004). In creating digital

stories, children in Banaszewski's (2002) research reflected on their 'favourite place', while children in Kervin and Moore's research in a Stage 3 classroom drew on their knowledge of personal issues confronting young people. Similarly, Castellani and Jeffs (2001) observed the individual pathways that children carved out as they utilised the Internet to conduct research, while the children in Davis' (1995) research investigated and reported on a topic of personal interest.

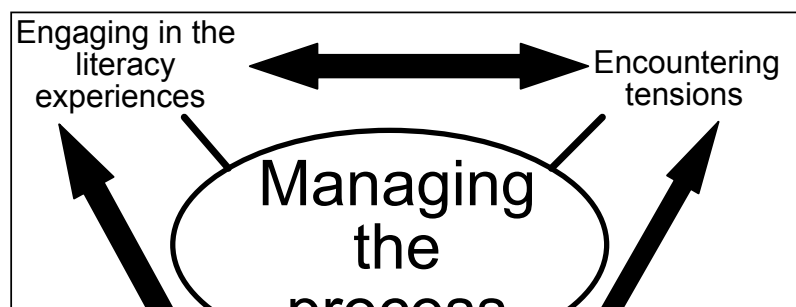
Mr Aloisi's appreciation of using teamwork to create an effective learning environment was reflected in his classroom program, as the children worked in interest based groups for the PIP task (TP 29.7.05). The task designed by Mr Aloisi called on the children to collaborate in order to locate, identify, evaluate, synthesise and communicate information to their peers. This teaching decision is supported in the literature as Leu et al. (2004) describe the value placed on collaborative, creative problem solving in the global workplace.

### **What literacy skills do children use with computer-based technologies?**

Analysis of the data in this study revealed that the literacy skills that children used could be categorised into emerging themes as the children managed the process of literacy learning with the support of computer-based technologies. The themes emerging from this study were:

- Engaging in the literacy experiences
- Encountering tensions
- Drawing on trusted sources

The relationship between the process and these themes is depicted in Figure 5.1.



**Figure 5.1 - The relationship between emerging themes**

Leu, Kinzer, Coiro and Cammack (2004) argue that readers are confronted with new literacies every time they use computer-based technologies, for example, using a search engine to locate information or evaluating the accuracy and usability of a webpage in relation to one's purpose. The study revealed that these Stage 2 children used computer-based technologies to engage in the writing process as they conducted research and presented information about a topic of personal interest. The children did encounter these new literacies and were required to flexibly apply the literacy skills in an effort to manage the process of creating text with the support of computer-based technologies. These skills have been organised under the following subheadings:

Selecting a topic and formulating questions  
Locating and identifying information  
Note taking  
Drafting and publishing text

*Selecting a topic and formulating questions*

The children in this study were allowed to select their own topic from a range provided by Mr Aloisi. McCombs (2000) observed that providing children with some choice and control over the curriculum content serves to motivate them to complete meaningful tasks. Supporting this finding, this study revealed that the participant case study children were keen and motivated to engage with computer-based technologies to research a topic of their choice. Without this engagement, no new learning could occur. As the children moved further through the research and writing

process, they each managed it in different ways. They confronted a range of tensions, drew on different resources and methods of constructing text in completing their task.

Providing choices challenges children to take risks in identifying what they want to know and how they will attempt to find out. Jonassen, Peck and Wilson (1999) express reservations about the ability of every child to set and pursue goals, observing that some children can be reluctant or ill prepared to assume the power offered to them. The children in this study all required varying levels of assistance from Mr Aloisi throughout the PIP to modify questions, to locate and identify relevant information and to create a polished product in preparation for presentation to the class. Moreover, Suzy, Andrea and Jillian demonstrated an expectation that they would be provided with answers and assistance from Mr Aloisi or any other adult who entered their study environment. These findings would suggest that classroom teachers who intended to offer children some choice and control over their learning must also be sensitive to differing children's abilities and their willingness to assume this responsibility.

### *Locating and identifying information*

The children in this study were observed to embrace the opportunity to utilise a range of computer-based technologies in fulfilling the requirements of the Personal Interest Projects. For the most part, the classroom observations revealed that the children trusted Mr Aloisi's judgement in selecting appropriate sites and drew on his sources of information in answering the questions they posed. Tensions arose at various times as children took the responsibility to engage with the literacy learning experiences. For example, a disparity existed between the skills each child needed to complete certain tasks and the skills they each possessed. To resolve these tensions around skill acquisition, the children responded in one of

two ways; they either reverted to a 'safe' method - one they already knew, such as researching using books rather than the Internet, or using the PowerPoint application instead of the lesser known iMovie. Alternatively, children sought help from people that they trusted, such as a teacher or peer.

In locating and identifying relevant information using computer-based technologies, the children were required to apply a searching technique that would allow them to eliminate irrelevant information from their search. Bilal (2002) reported that the Year 7 children in his study were challenged by the ability to perform successful key word searches and to identify relevant information because they chose broad topics and the results of their Internet searches produced overwhelming amounts of information. Similarly, a child in Carroll's (2001) study located no relevant information during the 90 minute literacy centre period as he was 'lost in cyberspace' searching for information about 'freshwater jellyfish'. In the study reported herein, Shannon reported similar tension when she reached beyond the information provided by Mr Aloisi on the PIP page and conducted a keyword search using the Google search engine about the ways that sounds are used to save lives. Shannon described the search results as a list of 'people selling stuff and people saying 'buy it' and... it wasn't really what I needed' (SSI 14.10.05). Phil and Mark's attempts at identifying relevant information led them to explain 'We didn't really know what types of websites to go to' (SSI 13.9.05), causing such tension that they resolved to use traditional or print-based methods of locating and identifying relevant information. Suzy, Jillian and Andrea's experiences also supported Bilal's (2002) findings as they struggled with the breadth of information available about their topic, just within the confines of the websites on Mr Aloisi's PIP page. Suzy, Jillian and Andrea resolved the tension they encountered from this overload of information by drawing on their teacher's expertise to direct and affirm their decisions.

Drawing on the results of this study and Bilal's (2002) and Carroll's (2001) findings, it is reasonable to suggest that children would benefit from explicit individualised and small group teaching with a focus on using search engines to locate relevant information. The ability to effectively use search engines on the Internet would allow children to effectively narrow down the quantity of information available surrounding their topic and to locate the information that is relevant to their needs as they use computer-based technologies to support their literacy learning.

In attempting to locate and identify information that would answer these children's questions, each child in this study was instructed by Mr Aloisi to use the skill of skim reading the text on the screen or the pages copied out of reference books from the library. This study revealed that skimming text produced varying results among children in the class. For example, in observations of interactions between Mr Aloisi and Jillian, Suzy and Andrea, the children appeared unable to identify information as useful or irrelevant both before and after they had skimmed the text (CO 30.8.05; CO 6.9.05). In contrast, Shannon was observed skim reading text about sound on certain websites followed by deep engagement with particular parts of the text (CO 23.8.05). It is possible that earlier skim reading had alerted her to the likelihood that she had found relevant information, but that deeper reading was required to confirm this prediction. No literature was located describing findings about the role of skim reading in identifying relevant information on either print or digital texts. However, in concluding their research, Chambers Cantrell (1998) and Eide (2001) each identified meaning making as the primary purpose of literacy learning; using the single reading strategy of skimming a text prevented Jillian, Suzy and Andrea from achieving this purpose. Further, the findings of Leu (2002a) and Harste (2003) stressed the importance of critical analysis of text

within the context of purpose and audience in order to understand the author's intention. The results of this study contrasted with these arguments for meaning making and critical analysis, suggesting that skimming a text may not provide sufficient information for readers to make meaningful judgements about its relevance in meeting their needs.

### *Note taking*

Classroom observations revealed that after the children had identified relevant information in the texts supplied by Mr Aloisi, they each began to record it in note form ('took notes') on an information page that developed as more information was identified and saved. This note taking took various forms. Because of tensions that emerged for Mark and Phil as they searched the websites selected by Mr Aloisi, the boys reverted to traditional, or pen-and-paper techniques, to record facts during this stage of the writing process. Seth, Jillian, Andrea and Suzy used the copy/paste application in Microsoft Word to construct a computer file that would later inform their composition. Shannon used a combination of traditional and digital techniques as she busily and efficiently switched between traditional and new literacies to take notes and accumulate information in order to construct her text about sound. Lee (2000) describes this style of learning as 'chaotic learning'. The chaotic learning style emerges from the digital environment and is a feature of regular Internet users (Lee, 2000). The chaotic learner is described as one who is 'at ease handling a variety of tasks at once... moving from one activity to another in a seemingly random manner, in contrast to the traditional... linear approach' (Lee, 2000, p 3).

From observation of the differing learning styles among the children in this study, it is reasonable to suggest that the teaching cycle adopted by Mr Aloisi (as presented in Figure 4.3) would meet the learning needs of only a limited



number of children in this class. This cycle began with Mr Aloisi giving instructions, explanations and demonstrations to the class as a whole, then, as the children set to work on independent tasks, he moved between groups and responded to the needs that presented themselves as he observed those children at work. Jillian, Suzy and Andrea, were experiencing difficulty with almost every part of the PIP; supporting the reservations of Jonassen, Peck and Wilson (1999), that they were unwilling and unable to cope with the level of responsibility on offer. Therefore, they required teacher assistance through explicit modelling of skills and strategies along with scaffolding and metacognitive prompts as they attempted to meet the demands of the task.

### *Drafting and publishing text*

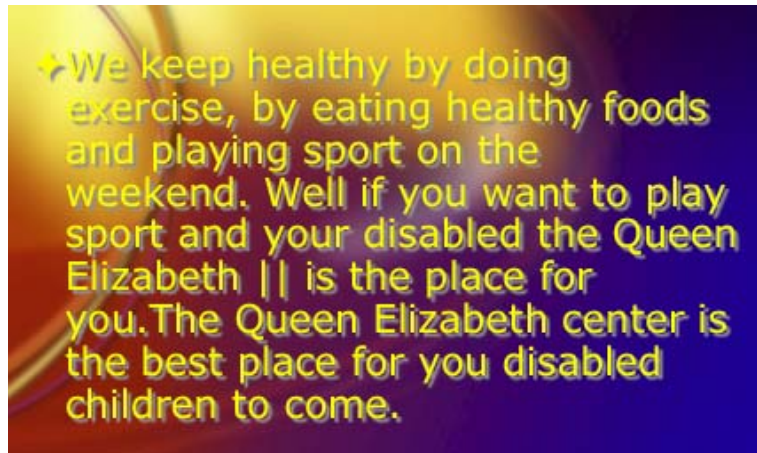
In combining traditional and new literacies, Baker (2000) reports that the process writing approach to literacy learning was 'readily adapted to embrace technology' (p 11) and, although there were challenges in using the technology, Baker describes this approach as useful for other teachers endeavouring to develop children's reading and writing with the support of computer-based technologies. The results of this study are in support of this finding, although notably the boundaries between each stage in the writing process became increasingly blurred as the children worked within a number of stages in the writing process simultaneously. The children were observed revisiting some stages more than once as they constructed text using computer-based technologies.

A requirement of Mr Aloisi's project was that the children construct and submit a draft report either hand written or word processed about their topic prior to publishing (CO 23.8.05). This first draft was to be in full text, but proofreading and editing was not required. With the exception of Shannon, each of the children demonstrated a reluctance to conform to this expectation. Instead, in

each of the other case studies, the children constructed just one version of their text. Mark and Phil and Jillian, Andrea and Suzy completed their text by transferring notes to a single draft. Seth adopted a different approach again, he transferred text directly from the website he was reading to the PowerPoint text he was constructing and then changed the text 'into his own words'. In this instance, the stages in the writing process, previously separated by handwritten drafts, a published copy and time to illustrate were combined into one draft using the affordances that computer-based technologies provided.

In completing the PIP, there was a feeling of some urgency creating tension amongst all of the children. The need to complete things quickly in order to meet the deadline perhaps contributed to their reluctance to spend time working at a draft that would need to be rewritten. Consequently, the desire to capitalise on the affordances that the technology provided in delivering information and creating products quickly was observed in all of the children. Furthermore, in the interests of quick results, the children turned to trusted sources, selecting known methods (such as PowerPoint rather than iMovie) to complete tasks or combining stages in the writing process (such as drafting and publishing) as they engaged in the literacy experiences.

Although tensions were reduced when the children reverted to known methods of text construction, such a technique did not necessarily result in the development of sound literacy skills. For example, in answering the question 'How do we keep healthy?' (WS 14.10.05) Seth used a method where he identified 'relevant' information from the Internet, mentally changed text into his 'own words' and published directly onto a PowerPoint slide (See Figure 5.2). An analysis of this text follows Figure 5.2.



**Figure 5.2 - Extract from a child's work sample (WS 14.10.05)**

The information that Seth selected for his first sentence is relevant to answering the question of maintaining good health. However, the second and third sentences on this slide were extracted from an advertisement for a health retreat in England that caters for special needs children. This information has been reported in such a way that makes it irrelevant to the question ('How do we keep healthy?') because it does not provide processes or tips for good health, nor does it present itself as an example of the types of places that are available for maintenance of good health. It simply does not answer the question. Classroom observations reveal that Seth and his teacher discussed two features of the text that needed correction: punctuation and tone (the conversational style of the text). They were not observed analysing the text in relation to the purpose of each stage of the process or about the meaning it conveyed.

From analysis of data such as that provided by this example, it is reasonable to suggest that children would benefit from planned guided learning experiences in small groups where a specific skill or strategy may be developed and practised with a broader focus on the construction of whole texts – the making of meaning.

The children in this study used the skills they developed from constructing traditional, print based literacies and combined them with new skills as they constructed new literacies. For example, Shannon's draft was completed on Microsoft Word, drawing her information from the handwritten pages from her notebook and the computer file of information copied and pasted from Internet sites. It resembled a traditional information text in structure and style, each paragraph contained full sentences that developed the previous one to build knowledge about the topic. To achieve this, she needed to draw on the skills of planning, constructing, proofreading and editing text. When publishing the draft, however, Shannon did not conform to the final stage of the traditional writing process where the draft is duplicated neatly to create a polished piece of writing. Rather, she further manipulated the text to create a different product - a PowerPoint presentation, where text is recorded in succinct bulleted points and used as a springboard to verbal elaboration during presentation. Similarly, Mark and Phil summarised their handwritten notes to record their information as bulleted facts on their PowerPoint file. This finding supports Kervin and Moore's (2004) argument that the emergence of new literacies and increased access to computer-based technologies has created a 'blurring between genres' as learners use 'old' technologies with 'new'. Support is also evident for Banaszewski's (2002) findings from the storytelling project where the children reflected on their favourite place and used their knowledge about writing and computer-based technologies for digital storytelling, manipulating image and sound in an attempt to find 'voice, confidence and structure in their writing' (p 35).

From these findings it is apparent that children require sound fundamental reading and writing skills as the building blocks to successful literacy experiences using computer-based technologies.

The study demonstrated how the affordances of applications such as PowerPoint and Dreamweaver allowed the children to publish their work in an attractive and professional format – a ‘polished’ piece of writing. The pride these children felt about the quality of their work was evident in their presentations to the class and in taking the opportunities to share their work with others. Teachers in Colburn’s (2000) and Karchmer’s (2001) studies also reported observing an increase in their students’ pride in the products they created with the support of computer-based technologies along with increased motivation to complete and share their work.

In summary, the children in this study combined their understandings from both traditional and new literacies to create texts that communicated new understandings, both about the content of their research and the computer-based technologies they were using.

### **What relationship exists between the teacher’s beliefs and what the children do?**

This research surmised that Mr Aloisi valued the use of computer-based technologies in his classroom because of their authenticity in his own life and he considered the ability to use them important in preparing children for the workplace of the future. In adopting a teaching philosophy that focuses on creating a learning environment that encourages children to ask questions, explore solutions, discuss and reflect on new knowledge, Mr Aloisi demonstrated an understanding that learning experiences must reflect the broader community if the students are to see the tasks as relevant and meaningful. When examining the relationship between Mr Aloisi’s beliefs and teaching practices and the processes that his students employed as they engaged with the literacy experiences, it is useful to describe the findings within an existing framework. Herrington, Oliver and Reeves (2003) argue that tasks that reflect authentic situations contain ten (10) common

elements and it is through this framework of Authentic Task Design that Mr Aloisi's beliefs and the actions of the children are observed in the classroom throughout the daily literacy block.

*Authentic activities have real world relevance*

Leu (2002a) describes the workplace of the future as valuing employees who can quickly locate high quality information and useful resources and critically evaluate their usefulness in meeting the requirements of the task. The task designed by Mr Aloisi resembled a broader working community by calling for collaboration in locating, identifying, evaluating, synthesizing and communicating important information as the children contributed to their community of knowledge (Leu et al., 2004). Some children in this study drew links, too, with the 'real' world; Shannon observed that 'big companies' utilise PowerPoint in certain ways and attempted to emulate this in her own presentation, while Mark and Phil rejected the Internet as a trustworthy information source because of the ease with which 'people on the Internet can just lie' (SSI 13.9.05). Knowledge such as this demonstrated by the participant students in this study reflects the living nature of language and the students' desire to link their own learning with real contexts in the broader community.

The task was limited, however, because although they received a tutorial about critically evaluating the usefulness and integrity of a website, Mr Aloisi had pre selected websites for the children to use and declared them to be the 'right information' (CO 30.8.05), denying them the opportunity to emulate the demonstrations with their own approximations (Cambourne, 1988). Cambourne (1988) argues that the employment of 'immature, developing' literacy skills both independently and in collaborative circumstances is a necessary condition of learning.

*Authentic activities are ill-defined,  
requiring children to define the tasks and  
sub-tasks needed to complete the activity*

Mr Aloisi selected content areas for the PIP that are mandated by syllabus Outcomes (for example, Board of Studies, 1998), but gave children the power to select a topic of interest and methods of conducting the research. Mr Aloisi demonstrated a clear expectation that each child was capable of identifying their existing knowledge and what was unknown and then assume the responsibility to write their own questions in an attempt to frame their research. Jonassen et al. (1999) assert that where a teacher relinquishes responsibility, a child must assume it in order for learning to occur. Some children in this study struggled to define their PIP task and the sub-tasks required to 'solve' their problem, suggesting they would have benefited from further modelling and scaffolding through guided instruction with their teacher. 'Expert' peers may have also been able to assist these children in a less formal setting.

*Authentic activities comprise complex tasks to  
be investigated by children over a sustained  
period*

Authentic tasks take time to complete (Allington, 2002; Herrington et al., 2003). Mr Aloisi designed the Personal Interest Project to be completed throughout Term 3 and the children responded to this challenge. The children worked on their PIP over a number of weeks and Mr Aloisi continued to demonstrate in a whole class context the skills and strategies necessary for successful literacy learning, encouraging the children to engage with the experiences he had provided (Cambourne, 1988). At each opportunity to work at the tasks, the children were observed enthusiastically locating the information saved from the previous week(s) and setting about building on that with an aim to create an informative product for their peers.

In the literature that this study reviewed around authentic learning tasks, all of the participant children engaged with complex tasks over a period of time as they built on and developed the necessary knowledge and skills to complete a range of literacy tasks (See Bilal, 2002; Carroll, 2001; Castellani, 2001; Davis, 1995; Kervin & Moore, 2004). Similarly, the children in Banaszewski's (2002) research worked on their storytelling projects over many weeks, their stories emerging throughout the process. The complexity of authentic learning experiences prohibits literacy learners from completing a task within the time frame of one lesson.

*Authentic activities provide the opportunity for children to examine the task from different perspectives, using a variety of resources*

Herrington et al. (2003) assert that the use of a variety of resources selected by the learner forces that learner to make judgements about the appropriateness and relevance of the information they have found. Mr Aloisi allowed the children to select their method of conducting research, but pre selected print based resources from the library and websites from the Internet as suitable for answering the questions the children posed. Such an exercise may have perhaps been in an effort to avoid having the children spend large amounts of time searching for information. This decision is significant for schools because the mere selection of a text by a teacher gives that text an elevated status because of the authority held by school (Anstey, 2003) as expert in matters of knowledge and learning (Lankshear & Knobel, 2003).

The children in this study each experienced tensions in the selection of helpful resources within the range provided by Mr Aloisi. Rather than providing information, a more appropriate approach may have been providing teacher-planned, guided learning experiences with a focus on



identifying and selecting appropriate sources of information. For example, a guided lesson on using key words in a search engine would assist children to locate and identify information on the Internet.

*Authentic activities provide the opportunity to collaborate*

Herrington et al. (2003) describe collaboration as integral to achieving learning goals, both in education and real world settings, a belief supported by Leu et al. (2004) who describe teamwork as important in building a community of knowledge. Banaszewski (2002) described the community building role that child collaboration played in his story telling project, 'Without prompting from me, children asked to see each other's stories throughout the production and editing phases' (Banaszewski, 2004). Similarly, the children in Mr Aloisi's class were observed working collaboratively on their PIP. Although certain children elected to research and present their work alone, the study showed that each of these children reached out to others to share and gather information throughout the course of their research.

*Authentic activities provide the opportunity to reflect*

Herrington et al. (2003) describe the importance of learners reflecting on their learning. Review of the literature strongly revealed the importance of teachers reflecting on their teaching practices, but to a lesser extent, the need for children to reflect on their learning or on making decisions based on these observations. This study found that the children were called on to reflect on the publishing decisions they had made. For example, Mr Aloisi encouraged the children to think about presentation - 'how to make it look as good as it can be, but not only that, make it in a way so that it is going to relate to what your topic is' (CO 20.9.05). Further reflection opportunities were provided following the PIP

presentations. Mr Aloisi asked the children to 'think about the actual presentation, the way the children spoke, the way that you stood in front of an audience' (CO 14.10.05). These results suggest that there is more to be learned about the role of student reflection in literacy learning.

*Authentic activities can be integrated and applied across different subject areas and lead beyond domain specific outcomes*

Kervin and Moore (2004) drew on Stage 3 Personal Development and Health Outcomes (BOS, 1999) to integrate computer-based technologies into literacy experiences as Year 6 children created advertisements about social issues such as depression and youth homelessness. Carroll (2001) used mandated outcomes from the Science and Technology syllabus (BOS, 1993) in designing an integrated unit of work around the ocean for Year 2 children. In this study, Mr Aloisi provided topics from a range of key learning areas that children could integrate with their literacy learning experiences as they used computer-based technologies to achieve personal learning goals. In appraising the findings from each of these studies, it would appear that as teachers draw content from a range of key learning areas for integration into literacy learning, the children are allowed to build expertise across a range of fields rather than simply accumulating facts about a specific topic. This opportunity is significant because the workplace is an environment where problem solving across a range of fields is valued and necessary for success and such learning experiences contribute to a child's preparation for this working environment.

*Authentic activities are seamlessly integrated with assessment*

PIP tasks were not observed to be formally assessed during the period of data collection for this project. During an interview, Mr Aloisi explained that he had started to 'mark

them (the presentations)' but that he had not finished (I 21.11.05). Mr Aloisi was observed, however, providing general feedback about the standard of the presentation of the PIPs to the class following their presentations (CO 14.10.05).

Formal, standardised testing has been criticised for its bias toward certain cultural groups (Blalock, 2000). However, 'authentic' assessment (using such methods as portfolios) is recognised as providing both the teacher and learner with an understanding of a learner's growth in reading and writing, their concept of themselves as readers and writers, and their ability to evaluate their own work and set goals for themselves as learners (Herrington et al., 2003; Weaver, 1990). Such assessment would have allowed the Year 4 students in this study to reflect on their learning and to set personal goals for future literacy learning experiences. A simple method for these students to make an assessment of their own work would have been to revisit the KWL chart and complete the final column - 'What I learned' (See Appendix B).

*Authentic activities create polished products  
valuable in their own right rather than as  
preparation for something else*

The participant children in this study were provided with opportunities to create and present the results of their research to their peers in a flexible and creative way. The children in Banaszewski's (2002) study created an iMovie that told their story to other class members and their families. Kervin and Moore's (2004) participants designed and made advertisements for a competition where winning entries would be commercially televised. The children in Carroll's (2001) study combined the facts they had collected from a range of sources into a whole class report about the ocean, which was illustrated and publicly displayed in the classroom. Each of the products created

in these examples were designed for a specific audience and for a specific purpose.

*Authentic activities allow competing solutions  
and diversity of outcome*

Mr Aloisi required each person to present their work as they chose, using computer-based technologies. Although all of the presentations except one were presented using Microsoft PowerPoint, the way that the children presented and the information they had identified as relevant differed between presentations. Throughout the PIP, Mr Aloisi established an expectation that the children would achieve their aims and allowed them opportunities to engage in learning experiences following his demonstrations. Cambourne (1988) explains that when responding to a student's writing, the teacher must decide 'what and how much can be demonstrated so that the learner can attend to some of the problems inherent in what is being attempted' (p 79). This study showed that Mr Aloisi's teaching decisions focused mainly around correct spelling and punctuation when he worked with individual children, which, although important features of text construction, are secondary to the primary purpose of constructing text - meaning making (Cambers Cantrell, 1998; Eide, 2001).

In summary, the framework of Authentic Task Design (Herrington et al., 2003) facilitates the observation of the relationship between the teacher's belief about literacy learning and the children's behaviour as they completed their PIPs. The themes emerging from these observations and analysis allow for explication of the emerging grounded theory, allowing for a growing understanding of the role of computer-based technologies in literacy learning and teaching.

## ***Towards a Grounded Theory of the role of computer-based technologies in the teaching of writing***

Using the 'constant comparison method' (Glaser & Strauss, 1967) of data analysis enabled an examination of the interactive nature of children and their teacher working together within their classroom environment. Data were compared during analysis of the child case studies and emerging themes identified as *engaging in the literacy experiences, drawing on trusted sources and encountering tensions*. However, it became clear when examining the teacher's beliefs and practices that these three (3) themes operate within a broader context. Upon examining further the relationship between the teacher's responsibilities in designing learning experiences and the children's responsibilities in engaging in those learning experiences a grounded theory began to emerge that explains the role of computer-based technologies in the teaching of writing.

Analysis of the data led me to identify key themes that best represent the responsibilities for learners and teachers in planning, facilitating and engaging with authentic learning experiences for literacy learning. These responsibilities could serve as a consideration in selecting a framework for future research into the teacher's role in supporting literacy learning and the children's role in undertaking the learning opportunities on offer. In Figure 5.3, the responsibilities of both teacher and learner are grouped into three (3) major themes: the task, the process and managing the process. Following this figure is an explication of the emerging grounded theory in relation to the teacher, children and classroom experiences.

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**Figure 5.3 - Grounded theory of the role of computer-based technologies in the teaching of writing**

**Elements of authentic learning tasks** (Herrington  
et al., 2002)

An understanding of the grounded theory emerging from this study can guide the design and implementation of learning/teaching experiences, allowing teachers to provide opportunities that are appropriate for the ability and interests of individual children within the whole class environment. By acknowledging the responsibilities and abilities of the children, teachers are able to offer support that is neither too challenging nor too limiting as children use computer-based technologies in literacy learning. Each element of the grounded theory emerging from this study is now explored and considered from the perspective of teachers and children and the implications for classroom practice.

## **Task**

### **TEACHER**

It is the responsibility of teachers to set out with a clear rationale for requiring children to complete a task. A thorough understanding will allow the teacher to introduce to the children the purpose of the task and its intended audience, along with the skills and concepts to be developed and the methods of assessment so that all stakeholders are aware of these important criteria before the task begins. It is also necessary for teachers to consider the affordances that computer-based technologies may provide in supporting the literacy learning experiences rather than thinking of ways to 'do computers'. Teachers should plan to share with the children the authority to make decisions about certain aspects of the task, such as the topic to be studied or the method of learning that best suits each child in an effort to motivate children to complete meaningful tasks independently. (McCombs, 2000).

### **CHILD**

Children who participate in authentic learning experiences are required to attain a level of understanding of the task such that they can make informed decisions about the choices they are given. For example, in this study,

Shannon wanted to 'do iMovie' to present her work, however, as she worked through the tasks, she realised it was inappropriate for her presentation and identified PowerPoint as more suitable. It was only with deeper understanding of the task that she was able to make this decision.

Children are required to take risks with their learning in order to reach out to new skills and understandings. For example, Seth elected to work alone, despite the fact that he normally preferred working in partnership. He explained, 'if I have to rely on someone else each time I do this, I won't get better at it'. The risk resulted in success for Seth as he enthused, 'I found it really fun and better' (I 14.10.05)

#### THE CLASSROOM

The early establishment of expectations about purpose and audience can provide both children and teachers with an unambiguous appreciation of the task from the beginning, allowing each person to take responsibility for their learning as they engage in the learning experiences, possibly avoiding confusion and frustration later in the process. Providing children with choices within parameters allows teachers to meet curriculum and school requirements while encouraging children to recognise their preferred learning styles, to take risks and to direct their learning. However, providing these choices also challenges teachers to make 'superbly sensitive decisions' (Clay, 1993) about the needs of the children based on the in-depth knowledge the teacher has acquired through observation, assessment and analysis of their work.



#### *IMPLICATION FOR CLASSROOM PRACTICE*

*Children tend to select groups based on friendship rather than interest (although it is true to say that many friendships emerge from similar interests). For children to establish truly interest-based groups, a climate must be created where each child feels confident to select a topic of interest. For example, a private selection could be made through an online private journal to the teacher or through a written secret ballot. The teacher could then meet with each interest group to facilitate pairings or groupings from within that group. The result of this will not only allow for true groupings around interest, but may also open the children to the possibilities of new friendships previously unexplored.*

#### *RECOMMENDATION FOR FURTHER RESEARCH*

*Literacy learning has been described throughout the research as a social activity, requiring collaboration in order for meaningful connections to be made with the learning experiences. Further research about the place of collaboration would contribute to a grounded theory about the role of computer-based technologies in literacy learning.*

## **The Process**

### **TEACHER**

With a thorough understanding of the task and all its elements, teachers can provide scaffolding that would aid in completing facets of the task causing difficulty, allowing teachers to plan opportunities for explicit teaching in order to meet the learning needs of all children in the class. Teachers must be alert at this stage in the learning process to ensure that meaning making is at the centre of all learning experiences; although it is necessary to work at letter, word and sentence level throughout the text construction process, the purpose of working at these levels is to create whole texts, to make a meaningful message. It is a teacher's responsibility to bring the children to this understanding throughout the literacy learning experiences.

## CHILD

Where children are given the opportunity, they must take responsibility to direct their own learning. Tasks should be approached in an analytical frame of mind rather than with an acceptance that what is said at school is right. Through authentic learning tasks, children are challenged to think creatively and collaboratively to solve problems. This self-directed approach to learning can be challenging for some children. For example, in this study, Suzy, Jillian and Andrea were reluctant to make a decision about the relevance of any information they found throughout their research, rather they relied on their teacher and other adult figures to tell them what to think and do.

## THE CLASSROOM

Children are capable of harnessing power to different extents (Jonassen et al., 1999), challenging teachers to remain alert and make shifts with each individual child to work with them at an appropriately challenging level. This may require returning to and making modifications to the task or it may require carefully planned learning experiences specifically designed to focus on the confusions the children have demonstrated during observation and assessment.

### *IMPLICATION FOR CLASSROOM PRACTICE*

*It is not enough for teachers to set children to work and then respond to their needs as they present themselves (although teaching 'on the run' does hold a valid place in classrooms). A more proactive approach is required where analysis of a child's strengths and limitations is drawn from observation and formal assessment. This analysis can then be used to identify an appropriate focus so that explicit learning experiences can be designed for this child and others who present with similar needs.*

### *RECOMMENDATION FOR FURTHER RESEARCH*

*Further research about the types of teacher support provided to students as they work with computer-based technologies would contribute to a grounded theory about the role of these technologies in literacy learning.*

## **Managing the process**

### TEACHER

In managing the learning process, teachers must regularly assess children's skill development and depth of understanding using a variety of methods and then teach from the analysis of the assessment. The knowledge that teachers accrue through this analysis will allow them to make decisions that support learning throughout the completion of a project (or task). For example, the teacher in this study initially expected the children to complete the PIP alone, however, through observation and reflection, he modified his program so that he was available to guide the learning.

This study found that the individual stages in the writing process (Turbill, 1983; Walshe, 1981) were modified because of the impact of technology on text construction. The stages became less differentiated as the children moved back and forth between planning, writing and proof reading on the computer screen. Technology afforded these children the opportunity to draft, edit and publish on just one document. It is reasonable to suggest that without a good understanding of the writing process, a teacher would struggle to identify individual children's strengths and limitations in text construction when the stages in the process come together, and therefore experience difficulty identifying the learning that should occur next. Along with a thorough understanding of the writing process, teachers must understand the affordances that facilitate interaction between the learner and computer-based technologies (Gaver, 1991) and how these affordances can best support learning.

Opportunities for teachers to engage in professional learning and interaction with colleagues (such as the Good First Teaching and TEACHnology courses) allow teachers to deepen their understanding of the writing process and the impact computer-based technologies has on that process.

#### CHILD

In managing their learning, children must develop the habit of reflecting on learning; they should take opportunities to evaluate the styles of learning that best suit their needs, the learning gains they have made and what they consider should be investigated next. In identifying preferred learning contexts, children are also required to understand that learning is social in nature and that collaboration with others can be beneficial; identifying when collaboration is productive and when it is not will empower children to make good learning decisions. In this study, the girls working in a group of three were observed to be less productive than those who worked alone as there were many distractions between them that prevented progress on the PIP. Those who worked alone, however, were observed to seek collaboration with others at particular times throughout the PIP, but worked independently at other stages.

Taking responsibility for monitoring the meaning they are constructing as well as text conventions such as spelling and grammar will allow children to become more independent and motivated problem solvers. Children must also embrace opportunities to assess and make decisions about the information they read so that they can manage their own learning.

#### THE CLASSROOM

The teacher must carefully weigh up the purpose and benefit of the support structures they provide. For example, Mr Aloisi pre-selected Internet websites for the children to use for their research when answering their rich question.

This decision streamlined the searching process for the children; it allowed for quicker gathering of information for the PIP and protected them from inadvertently accessing inappropriate websites. However, it also prevented them from conducting searches that required them to analyse the validity and usefulness of a website in relation to their reading/writing purpose - a necessary task in the computer dominated workplace.

*IMPLICATIONS FOR CLASSROOM PRACTICE*

*A comprehensive understanding of the writing process and the affordances provided by computer-based technologies will enable the teacher to select tasks and manage the learning process appropriately for development of the skills required for text construction.*

*RECOMMENDATION FOR FURTHER RESEARCH*

*Further research about the types of tasks designed by teachers that reflect the real-world workplace would contribute to a grounded theory about the role of computer-based technologies in literacy learning.*

Teachers and children working together and reflecting on their teaching and learning create an environment that encourages active participation in authentic learning experiences. The key to developing in children the ability to be analytical, creative text users is that the making of meaning remains at the core of all learning. Making meaning cannot be overshadowed by 'doing computers' or by the letters, words and sentences that are required in the construction of whole texts.

## **Conclusions**

This study aimed to investigate the role of computer-based technologies in the teaching of writing in a Stage 2 classroom. Defining and describing the writing process as employed by the children as they completed a Personal

Interest Project (PIP) achieved this aim. The process they engaged with was examined as they combined traditional skills and strategies with the new literacies emerging from computer-based technologies to construct texts.

The role of computer-based technologies in literacy learning is integral to, but just one part of literacy learning. Incorporation of computer-based technologies into daily literacy instruction causes tension and concern for many classroom teachers and attracts debate in the media, academic and political arenas; some are concerned that the development of fundamental reading and writing skills will suffer in the presence of computer-based technologies in classrooms, while others argue that the ability to read and write is more important than ever before as learners have access to more information than ever before (Harste, 2003; Leu, 2000).

An integrated role for computer-based technologies into literacy experiences requires teachers to be aware of the purpose of the tasks they design and how the children's learning will be assessed. Specifically, the teacher must understand the writing process and how it is affected by the integration of computer-based technologies into the process. The teacher must also understand the affordances of computer-based technologies that provide children with opportunities to create texts using a combination of traditional and new literacies.

This study was conducted in one Year 4 classroom, focusing on seven (7) children (four cases) within this class. It was not the intention of this study to conduct an exhaustive investigation into the role of computer-based technologies in writing teaching across primary schools or classrooms. Instead, this study attempted to understand the decisions and processes that one (1) teacher and seven (7) children of different abilities in Year 4 engaged with when using computer-based technologies to meet their literacy needs. The findings of this study have indicated the need for further research into this role in order to

develop an understanding of the pedagogical implications of integrating computer-based technologies into literacy experiences.

The study presents two (2) key implications for teachers and researchers to consider. It identifies and explores the relationship between the issues that the classroom teacher and Year 4 children faced when computer-based technologies were integrated into daily literacy experiences as children constructed informative texts. Secondly, the results of the study challenge teachers to employ computer-based technologies in authentic and beneficial roles that engage children in tasks that prepare them for the collaborative, highly digitised nature of the workplace of the twenty first century.

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# Appendices

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## ***Appendix A - Audit Trail***

<b>DATE</b>	<b>DATA COLLECTED</b>	<b>ASSIGNED CODE</b>
29 <sup>th</sup> July 2005	Semi-structured interview - Mr Aloisi	<b>SSI 29.7.05</b>
	Collection of teacher's literacy teaching program	<b>TP 29.7.05</b>
	Collection of myclasses resource PIP page and project outline	<b>PP 29.7.05</b>
9 <sup>th</sup> August 2005	Classroom Observations - Whole class - Mr Aloisi	<b>CO 9.8.05</b>
17 <sup>th</sup> August 2005	Classroom Observations - Whole class - Mr Aloisi	<b>CO 17.8.05</b>
	Unstructured interview - Mr Aloisi	<b>UI 17.8.05</b>
23 <sup>rd</sup> August 2005	Semi-structured interview - Seth	<b>SSI 23.8.05</b>
	Semi-structured interview - Shannon	<b>SSI 23.8.05</b>
	Classroom Observations - Seth - Shannon - Mr Aloisi	<b>CO 23.8.05</b>
	Collection of work samples - Seth - Shannon	<b>WS 23.8.05</b>
	Video footage	<b>V 23.8.05</b>
30 <sup>th</sup> August 2005	Semi-structured interview - Jillian, Andrea and Suzy	<b>SSI 30.8.05</b>
	Classroom Observations - Seth - Shannon - Jillian, Andrea and Suzy - Mr Aloisi	<b>CO 30.8.05</b>
	Collection of Work Samples - Jillian, Andrea and Suzy	<b>WS 30.8.05</b>
	Video footage	<b>V 30.8.05</b>
	Collect citing sources page (Appendix D)	<b>A 30.8.05</b>
6 <sup>th</sup> September 2005	Classroom Observations - Seth - Shannon - Jillian, Andrea and Suzy	<b>CO 6.9.05</b>

	- Mr Aloisi	
	Video footage	<b>V 6.9.05</b>
13 <sup>th</sup> September 2005	Semi-structured interview - Phil & Mark	<b>SSI 13.9.05</b>
	Classroom Observations - Seth - Phil and Mark - Mr Aloisi	<b>CO 13.9.05</b>
	Collection of Work Samples - Phil and Mark	<b>WS 13.9.05</b>
	Video footage	<b>V 13.9.05</b>
14 <sup>th</sup> September 2005	Classroom Observations - Phil and Mark	<b>CO 14.9.05</b>
	Video footage	<b>V 14.9.05</b>
20 <sup>th</sup> September 2005	Classroom Observations - Shannon - Jillian, Andrea and Suzy - Mr Aloisi	<b>CO 20.9.05</b>
14 <sup>th</sup> October 2005	Classroom Observations - Seth - Shannon - Jillian, Andrea and Suzy - Phil and Mark - Mr Aloisi	<b>CO 14.10.05</b>
	Semi-structured interview - Seth - Shannon - Jillian, Andrea and Suzy - Phil and Mark - Mr Aloisi	<b>SSI 14.10.05</b>
	Collection of published work - Seth - Shannon - Jillian, Andrea and Suzy - Phil and Mark	<b>PW 14.10.05</b>
	Video footage	<b>V 14.10.05</b>
9 <sup>th</sup> November 2005	Interview Director of Schools, Diocese of Wollongong (Appendix B)	<b>I 9.11.05</b>
	Agenda 2005. Initiatives of the Diocese of Wollongong System of Schools for 2005 (Appendix E)	<b>A 9.11.05</b>
	Interview of class teacher	<b>I 21.11.05</b>



21 <sup>st</sup> November 2005	(via email)	
	Good First Teaching handbook and TEACHnology guidelines (Appendices G, H)	<b>A 21.11.05</b>

## ***Appendix B - Semi structured interview***

### BEGINNING INTERVIEW WITH STUDENTS - GUIDING QUESTIONS

1. Tell me about the things you like to do at school and at home.
2. What are the things you don't like doing? Why?
3. Tell me about your family and what you like to do on weekends.
4. Tell me about the topic you have chosen and how you plan to research the answers. (Investigate why they have chosen these methods)
5. What are the difficulties you think you will have? What do you think will be easy? Why?
6. Tell me about your plan for presenting this work to the class.
7. Will using the computers make your work harder/easier/different? How and why?

### CULMINATING INTERVIEW WITH STUDENTS - GUIDING QUESTIONS

1. Can you tell me how you did this? What did you do first (etc.).
2. What was useful when you were researching the information?
3. What was useful when you were organising your presentation?
4. What do you think your audience learned from your presentation?
5. How is reading and writing using the Internet and programmes like Word and PowerPoint different from other ways of reading and writing?
6. What were some difficulties you had during this PIP project? And how did you overcome them?
7. What new things have you learned about reading and writing using computers? (Trying to get comments about the mechanics of the computer, but also composition of text and decisions they made around this).
8. Did working with others help you in your research about \_\_\_\_\_?
9. What was hard about working with a partner?
10. What things are you thinking about for the next time you have an opportunity to write using computers?

## ***Appendix C - Personal Interest Project***

**Name:** \_\_\_\_\_

Follow the steps below to complete your Personal Interest Project.

**1.** Complete the KWL chart below for your topic. (Only complete the **K** and **W** now!!!)

Topic: \_\_\_\_\_

### **KWL CHART**

<b>K</b> What do I know?	<b>W</b> What do I want to learn? (Why? When? Where? What? And How?)	<b>L</b> What did I learn?

**2.** Where will you find the information you need?

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**3.** Use the resources below to begin your project. Remember to use a variety of resources to help you find your information.

1. Internet
2. Encyclopaedia

3. Books
4. Newspapers
5. Magazines
6. People and companies related to your topic
7. Resources provided by your teacher.

4. Collect your information and organise it under main headings. To help you with your headings, remember to go back to the questions you wrote in your KWL chart - **What do I want to learn?**

You may need to summarise or expand some of your information.

You may like to include in your project maps, samples, photographs and diagrams as well as written reports.

5. Think about the following questions as you complete your project.

- Have I included enough information?
- Is the information organised properly under each heading?
- If I used diagrams or photographs, are they clearly labelled?
- Have I checked my punctuation and spelling?

6. Your project is to be presented using technology.

You may choose to use

- PowerPoint
- i-movie
- Dreamweaver
- Inspiration
- Microsoft Word
- Garage Band
- Apple Works

## Appendix D - Citations Worksheet

### Print Encyclopedia:

Author (last name, first name) if given.	"Article Title."	Title of Encyclopedia.	Edition year.
			ed.
			ed.
			ed.

### Electronic Encyclopedia on CD ROM:

"Article Title."	Title of Encyclopedia.	Source.	Publisher.	Year.
		CD-ROM		

### Encyclopedia Article on the Web:

Author(s).	"Article Title."	Title of Encyclopedia.	Date accessed	<URL>.

### Book:

Author(s).	Title of Book.	City:	Publisher.	Year.

### Reference Book:

Author(s) or Editor(s).	"Chapter."	Title of Reference Book.	City:	Publisher.	Year.

Created by JoAnn Klassen, Media Specialist, Cedaroak Park Elementary School, West Linn, Oregon; modified for OSLIS (<http://www.oslis.k12.or.us/elementary/howto/cited/>) 26 Apr 2003

### Periodical (Magazines & Newspapers)

Author(s).	"Title of Article."	Title of Periodical.	Date of Periodical:	Pages.

### Magazine Article or Reference Book on the Web:

Author(s).	"Title of Article."	Original Source of Article.	Date of Original Source:	Pages.	Database Title.	Service Provider.	Date accessed	<URL of Article>.

### Web Page:

Author(s).	Title.	Name of Institution or Organization,	Date accessed	<URL>.

### Interview

Name of person interviewed.	Kind of interview (Personal, Telephone).	Date of interview.

### Video/DVD

Title.	Medium (Videocassette or DVD)	Distributor.	Year of Release

Created by JoAnn Klassen, Media Specialist, Cedaroak Park Elementary School, West Linn, Oregon; modified for OSLIS (<http://www.oslis.k12.or.us/elementary/howto/cited/>) 26 Apr 2003

## ***Appendix E - Diocesan Agenda***

## Agenda 2005

### Director of Schools Message

I present to your school community Agenda 2005, a series of Priorities, Focus Areas and System Initiatives for the Catholic System of Schools within the Diocese of Wollongong. These have been the subject of planning and refinement with School Leadership Teams throughout 2004.

The five Priority Areas are a reflection of other Catholic Education Office Strategic Planning including School Renewal Plans and School Annual Reports.

Each school must integrate and adapt its own initiatives and plans for its unique community. At the same time, these priorities and initiatives help to explain our shared responsibility to each other to provide the best quality Catholic Learning and Teaching to those entrusted to our care.

By planning within this framework we jointly develop in our schools a culture shaped by the Gospel of Jesus so that they are living Christian communities.

Gregory B Whitby  
Director of Schools  
Diocese of Wollongong

### PRIORITY

## 1

## Catholic Identity

### Focus Areas & Initiatives

#### 1.1 Develop closer Links to Parish and Wider Church Communities

- 1.1.1 Review the authenticity of Catholic schooling in terms of the evangelizing mission of the Church
- 1.1.2 Support the Diocesan participation in World Youth Day
- 1.1.3 Provide professional development in liturgy in collaboration with the Diocesan Liturgical Commission
- 1.1.4 Develop guidelines for fundraising and the support of Catholic charities and agencies
- 1.1.5 Promote involvement of Schools in supporting the year of the Eucharist

#### 1.2 Be Better Informed about Catholic Social Teaching and speak out on contemporary Social Justice Issues

- 1.2.1 Provide professional development on ecology and earth stewardship
- 1.2.2 Implement the East Timor Project in collaboration with the dioceses of Parramatta and Broken Bay
- 1.2.3 Provide schools with ongoing quality information regarding contemporary issues of social concern
- 1.2.4 Develop greater understanding of local indigenous spirituality and culture

#### 1.3 Develop and Implement Religious Education Curricula that integrate faith and life

- 1.3.1 Develop the new K-2 Religious Education Curriculum in collaboration with the dioceses of Sydney, Armidale and Lismore
- 1.3.2 Implement the Religious Literacy Assessment for Year 4 students
- 1.3.3 Begin reviewing the 11-12 Religious Education curriculum

#### 1.4 Celebrate being Catholic in Australia today

- 1.4.1 Provide liturgical support for the NSW Catholic Principal's Association Conference
- 1.4.2 Investigate the amending of all school names to include the word "Catholic"
- 1.4.3 Develop "Class Act" to incorporate an explicitly Catholic theme

#### 1.5 Provide Staff Spiritual Formation

- 1.5.1 Conduct a review of the spiritual formation programs Berakah, Bethsaida and Journey
- 1.5.2 Trial a spiritual animation program for targeted schools
- 1.5.3 Support individual schools in developing spiritual formation plans for their staff

## PRIORITY 2 Learning & Teaching *Focus Areas & Initiatives*

### 2.1 Build Learning Edge Pedagogy

- 2.1.1 Design and develop professional development that integrates early literacy and numeracy support
- 2.1.2 Implement the Diocesan Assessment and Reporting Policy Statement
- 2.1.3 Support schools with the implementation of outcomes-based curriculum integration
- 2.1.4 Identify professional development and strategies that promote the widespread use of myinternet and myclasses as tools to support learning in a digital age
- 2.1.5 Enhance teachers' skills in differentiating curriculum delivery to ensure the effective learning of special needs students in mainstream classes
- 2.1.6 Develop teachers' skills in differentiating curriculum delivery and designing programs to meet the needs of gifted students
- 2.1.7 Support schools in the identification of areas where they may undertake a school-based learning community project to improve student outcomes
- 2.1.8 Develop new models of schooling to be implemented in Corpus Christi Catholic High School, Oak Flats

### 2.2 Implement a Contemporary Curriculum

- 2.2.1 Provide professional development initiatives for schools that support the literacy and numeracy needs of students, including PWA and SNAP marking and TESOL
- 2.2.2 Develop quality outcomes-based programming practices that meet the individual needs of students
- 2.2.3 Deliver professional development activities that support schools with the effective incorporation of Information and Communication Technologies
- 2.2.4 Design professional development that supports aspects of the new syllabuses, including Life Skills outcomes
- 2.2.5 Support schools with the delivery of diversified learning experiences that address cross-curriculum content

### 2.3 Develop the whole person

- 2.3.1 Implement new Pastoral Care Guidelines that encompass our Catholic world view, create safe and supportive school environments and provide strategies for managing difficult students
- 2.3.2 Develop strategies to assist with the integration of social, physical and emotional literacies into teaching and learning practices
- 2.3.3 Use Goalview as a planning and accountability tool for Individual Education Programs (Special Needs)
- 2.3.4 Increase opportunities for students in Creative and Performing Arts, and Sport

## PRIORITY 3 Pastoral Care *Focus Areas & Initiatives*

### 3.1 Ensure that all approaches to Pastoral Care explicitly focus on the dignity of the individual human person and the common good for all

- 3.1.1 Support schools with Transition of Students P-K and 6-7
- 3.1.2 Develop Behaviour Management Programs and Strategies with a focus on Restorative Justice principles

### 3.2 Develop Stronger Links with Community Agencies

- 3.2.1 Continue commitment to improving parent/school relationships
- 3.2.2 Develop communication with State and Federal Politicians

### 3.3 Support schools as they respond to Contemporary Social Issues

- 3.3.1 Implement Case Management plans for individual students with behavioural problems
- 3.3.2 Use Diocesan Pastoral Care Policy & Guidelines to assist in the development of pastoral responses
- 3.3.3 Develop strategies to support students with mental health issues
- 3.3.4 Develop strategies and programs to improve student resilience



## **Appendix F -**

### ***Interview with the Diocesan Director***

#### **PURPOSE**

My data emerges from one of our Diocesan schools and I feel that the Director's knowledge of the Diocesan history and future directions would contribute to a rich picture of the classroom experiences of our children. I am interested in gaining a better understanding of the Catholic Education policies that have shaped the development and use of computer-based technologies in our schools.

#### **POSSIBLE QUESTIONS**

- o How does the Diocese cater for the learning needs of students in the 21<sup>st</sup> century?
- o What has been the focus for classroom teachers' professional growth in developing pedagogy for the integration of computer-based technologies in classroom learning and teaching?
- o How have schools been supported to embrace new technologies in order to support the learning needs of our students?
- o How has the Catholic Education Office assisted the different 'services' (e.g. education services, employment services) to utilise computer-based technologies in their educator roles?
- o In terms of computer-based technologies, what do you believe are the major achievements for Wollongong Diocesan schools in the digital age?

ME ...I've been working in the classroom collecting data about how children are using information and communication technologies as part of their literacy learning and I was interested in talking to you to get a wider perspective of what the diocesan initiatives have been that have impacted on these children and also on the teachers because the professional development that they've had will obviously have developed their pedagogy and therefore their practice as well.

MRW Right. OK the um I'll try to give you the short answer, Jessica. We've been embarked for nearly 7 years now on trying to do something about improving the learning outcomes for these kids. This is not a technology issue. The issue has been how do we improve the educational outcomes for every child who is receiving a schooling experience in the digital age? And those 3 things are important;

1. improving the outcomes
2. for schooling
3. in the digital age

The first one is that the role of kids coming is that there has to be some value added. So they have to learn something. No if you want to call it learning something or value adding, I'm happy, I don't want to get into the jargon. There has to be some demonstrable, you have to be able to see for a child spending a year in Kindergarten that they have learned something. In business you would say there has been value add. So that's the first part of it. So we've spent a lot of time asking ourselves a range of questions around what that means. The 2<sup>nd</sup> thing then is the schooling experience is where that learning takes place. So what is quality schooling, what is good schooling? And what's that mean? And that means we have to have places that are actually in sync with what it is to live in the digital age at this time in Australia. It means that we need a workforce, a staff who are the best prepared to harness all the resources that we have to bring to bear to provide the schooling experience which will then improve the learning outcomes. And the last bit, the digital age is the recognition that we have to locate this whole enterprise, this whole process with an understanding of what the world is that these kids actually inhabit. These kids are vastly different now in terms of their learning experience because what's happened to our world. It's become more connected and we've had a continual rush of convergence of all our technologies. Our kids are much more digitally literate than they have

ever been. In fact that has effected their capacity to learn and learning how they learn. Um they still remain kids in that generic sense, but, you know, it's a recognition that schooling in the digital age is very demanding. So in each of those areas I could respond to the ICT initiative.

So in the first one, obviously teachers. We have a range of tools in place that will support the work of teachers. There are structures that we can do in schools around pedagogy around teacher professional development and then it's recognising that the digital environment and integrating the while lot in a learning experience. So its NOT an ICT issue this is a very sophisticated approach to responding to ICT. Where we've had high cost and high failure in approaching the issue that used to be 'computers in school' it used to be 'IT in school' then it became ICT in schools and it was how do you buy 'em? How do you manage them in schools? Alright? It was never what do they actually add to the learning process? OK?

ME Yes.

MRW So we've said no what do we want the kids to be able to do? What is good learning and teaching? That is the starting point and that tells us learning is a relational process that involves teachers with a range of learning styles engaging with kids. Putting kids at the centre of the process. They taking responsibility for their own learning and teachers having the necessary tools to do this. So we value very highly a full range of learning experiences for kids that both use technology, use paper and pen, use narrative, use stories, use colour and all those things. This is not about using technology to replace teachers. It becomes one other tool in the arsenal of the teacher. Um. Good teachers have always used technology. When they first invented chalk, there's no doubt that the first teachers said this is a great technology and sat the kids down and made them copy everything down from the board. That was poor teaching! It wasn't the fault of the chalk it was the fault of the teacher. The good teacher said I can use some of this sometimes I can get the kids to do this and this. So it's exactly the same thing.

We've also said that within our planning process and that document there speaks to this [the agenda 2005] we have a sophisticated approach to improving our literacy and numeracy because we think they are core issues in the development of our students in our schools. We have a great focus, a specific focus on early intervention, getting kids underway, we have early intervention programs like Reading Recovery and Good First Teaching. With a specific view that kids that get good starts in schooling are more likely to be successful later in school. And the research and the literature tells us that the longer you leave them, the further the gap becomes, the more difficult it is to try and remediate or improve their learning outcomes.

MRW So we have all that in place and then we designed all that in place and then we designed a network that harnessed these technologies to put on the hands of teachers. Does that make sense?

ME It does make sense and I think it is drawing a lot on the research that I've been reading saying that the fundamental literacy skills are more important than ever before

MRW Oh, yes!

ME because of that need to be able to read faster, and better and critically

MRW and more critically.

ME yes

MRW the irony of the Internet and the irony of ICT technology is that never before have we needed better teaching and better trained teachers. Because the floodgates have accessed us to information is not learning. Um it's somewhat akin to putting someone in a library without any of the codes on them and saying now I want you to write me an essay on the reformation in the 16<sup>th</sup> century. You can wander around looking for a book and it might be a picture book, you know, but you might need another book. I'm using a high school example, but primary school examples are exactly the same.

ME Yes

MRW so you need teachers who have great skill sets. So we need then virtual learning environments. That's why we have a virtual private network where teachers can the share their work because individual teachers can't do it on their own. They need to work with their colleagues and they need to build up repositories that teachers have designed that builds our expert base that builds our expert system. That's ultimately what castnet's going to do for us. It connects our schools, it's got learning management systems and all that. It helps out fantastically, but the real power of castnet is actually going to be in its next generation as we build the teacher repository where we share the work and it will become an integral process where we are improving the capabilities of the staff, the teachers to craft the learning experiences for their kids.

ME and do you find the castnet as we have it not with the myclasses, mydesktop and mymail do you find that there's much collaboration between teachers with teaching that they have designed?

MRW Jessica, I am amazed and as somebody who's responsibility for all the staff in this. If you'd asked me 4 years ago if we'd be this far advanced I would have said no. It has literally taken off in the last 18 months. As you know this started with our just 30,35 schools. Not 3 years ago we had 35 schools. By the end of 2005 we'll have just over 350 by mid next year we'll have 430. Committed and signed on and we're in negotiations with others. So it has just exploded in terms of size and capacity. And that's because um what our um what castnet offers is proving to be very liberating, very innovative in answering the needs of the schooling experience and those 3 domains that ii outlined earlier. What actually happens is I don't get hung up on the proprietary software that runs it. We have to have software, obviously, there's myinternet and myclasses, um um and mymail and myportfolio that we're looking at, but the issue for us is, and that's why we need to go back to the fundamentals, the issue in designing the network and giving ICT capabilities for teachers was. How do good teachers make decisions about learning? So we designed the network from that so why we chose myinternet is that it puts control of the network, the learning tools in the hands of the individual teachers. You can get systems, I don't know if you're familiar with things like ... technology right? You can use the Microsoft suite of products where we can lock everything down. We could control it from this desk, Jessica you can do this and only this, right?

ME Yes

MRW and we could run it centrally, we are not interested in that because actually the teachers are the ones, I'm not the one who delivers it, the teachers are, so we said, we've got to give the tools to the teachers. So the teachers with our network have great capacity. You can make decisions. You can work out who goes here and who goes there, who has access to the net and who doesn't. you can design your own pages to meet your own needs you can design your own... you can propulate your desktop with your own properties. We don't say they're your only properties. Now what's happening is, teachers actually like that and they're doing very different things and then they share these things and they start to share and you get a fast breeder, people say, well I like that but have you thought about this? So the design of the network was never around the software it was around what we wanted to do then we went in search of the soft ware then we used our resource base to deliver that and then we said to the software people, now you've got a good product here, but you need to listen to us. So we're in a partnership with them now, them listening to us and we're now big enough that they will listen to us. And we're moving forward, but we've positioned our network so that if they don't deliver we can find the products that are emerging and our yardstick will always be, How is the teacher empowered not what's the best solution that we can control? And our learning management systems is very different to say, Microsoft, I don't want to pick on Microsoft, but an applications driven solution, we don't believe is good learning. Good learning is the teacher using their professional expertise, working with the kids that they know, creating learning experiences which are meaningful

relevant and timely for the kids in their class and putting the kids in their class in control of their learning.

ME One reflection I've made on watching teachers and from working with them in the diocese in the last 10 years, is watching the way the teacher education has changed. It's coming around, I think, more of what we would do with our students. We know our students are learning in a social way, they collaborate and they use each others for ideas and it seems to me we've adopted that for the staff as well.

MRW Yes. And that's been deliberate. You asked the question and I didn't answer it directly about teacher professional development. We've shifted our whole professional development model in the process of doing this for a very obvious reason, but the old model under the old model of schooling was that the system designed courses that we thought was good for teachers. You know, we have a technology course, you need to know about technology, come out and we'll show you. So they'd come out for the day. And if they learned something in those courses, then that was good, but I'm not sure they always did. But then you go back to school and you didn't have the hardware or the time or whatever..

ME Or you forgot one important step!

MRW Yes, and then of course, in 2 or 3 days, it's gone. Now that costs a lot of money. We've shifted now, but the first thing we've done is shift the infrastructure, so when you're going to talk about learning management systems and ICT you have to have the tools in the school. And you have to have connectivity. You can't talk about converging technologies and not have the tools in the schools. So we've got all that. Then we said, taking up your point, the teachers learn in a sense, we all learn the same way, let's try and build, we have,...what's the name? the grants to schools..

ME Learning communities?

MRW Yes, learning communities grants. Rather than running them through these courses, we say, we've got the money that we normally spend here, we've got this big bowl of money, if you like, it's not as big as we'd like, but it's a big bowl. Come up with something you'd like to do that would add value and help you do better what you do in the classroom and that's been spectacularly successful. And we've come up with a range of innovative things and teachers have actually carried out their professional development on the job, so to speak. We brought that fellow from the united states here to Australia, a month ago, he's the California teacher of the year and the guru of technology on certainly the West coast of the states and we didn't bring him into the office and say come and listen we put him in schools to work with teachers and that was spectacularly successful because he was able to work in real life situations with the kids and develop the products. And that was, just a mind-blowing experience for all the teachers that were involved. I wish we had 10 of him so we could let everyone have the experience.

ME Yes, I think that's an issue too isn't in that the learning communities were great in whatever the focus was for that school, the teacher was able to work with other teachers and build a real rapport with people and make great change. How do you cope, how do you make those experiences available to schools that don't have that expertise on staff?

MRW Well, it's like a ripple, you can use whatever metaphor you like, but you've got to drop the pebble in the pond and the ripples go out. We do not have the resources and even if we did have the resources you could never apply them because it's a matter of readiness. People are coming to it we are seeing that those that were ready are moving out and influencing others and what we'll look back in 3 years time and see how far we've come and there are always going to be pockets of resistance. But there are no excuses anymore, like you can't say I can't get connected. You can't say that we don't have a managed system of communication. So we're taking away the capacity to hide we're taking the money that used to be provided centrally and decisions made centrally and putting it back with the schools and saying you make the decision. That's the rightful it should be and I understand that we're actually turning the system on its head because people are not used to that. But the issue is this is why there is a coherence with what I

said to you at the beginning this is why I always start with the learning, the schooling and the digital age is because teachers, the metaphor's exactly the same, for converging technologies, teachers only get better by sharing their practice. The old days, when I started teaching I was given my timetable, I wasn't asked I was just given my timetable I was sent into a classroom and shut the door and nobody came near me. The person who was supposed to be supervising at the end of the week said how did your first week go? Oh good, I said. That's good, he said, you'll be right, off you go!

ME Keep going! (laugh)

MRW (agrees, laughing) Keep going! Now I didn't talk to any of my colleagues. I might have said, gee I've got a bastard of a kid in my class but I didn't talk about how I was doing things. I had no one come in and look at my teaching and I was judged a good teacher, mainly because, the kids were quiet and we seemed to get things done. I mean I couldn't even remember some of my exam results even if you wanted to look at those, but that's those days./ those days have gone. And so it's the connecting, we've got to connect the teachers, that's the point I'm making. You can't have what we're doing and then say what we're saying about learning is a relational process, and the need for teachers to be learners and then not connect teachers either. Just giving them an email address or access the internet is not the answer either.

ME No, it's not enough

MRW It's not enough. So that's our job, the system, to make sure all those things are in place. And we're finding a classic example, if you want proof that it works, you know our new school at Oak Flats, it's so remarkably different. And people said to me when we started, where are you going to get the teachers? It's so different, this is s secondary schools without walls. No subject base, so you're no appointed to the English department or the maths department. You're appointed to work in a learning team. The kids are not in cohort grades like year 7,8,9. The kids will work in learning teas. They will go through their secondary school experience with a learning team. They won't have Miss Jessica for this and Mr Whitby for that, right, for that subject. They'll work through the learning teams. There will be a full technology base. The kids will have their own laptops, the teachers will have their own laptops. Alright now, they said where will you get the teachers? We were beating them off with a stick! We met the teachers on Monday and the one thing they said was we are so looking forward to the excitement of being able to build something and we had an honest discussion I said I can't take you to another school and show you, I wish I could, but maybe that would do some damage. I said I understand you would like to know that it does work, but I said you know in your heart that it's going to work and they all said yes. They're looking forward to it. And we had over 200 people come to the information meeting. We've even got primary teachers interested.

ME Yes! Which is great too because they are the people who truly know how to integrate a program because they've been doing it since the beginning of their career.

MRW Don't say that to your secondary school colleagues, but you're right.

ME The research from the teacher that I've been working with has experienced quite some tension between what he knows these children need for the digital age and for the workforce that they will serve in the future and the mandatory government outcomes that we have. How does that impact at [the newly constructed high school in the diocese]?

MRW Our computer assessment tests that kids do in year 6. Our results, you know they have the state's? Our results on every one of those graphs are off the Richter scale. We're not just above by that much, we're that much. Now we do not teach across our schools email, applications, word, whatever, we don't sit down and say this is what email is. It's integrated, it's a fully integrated learning management system. So what happens is by osmosis and by using it, the kids have mastered it. So what happens is, when they come to sit the standardised test on it, they just bloody blow it out of the water. I just say this to you, Jessica. Any good teaching will make sure that any kid can pass any standardised test.



ME I wasn't really talking about the standardised test, though, I was speaking of the syllabus outcomes that are mandatory to work towards. Say the HSIE outcomes, for example. How will children working outside this traditional grouping of grades work toward traditional mandatory outcomes?

MRW I can show you. We've got the, we've done this at [the newly constructed high school], all the syllabus outcomes have been mapped into the integrated units of work.

ME Oh all the planning has been done?

MRW Yeah, they're called CLEs, Collaborative Learning Experiences or something. What they've done is mapped, they've worked with the BOS and they've developed the rich questions, fertile tasks, whatever, it's around a real life experience of a major project that is contextualised. Then they've mapped all the outcomes and we now have the technology in place to do all this, it's a huge job. They have already mapped all those and had them checked and they can delete and add to, they can add their own. It's just a change in work practice. And this comes back to the point I made before, the power of cast network will be sharing the resources. These people are working from scratch, but over time you and all teachers will be able to share in that experience. Which is not to say oh there's a CLE and I can use it, you can say well look at that, those learning outcomes don't apply to what I'm trying to achieve, but I can delete these and drop these ones in and then map them and then you can assess and report on them.

ME That's very exciting, isn't it because the research shows that teachers are feeling a real tension between knowing that critical literacy has to be there, but there's this big thick syllabus document for each KLA.

MRW Look, it's a mindset for people to get around. We had this with the BOS and we sat down with them. Our experts said you can't do it, it can't be done. What can't be done is now doable.

ME Well people are in a mind shift, we really are moving into a new paradigm and that's what is leaving people feeling a lot of pressure.

MRW Yeah and I have people say to me about the testing and the outcomes and the further you go on to the HSC it becomes more specific and there's much more content. That's what they mean. Good teaching always intended content was taught. So if you have good teaching, don't worry about the tests! And it's a perversion already to teach to the test because you can't teach to the basic skills test anyway because it's aspects of literacy and numeracy. And if they've [teachers] done well, then the kids do well. We're finding a continued upward trend even with all our investment in technology and the different things that are happening in our schools. We're not seeing them crash, all our data is telling us they are continuing to improve and it's at an exponential rate.

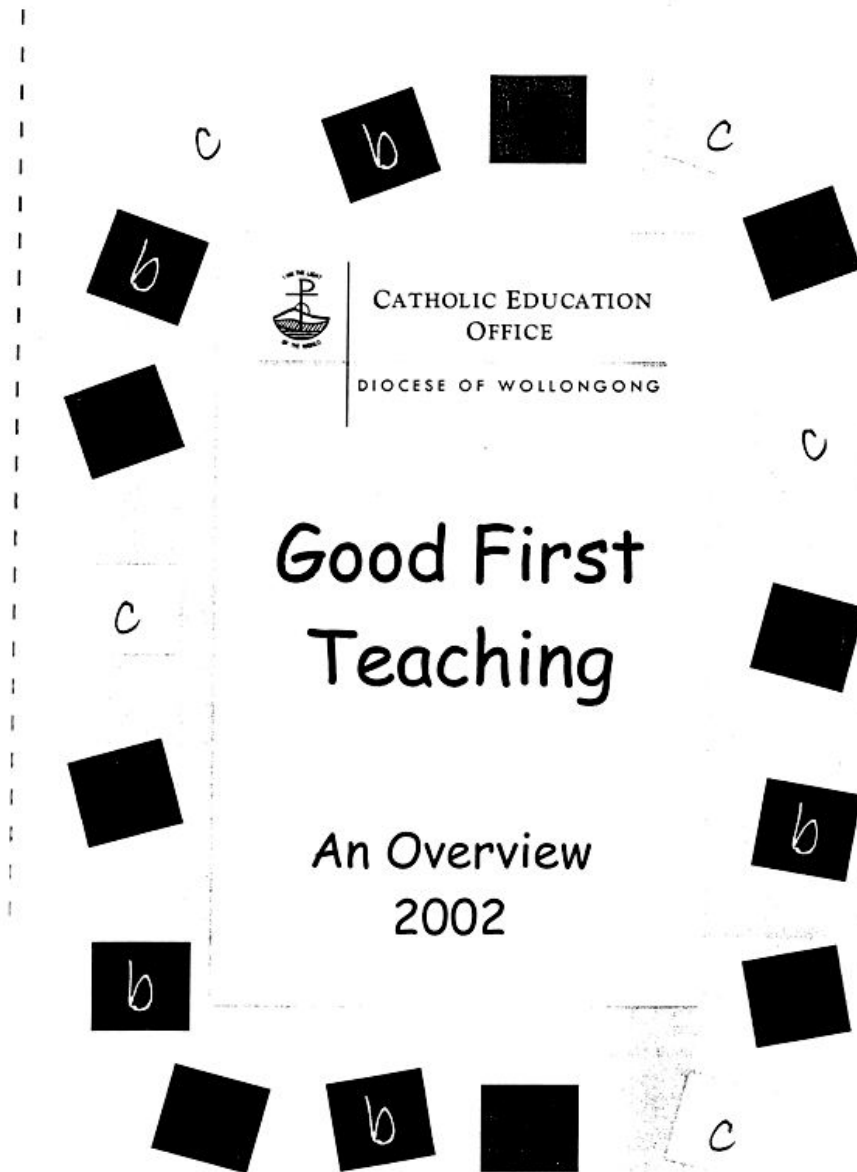
ME And finally, because I'm conscious of the time. Do you think that that's because they are forced to read more quickly and write more quickly due to the Internet and other digital technologies.

MRW Look, I don't know that I could answer that. I will answer it, but I don't know that I could prove it, yeah, it's an opinion. The kids, the 3<sup>rd</sup> answer, about the digital natives, if you like, they absorb so much. They're digitally literate in so many different ways. The depth of that literacy I don't know but certainly I would say that the capacity to absorb, you only have to look at the growth of text messaging and how they've really crafted a new language. They have the basic language skills. Whether they're right or wrong, those debates are going to rage. The point I'd be making, though is that in every learning experience in any year or cohort if you don't have a range of experiences for kids to improve their gross motor skills through writing, reading, giving kids time to sit down on a beanbag for the pleasure of reading. To insist that reading is important and reading and writing are fundamental to literacy and it doesn't matter if it's digital or not. No amount of technology is going to help it. Technology is just an aid of helping in that process. The power of a lot of the technologies we have at the moment come, I think, particularly in the areas of allowing kids to share and celebrate and publish their work and that I think we're seeing a lot of benefit of

kids even in self esteem in their capacity to become publishers themselves. Now that's what I would argue, but to prove that empirically is another thing. But it's quite clear from the schools that I could take you into and see the kids and I go in and sit down with the kids and I work with them they're as literate and numerate as the classes that don't [have computers]. Now whether it's down to the technology or not I don't know. We are certainly seeing much more engaged learning and we're seeing more kids. I hope you appreciate the subtlety of the first thing I said. It's about improving the outcomes for ALL children, right, all, it's not for the gifted and talented, it's not for the disabled, it's not for that. It is a commitment for all kids and the technologies are certainly helping for the kids who have been marginalised out of the mainstream, now they can be gifted, they can have learning difficulties, but they have been marginalised from the learning process because we've been delivering the one size fits all, you either take it this way or you've got a problem. this way says you don't have a problem, we can improve your outcome no matter how capable you are.

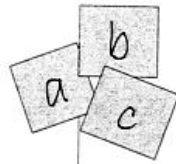
***Appendix G -***

***Good First Teaching Overview***





# GOOD FIRST TEACHING



## Background

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The *Good First Teaching* course was developed by the Wollongong Catholic Education Office in 1999 as one component in a systematic approach to improving literacy teaching and students' literacy outcomes in diocesan primary schools. Its creation and implementation has taken place in the context of a renewed national and international focus on early literacy as a pre-eminent concern of primary schools (*Australian Language and Literacy Policy* 1991; *The Literacy Challenge* 1993, *The National School English Literacy Survey* 1997; *Literacy for All: The Challenge for Australian Schools* 1998; *National Literacy and Numeracy Plan* 1998).

The original course was designed for teachers of kindergarten, and their support staff. It was intended to complement the Reading Recovery programs that were introduced to diocesan primary schools in 1994. In 2000 *Good First Teaching* was expanded and an additional course for Year 1 teachers was written and delivered. A pilot program for teachers of Year 2 was developed and implemented during 2001. Consequently, *Good First Teaching* is now available to teachers of kindergarten, year 1, and year 2. In addition, the first 'Refresher' course for the 1999 cohort will be conducted during 2002.



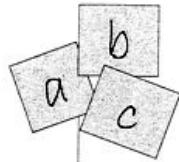
## Design Elements

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*The Good First Teaching course has the following features:*

- System based professional development
- An articulated set of beliefs that underpin the course
- Long term professional development that encourages participants to practise and reflect on their beliefs and understandings about literacy learning
- Professional reading
- Demonstration and group analysis of teaching approaches using video tapes and colleague visits
- Networking with colleagues from other schools in order to gain a broader perspective of educational issues
- School based support provided by diocesan literacy support personnel, school executive and school Reading Recovery teachers
- Assessment and monitoring of student outcomes using the *Early Literacy Assessment* package developed by the Wollongong Diocese

# GOOD FIRST TEACHING

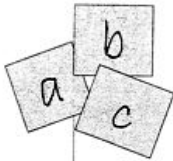


## Beliefs

*The Good First Teaching course is underpinned by a set of ten beliefs. These are based on the characteristics of quality teaching identified by Fountas & Pinnell (1999). Good First Teaching:*

1. Assumes that all children can learn to read and write
2. Is based on a teacher's understanding of the reading and writing processes
3. Is based on assessment that informs instruction and documents individual learning over time
4. Requires a large block of daily instructional time for literacy
5. Takes place in an organized environment that encourages children to be active participants and supports collaborative and independent learning
6. Engages children in a variety of reading and writing experiences involving connected or continuous text, on a daily basis
7. Includes attention to letters and words and how they work
8. Requires appropriate materials and resources
9. Is designed to complement Reading Recovery programs
10. Is not a program you can buy, but is the result of an investment in professional development

# GOOD FIRST TEACHING



## Course Outline

### **Term 1**

#### **Literacy Block**

- ~ video of components of a literacy block
- ~ action plan
- ~ professional reading

#### **Assessment 1 —Reading**

- ~ reading theory
- ~ running records—4 levels of analysis
- ~ introducing a text

#### **Assessment 2—Writing**

- ~ assessment criteria
- ~ analysis of writing samples

#### **Guided Reading 1**

- ~ purpose and guidelines
- ~ selecting and introducing a teaching focus
- ~ critiquing of video segments
- ~ professional reading

#### **Colleague Visit 1**

### **Term 2**

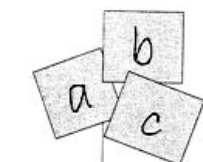
#### **Joint Writing**

- ~ purpose and guidelines
- ~ critiquing of video segments
- ~ professional reading

#### **Guided Writing 1**

- ~ purpose and guidelines
- ~ selecting and introducing a teaching focus
- ~ suggested models
- ~ critiquing of video segments

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# GOOD FIRST TEACHING

## Course Outline

### **Guided Reading 2**

- ~ the role of prompting when 'teaching on the run'
- ~ critiquing of video segments
- ~ text selection
- ~ professional reading

### **Term 3**

#### **Letter and Word Study, Task Board**

- ~ purpose and guidelines
- ~ critiquing of video footage
- ~ professional reading

#### **Guided Writing 2**

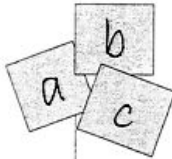
- ~ analysis of writing samples
- ~ examination and design of additional models
- ~ critiquing of video footage

#### **Course Reflection and Evaluation**

- ~ reflection and articulation of personal beliefs regarding literacy learning
- ~ completion of course evaluation

#### **Colleague Visit 2**

- ~ opportunity to share ideas, critique own teaching, and affirm sound teaching practices



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## **Appendix H -**

### **TEACHnology Overview**

TEACHnology: Integrating Teaching and Technology  
An intensive program for selected Stage 2 & 3 teachers of  
schools of the Wollongong Diocese - 2003.

'New Technologies - New Pedagogies'

Overview : This program will involve CEO education services team members (Learning Technologies & Curriculum) working together with teachers to explore methods of integrating learning and teaching and technology in ways that create a better learning environment for students. It is designed to help teachers use technology to support a wider range of learning styles, facilitate active learning in the classroom, use school time and expertise more effectively, and familiarise students with technology that will be vital for their futures in the world of work.

Goals of the Program: The TEACHnology program will assist the participating teachers apply technology and the innovations it makes possible to learning and teaching. It will increase communication and collaboration among classroom users of technology.

In 2003, a total of 24 teachers who are teaching Stage 2 or 3 have been selected from both of the Primary clusters.

Teachers will be required to embrace new technologies and integrate these into the learning and teaching process. The participants must have access to technology within their classroom with a minimum of two computers. Access (individual or school) to a digital camera, scanner and a computer equipped to edit digital video is required. Access to a digital video camera is desirable but is not essential.

Teachers must have basic computer literacy but do not need to be technology 'gurus'. It is more important that they are enthusiastic, excellent teachers with a desire to be part of this exciting new initiative. As it will be a requirement of completing this year long course that these teachers open their classrooms for visits from other teachers it is essential that any nominated teacher and principal would be comfortable with this scenario

Program Elements: The goal is to integrate relevant learning technologies and other teaching innovations into the course. Regular interaction among the cohort is a key ingredient. The program will commence with at a one-day retreat where teachers meet each other, learn about the project's goals and activities, and identify personal plans.

Throughout the year, the teachers participate in a number of workshops and participate in online discussion forums. The workshops introduce teachers to new technologies and

new pedagogies. The teachers also share experiences, work on projects and examples, and practice new methods. Workshop topics will include: enhancing traditional teaching through technology (e.g., presentation tools such as PowerPoint); changing pedagogy with technology (e.g., collaborative learning, computer-assisted instruction); accommodating individual differences with technology; and connecting in- and out-of-class learning with technology (e.g., e-mail, World Wide Web). Outside of sessions, the teachers will consult individually or in small groups with the Education Officer - Learning Technologies responsible for their cluster, the Senior Education Officer - Learning Technologies and various other members of the Curriculum Team at CEO Wollongong. At the end of the course the teachers will meet to share their experiences and learnings. They will also offer demonstrations of instructional materials to colleagues through a series of visits by other teachers to their classrooms and by presenting at a forum held at CEO Wollongong.

Program Outcomes:

It is hoped that teachers participating in the program become much more informed as to what technologies are available to them and how they can be best used to enhance learning and teaching.

The TEACHnology program also provides a supportive community in which the participating teachers interact with each other both during and beyond their year in the program. Beyond the workshops, the teachers will be using the available technologies of CASTNET (myinternet,forums,intranet & chat) to communicate access resources and share their experiences. A web site devoted to this program will be developed and added to by the leaders and participants throughout the program. Most importantly, the program promotes renewal and vitality in teaching by offering an opportunity for participants to be learners again, rethinking their instructional objectives and their approaches to teaching, trying out new technologies, and integrating these ideas into their teaching and learning.



## ***Appendix I -***

### ***Sample of Interview Transcript***

TAPE/OUT VIDEO 14/10/05

Seth and I are sitting side by side in front of a laptop computer. He has located his PowerPoint presentation. I have sought his permission and saved it onto a USB drive for later analysis. He expresses pride in having his work saved by me to take away to the uni.

ME Why don't you open up the slide show and we can have a look at it.

SETH OK. There might be some issues with opening it because that one and that one are newer versions (referring to the list of PowerPoint files in the shared folder) from the emac. (He begins to read it, notices that he has 'well' at the start of the sentence). Now, I don't know what happened here. I changed it and I saved it but it just keeps on coming back to this one... I don't believe it.

ME That's fine. Why did you change it? Tell me about that whole issue you had with that word well.

SETH Well, Mr Aloisi said if I say well it's like I'm talking in conversation.

ME Do you feel like it's a conversation?

SETH Well, yeah, because most of the time if you're talking in speeches you normally say, like, um, like you would cut out the well and say if you, because you are talking to the audience. If you say well if you it sounds like you're just talking to someone like Phil.

ME You mean it's just like a chat.

ME Alright. Tell me how you did this. What did you do first?

SETH The whole PowerPoint?

ME Everything, how you got the information and what you did.

SETH Well, I went onto the Internet and looked at a couple of Websites and I downloaded and copied the information into here (rifles through papers to show the □C□V information pages (**see collected work samples**) and I put some information into this little, a couple of words in my own words into the book

ME That's into this exercise book here (**see work sample**)

SETH Yep and then out the information I didn't really do much. All I did was think of something. I didn't really use the notes, oh I used some of the notes, but I just thought of something and put it down.

ME and you types that straight into the PowerPoint presentation?

SETH Yep.

ME what was useful to you when you were researching the information?

SETH Mr Aloisi was useful

ME Yeah? What did he do?

SETH Well he just got me onto the right PowerPoint and he helped me since this is the first ever PowerPoint I did.

ME What else did he help you to do?

SETH and he helped me with a lot of things like spelling, grammar.

ME What about before that? Before you were up to publishing, when you were still researching the information?

SETH Um, he helped me like, get onto Internet sights.

ME Right. So the Internet was useful for you. What else was useful when you were researching the information?

SETH Interviewing. But I didn't get to interview Mrs C's husband [sportsman], um. I didn't really interview any people, so I just left that.

ME Fair enough.

SETH I just got my information and put it into the computer and made this.

ME So the computer was pretty important to you throughout this project for the research part and the presentation.

SETH Yep

ME what do you think you r audience learned about healthy living today?

SETH Well they learned about sometimes people does actually go overboard.

ME What does that mean?

SETH It goes too far. It means go further than they should go and I've seen on the news that this lady, she's really, really skinny and she's going to die. All she does is eat; she doesn't have any, like fat, she's just skin and bone. All she did was just walk and eat oranges and I said to them [audience] today that you can go overboard and she will die if she doesn't get better, which she won't get better because she's absolutely skinny, so the only way she can get better is by people donating blood.

ME really? So she's gone too far - overboard. And you think your audience would have got that message from you today?

SETH Yeah

ME And how is reading and writing using the computer and the Internet and PowerPoint different from when you're writing in your book?

SETH Well working in your book, you're just putting your thinking into just writing and on the computer you've got to go through different steps to actually put your thinking onto the computer. You've got to type it up, but just with your book all you have to do is write it. With the computer you've got to type it and move your fingers and all that.

ME So am you talking about a lot more choices that you have to make when you use the computer?

SETH Yeah, like, say if you um want to put animations in your book. All you have to do is draw something, like I do with my dog I draw him and to show his tail moving I put little curvy lines around the tail so it looks like it's moving. Another way you can do it is with a pencil and 2

pieces of paper and you draw 1 thing on each and stick them on the end of the pencil and then go like that (spins pencil between hands to quickly flick the paper back and forth)

ME Oh, I've seen those. You can put a duck on one and a pond on the other and then it looks like the ducks on the pond.

SETH Yeah, or a bird and a cage

ME Yeah, that's very clever isn't it. But your saying it's a lot more complicated on the computer. Is it harder on the computer?

SETH No, it's easier on the computer because you don't have to draw it all you have to do is click on it and it's done.

ME Yes, that's pretty easy.

ME And what were some of the difficulties you had when you were doing the project and how did you overcome them?

SETH Some difficulties. Hmmmm. What were the difficulties? I had one problem back here in question 3. See how it's doing this?

ME The letters coming on one-by-one,

SETH Yep. Mr Aloisi helped me by changing the thing [custom animation] and just did magnify.

ME Right, so is that about the custom animation that you had trouble with?

SETH Yeah. I had wavy which goes like the one for before.

ME Well what new things have you learned about when you are reading and writing with computers?

SETH um, I've learned that reading's much more complicated and nervous when you're reading off the screen because when you're reading of your palm cards, when I was in the school speaking thing reading off palm cards was easy because you're looking at it and your audience is in front of you. But on the computer you have to go like this (looks behind him) and like that (looks forward) and it gets you nervous. Because when you're with palm cards, you're used to looking at the audience nearly the entire time but when you're reading off the screen you're thinking to yourself what am I going to see when I turn around, like people laughing or something.

ME Because you have to look away from them?

SETH Yeah. But when you're in speech I'm much more confident because I know what I have to do and you get used to talking to the audience very quickly.

ME Do you think the next time you do it you'll feel better about it?

SETH Um, no, not really because in speeches, as I said, this is harder. Usually it takes me a long time. The first speech I did it was absolutely hopeless (laughs) in year 2, I just blew it! And then earlier this year, Mrs F said me and Phil, Phil and I were the best, 1 that we were fantastic. And I thought to myself well if I can do that in one day, how long will it take me. The speech took me about 2 months to get really good at it. And I thought to myself how long is it going to take me if this is harder.

ME Yeah (sympathetic) I think you'll get better at it each time you do it.

ME Did you like working by yourself for this.

SETH Yes. (emphatic)

ME You did. Why did you choose to work by yourself?

SETH It's not that when I worked on my website, it's not that me and Phil had fights, it's just that I like it better working on my own because usually people think partners are better because you get more confident and you have someone sitting next to you. If they're smart or something you rely on them. I thought to myself well if I have to rely on someone else each time I do this, I won't get better at it or anyone. So I took a challenge this time and I went by myself and I found it really fun and better because I didn't have any disagreements. I put all my ideas into this and no one else's.

ME All right! That's really interesting. Now I noticed sometimes when you were working next to Shannon, who was also by herself, you 2 would get together to talk about your slide or her slide but then you'd go back to your own. Do you think that's a better way to go?

SETH Well Shannon, I say, I really think this. Shannon, Jeff and I are really working by ourselves because we understand that it's better because Jeff doesn't like other, I'm sort of like Jeff in this way. I don't know really, because me and Jeff sort of don't really get along very well, so I don't know how I'm saying this (laughs, a little embarrassed), but I think Jeff and me are kind of like the same because I know that Jeff doesn't like other people's ideas in his work. Just his plain ideas, all his things in his PowerPoint. Like even if you see him with a partner, you can see the bits that he's put in because they are just unique. But when that work he did today, C and J, I really couldn't see the bits that they put in, I could only see Jeff's bits because his bits stand out.

ME Is that why you asked that question at the end of their presentation?

SETH Yeah I asked what parts did C and J do? I thought well when, I know that Jeff doesn't like anyone else's ideas, so I just thought to myself, I'll take a chance and try it on my own and I just love working on my own! And for my other 2 pips I'm going to work by myself.

ME Are you? I was just about to ask you about the next time you do work where you are involved in researching and writing and using the computer, are you going to work by yourself?

SETH Yep.

ME and what else are you going to be thinking about when you start this new bit of work?

SETH Um well I'm going to be thinking about other people's presentations because that's why I chose healthy living and I knew that no one else chose it. Well they did choose it but they weren't going to go first [in presenting their work]. That's why I picked it and went first so I could see other people's work that I'm going to do next and get some ideas off that.

ME Did you see any good ideas today?

SETH (a hard question - ponders) about the solar system?  
I'm sorry to say to L, R and A, but the best solar system  
one that I saw today was Mark and Phil's.  
ME You liked that? They looked like they were having a  
great time. I thought they were good too. You've given me  
lots of really good information.....[end interview].

## Appendix J - Sample of data analysis procedures

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*medium*  
*\* less to control.*  
*comfort.*  
*process*  
*control*  
*Publishing Decisions*  
*they want the audience to be clear.*  
*Approval.*  
*classmates are trustworthy*  
*Publishing decisions*  
*Audience*  
*Images are powerful in conveying message*  
*Comfortable le*  
*medium/pub*  
*difficulties*

Well we started off doing imovie but we couldn't figure out how to do it so we changed...  
yeah we knew how to use it but it took ages to load, so we changed to PowerPoint because it is easier and we know how to use it. and it went green!  
ME So it has difficult for you to use the computer. The internet hasn't been useful and then imovie was no help either and it kept on mucking up. What do you think of PowerPoint as a way of presenting your information?  
It's good  
It's easier. You just write things in and spellcheck them and you just go next slide you don't have to worry about how it fades in or out or any of that stuff.  
Like you do with imovie.... [can't hear] the picture changes before you are ready.  
ME It can be hard to control the timing, I know. I wanted to ask you about the PowerPoint slides. How do you know what you want on there?  
Well first we did a whole slide with a picture and then the contributing question that went with it. Then we did the writing on the next slide.  
ME And how will your audience follow what you have done?  
they can see each question because if you put it on top of the slide and then the answer, some people won't see the question.  
ME What else?  
We couldn't decide on what background we wanted but now we've got a good one. People have come to us and said it is a good one and how do you get it.  
ME Why is the background so important?  
It makes the writing stand out so that people can actually read it and it gives the attention to the writing. We want good writing so the people can read it easily.  
I don't like black backgrounds because it doesn't make the writing stand out and it's really dim. I like white backgrounds.  
ME And what about you ?  
I agree. It is important to make the writing stand out. And the pictures make the questions stand out more because the picture tells them what the question is about in case they don't want to read the question.  
ME How will you present the PowerPoint to the class?  
We're not going to record our voices onto it because if you make one little mistake you can't redo it. Because...  
you have to do another one. And it takes ages to delete that voice and then get another one on.  
I tried it and it was heaps of people talking in the background.  
ME Yes it's hard in the classroom isn't it?  
I was trying to get me and and singing

*compose* *proof*