

**Multimodal Storytelling:
Exploring the Role of
Pedagogy in Developing
Student Literacy via School
Television.**

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requirements for the Degree
of Master of Education.

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Abstract

This research study was designed to explore the effectiveness of pedagogical practices on student literacy learning within a student television context. The study was undertaken in response to practitioner inquiry into the value and worth of school television for student literacy learning. Over the research period this project evolved into a deeply reflective self-study of teaching practice within a technological environment.

This research took place in a suburban primary school where school television had been created by students for the previous two years. Twenty-two students aged between 10 and 12 participated in three cycles of action research to investigate how pedagogy influences learning within this context.

A range of pedagogical actions designed to influence students' critical thinking were implemented into action research cycles. The selection of actions for intervention was influenced by an investigation into current literature from the field, and an analysis of existing multi-literacy learning, pedagogical conditions and student views of teaching and learning within student television at the beginning of the research cycles.

This study gathered information during research cycles using student learning conversations and student interviews, which provided insight into learning from the point of view of students. Supporting this information were daily researcher observations and end-of-cycle interviews with classroom teachers. Through careful monitoring, analysis and reflection on each research cycle it was clear that strategic pedagogical interventions did positively influence multi-literacy learning. Rather than attempt to measure differences in student learning, this study explored how multi-literacy learning, strategic pedagogy and learning within student television inter-related with one another. This research study identified and explored the complex inter-relationships between pedagogies and multi-literacy learning.

Glossary

Anchor. A person who presents the news during news shows on television or on the radio. Also known as a news anchor, newsreader or news presenter.

BYOD. Bring your own device. Technological models for education where students bring along their own Internet-capable devices for learning (Ministry of Education [MOE], 2010b).

Critical literacy. Involves consciously thinking critically and in a discerning way. Critical literacy includes an understanding of how language works and how it is used. Critical literacy is a key part of multi-literacies such as information literacy, digital literacy, media literacy and traditional literacies (New London Group [NLG], 1996; Kellner & Share, 2005; MOE, 2012c; Stevens & Thomas, 2007)

Digital citizenship. Confidently and capably using digital technologies in an informed and responsible way to participate and engage with others locally or globally. Being a digital citizen involves using multi-literacies, intrapersonal and interpersonal skills, and developing the skills to behave ethically online (MOE, 2010a).

Digital/ ICT/ computer literacy. Being literate with technology. Being adaptive, agile and confident using digital technology. Being able to navigate, explore and present using technology. Being able to use technology as a tool for learning. Digital literacy is a component of digital citizenship. (Beetham, McGill & Littlejohn, 2009; Bailey, 2011).

Digital storytelling. A way to tell stories using digital technologies by combining multimedia such as static images, written or spoken words, song, video clips, audio and music. Digital storytelling is multimodal because it employs a combination of modes and media (Bailey, 2011; Robin, 2013)

Information literacy. Identifying, accessing, organising and evaluating relevant information are key components of information literacy. Knowing what information is needed and how to source it. Being able to evaluate and use information effectively. Being discerning about the validity of information presented. (Beetham et al, 2009). Information literacy overlaps with critical thinking, critical literacies and multi-literacies. (Eisenburg, Lowe, & Spitzer, 2004).

Key competencies. Competencies from the New Zealand Curriculum that underpin learning and development for New Zealand school students. The competencies are: managing self, thinking, using language, symbols and text, relating to others, and participating and contributing. Competencies are taught explicitly and used within strategies for teaching and learning (MOE, 2007c).

Literacy. The ability to read and write, to use language proficiently or to be knowledgeable in a particular subject or area. (The Free Dictionary, 2013). “Literacy is the ability to understand, respond to, and use those forms of language that are required by society and valued by individuals and communities” (MOE, 2006, p.18).

Media literacy Being able to understand and communicate messages using a range of media sources such as television, websites, apps, radio, posters, film, video, social media, and news sources. Media literacy encompasses the concept of critical media literacy. (Kellner & Share, 2005)

Metacognition. Thinking about thinking “the kinds of processes involved, and the self-knowledge gained, in thinking about, and in controlling, one’s own thinking” (Proust, 2010, para 2.)

Multi-literacies. More than one literacy. Multiple literacies. Multi-dimensions of literacies, in particular multilingual and multimodal (Cope & Kalantzis 2009).

Multi-literacies pedagogy. A teaching pedagogy that sequences the learner through the learning stages of situated practice, overt instruction, critical framing to transformational practice. (Ho, Anderson & Leong, 2010; New London Group, 1996; Kellner & Share, 2005).

Multimedia literacy. Being able to comprehend and communicate using a range of types of media such as combinations of modes and media such as words, pictures, video clips, art, static images, audio narration and sound effects. (Bazalgette & Buckingham, 2013).

Multimodality/ multimodal literacy. Multimodal refers to using more than one way to communicate or receive a message by using combinations of modes and media such as movement, words, pictures, video clips, film, art, static images and sound. “A generic capacity to make sense across modes and media” (Kress, in Beetham, 2009).

New literacies. Literacies that are required because of the development and use of digital technology. New literacies include emerging literacies such as but not confined to digital literacy, information literacy and multimedia literacy. New literacies are considered essential for functioning in a literate way in the twenty-first century (New London Group, 1996; Leu, Kinzer, Coiro & Kammack, 2004)

Pedagogy. Pedagogy refers to teacher actions that promote student learning (MOE, 2007a). Pedagogy describes the function and work of a teacher, and the art or science of teaching; education; instructional methods (Dictionary.com, 2013b).

Chapter 1: Introduction

Technology is ubiquitous in the lives of many New Zealand primary school students who use it for connection, entertainment, communication, collaboration and learning. Many students are connected technologically in a historically unprecedented manner because of the everyday accessibility afforded by smart phones, tablets, computers and sophisticated applications. This ubiquity and mobility of technology in everyday life is driving a trend towards digital learning in schools. Technology is incorporated into educational contexts in the hope that information communication technologies (ICT) strategies will enhance teaching and learning outcomes for students (Burt, 2007; Ministry of Education [MOE], 2012a; Wright, 2010).

Most classrooms in New Zealand have Internet capable technology for student use including tablets, laptops, computers and smart devices. An increasing number of New Zealand schools are adopting Bring Your Own Device (BYOD) strategies whereby students can use their own digital device for learning at school (MOE, 2010b). The Ministry of Education is currently rolling out ultra-fast broadband to 97.7% of schools across New Zealand, which is intended to provide fast Internet access to 99.9% of students by 2016 (MOE, 2013b).

As a teacher and researcher I am interested in educational uses for technology to enhance the literacy learning of primary school students. Digital storytelling is a technological initiative that involves creating stories using digital technologies such as video making. The creation of digital stories has been identified as an effective strategy for the development of literacy learning

(Bailey, 2011; Robin, 2013; Robin & McNeil, 2012; Torres, Ponce & Pastor, 2012; Tuomi & Multisilta, 2010). School television is one form of digital storytelling used educationally as a learning strategy. I have led the development of student television within my school for two years. In this research study I investigate teaching and learning within student television.

Student television and digital storytelling are strategies used in some New Zealand schools to enhance student literacy. For example, staff and students at Marina View School and Ross Intermediate regularly share school events with local and global audiences through school television (Marina View School, 2013; Ross Intermediate School, 2013). Video making facilities at Scot's College are integrated into the music, performing art and drama department (Wood, 2013). Berkley Normal Middle School in Hamilton recently invested in a purpose built television production facility for students to create daily live student television shows (Reader, 2013).

In another example, Point England School has an ongoing commitment to enhancing teaching and learning by incorporating television making into school-wide literacy learning cycles (Point England School, 2012a; Point England School, 2012b). Students regularly create a range of digital stories to showcase and further their learning. They enter local and national student filmmaking competitions that provide opportunities for the sharing and celebration of student stories (The Pulse, 2013).

The strategic integration of technology into teaching and learning can motivate and engage learners (Burt, 2007; Wright, 2010). Digital learning strategies such as digital storytelling and school television can encourage personalised

learning as educators tailor learning through technology to cater for a diversity of needs (MOE, 2007a; MOE, 2012a).

It is well known that the mere presence of technology in learning environments does not necessitate effective learning (Bolstad & Gilbert, 2012; Gilbert, 2005). As noted by Wright (2010, p. 18), “Pedagogically wise use of ICT tools is critical if effective learning is to occur”. Student learning requires engagement, thinking, problem solving, collaboration, structure and variety (MOE, 2012b). The effectiveness of technological strategies for teaching and learning depends on pedagogical and learning conditions (McDowall, 2010; McDowall, Davey, Hatherly & Ham, 2012; Wright, 2010). As well as selecting technology to suit their learning environments educators must incorporate effective teaching practices. In a New Zealand report reviewing recent research into teaching and learning, Bolstad and Gilbert (2012) identified several significant future focused educational themes. Themes included the need for personalised learning, the need to redefine the role of teachers and learners, and the use of student knowledge to develop learning capacity. These future focused themes underpin this research study.

This study is based on an understanding that teacher actions and pedagogies drive student learning within school television. As a researcher-practitioner facilitating school television in a New Zealand primary school, I have designed this research to investigate specific pedagogical strategies to enhance learning through the making of digital stories.

1.1 Research context

The context for this research is a New Zealand primary school. Student television was established in this school in 2011 to showcase school events for the local and global community. Television classes are held one day a week in a small on-site media studio. Year 6, 7 and 8 students work with a teacher to identify school stories, write scripts, present, video, direct and edit stories. Students involved in producing television range from academically able students through to reluctant writers.

Each television episode consists of five or six stories presented in a news-style format. Episodes are embedded in the school website for public viewing. In 2011 four episodes were completed; during 2012 there were seven episodes, and in 2013 eleven episodes were produced including the three examined in this research.

1.1.1 Student television making processes

Students take responsibility for all aspects of television production including story selection, scripting, filming and editing. School stories are identified by students or requested by staff members, and students generally work collaboratively in pairs to compose a script for each story. Sometimes they develop stories through research, interviews or by asking questions. Two students write and present a news anchor script to link news stories and provide cohesion for each episode.

The core student crewmembers have experience in the roles of cameraperson, director, reporter, lighting person, presenter, and editor. These students often

mentor less experienced students. Student reporters organise video footage and photos of school events to use in news stories and these are uploaded to iMovie where students edit their project. Editing involves adding transitions and sound effects, enhancing audio and visuals, cropping, importing photos, and adding music, titles and credits.

Specific technological tools used for the creation of student television are video cameras, three laptop computers, an iPod Touch, and an iPad. Frequently used programmes and Internet tools include a student television blog and wiki, iMovie, Gmail, the school website, YouTube, Google images, and Flickr. The student television blog is used to communicate with the student television crew and the community. The news anchors script-write into the student television wiki, and use it to view useful links. Students use the student television Gmail account to communicate with parents, students and staff, and to send and receive images or information. The blog, wiki and embedded student television episodes are accessed from the student television home page on the school website.

1.1.2 Pilot study

In 2012 I conducted a pilot study exploring the use of a wiki as a pedagogical strategy to motivate reluctant writers. This research responded to my professional questions about educational uses for ICT. Four students identified by the school as reluctant writers used a wiki to collaboratively script stories for student television. Students worked in pairs to select stories, script-write and film. During the writing process students were aware they needed to be clear and informative for their audience.

Results of the pilot study indicated that students who did not generally enjoy writing were engaged and motivated to write by the strategic integration of Web 2.0 tools, by collaboration with others, by having creative control, and by having a clear purpose for writing through sharing their stories with a global audience. These findings concur with research into the educational use of technological tools that collaboration and a sense of purpose for writing can contribute to student engagement and motivation (Burt, 2007; Casey & Evans, 2011; Junco, Heiberger & Loken, 2011; Wheeler, Yeomans & Wheeler, 2008). Wright (2010) and Bebell and O'Dwyer (2010) agree that pedagogical strategies utilising collaborative and student directed activities are effective for student learning.

This 2012 pilot study encouraged an interest in further investigating effective pedagogy for literacy learning in the context of creating student television. Prior to this research, student television students worked collaboratively, had a clear and genuine purpose for writing, and directed some of their own learning. As the facilitating teacher for student television, I wanted to investigate how pedagogical actions could help develop student literacy within this context.

1.2. Background

Identifying the research problem in this context arose through reflection on my teaching practice within school television. Practitioner inquiry around the value and benefits of student television led me to wonder how participation in student television influenced student literacy learning. I planned to identify pedagogical actions that might enhance educational gains. This section outlines the development of questions for this research.

1.2.1 Practitioner observations on learning

Prior to conducting this research, my informal teacher observations suggested that making television influenced student learning. Creating television episodes appeared to:

- *Engage and motivate students*

Students were engaged and motivated while creating television. Working collaboratively appeared engaging for students. Engagement was demonstrated during detailed learning conversations as students negotiated and justified scripting or editing decisions. They carefully edited scripts for clarity of communication to an audience that included their peers, their family and their school community.

- *Encourage literacy learning*

Participation in television making appeared to develop digital literacy and oral language. Digital literacy was developed through the constant negotiation of various platforms and tools including the blog, the wiki, an iPad and iPod Touch, Gmail, video cameras, and iMovie. Making television enhanced oral language over time as expression and confidence developed through repeated opportunities to present to camera.

1.3 Research question

The main research question was identified through focused reflection on my teaching practice within student television. The research aim was not to measure participant data gathered through formal literacy testing. It is unlikely that television making would cause measurable gains in reading and

writing in two weeks of part time participation, and any noticeable gains may also be attributed to classroom learning. Rather, this study was intended to systematically examine how the teacher implemented pedagogical strategies to further literacy learning through the making of school television. Three sub-questions further explore literacy learning, pedagogy and relationships between this research and current educational research.

Research Question: How can pedagogical strategies facilitate literacy development during the making of school television?

Sub questions:

- 1. What literacies are developed through student television making processes?*
- 2. What pedagogical strategies develop literacy through making school television?*
- 3. How do the selected pedagogies relate to the themes of personalised learning, increasing learning capacity and redefining the roles of teachers and learners?*

Sub-question 1 investigates literacy learning through participation in student television and is addressed primarily in Chapter 2 through a literature review into multi-literacy learning. To understand how teacher actions influence literacy outcomes it is necessary to identify appropriate pedagogies for implementation. Sub-question 2 inquires into potential evidence-based strategies that may facilitate the development of literacy within digital learning contexts. This question is addressed through the literature review presented in Chapter 2, and Chapters 3 and 4 further describe the process of selecting

pedagogy for investigation. Following the action research Chapter 8 draws conclusions for the effectiveness of each selected strategy.

The final sub-question locates this small research study within the wider educational context by inquiring into relationships between the findings of this research and the future-oriented educational themes identified by Bolstad and Gilbert (2012). These relationships are discussed in Chapter 8.

1.4 Significance of this study

The effective integration of technology into literacy teaching and learning through teacher pedagogy is a global topic worthy of rigorous investigation and the findings have significance for educators. Findings from this study are of interest to myself, my school, and potentially to the wider educational community. In addition, practitioner researchers investigate and publish their work to inform the wider world of what happens within teaching practice. Such studies make connections between theory and practice and they can inform future educational policies and practices (Grace, 2012).

- *Benefits for teacher practice*

The purpose of this study was to explore and improve my teaching practice using targeted pedagogical interventions designed to enhance the literacy learning of primary school students. It was intended that my own teaching practice would improve as a result of this research, contributing to a deeper understanding of teaching and learning.

- *Benefits for the research context and the wider teaching community*

This research inquires into digital learning, furthering strategic goals set by the Board of Trustees to increase the ICT capability of the school involved in this study. The study explores teaching and learning using the experiences of teachers and students from this school, supported by literature from the field. This research study provides a potential adaptable example for developing digital storytelling, student television or ICT integration within this school or others. This study may also provide inspiration for integrating technology into learning in a way that is relevant and meaningful for students and teachers.

- *Benefits for academic researchers*

This research study contributes to educational discussions in the fields of pedagogy, e-learning, student television, new literacies, multi-literacies, 21st Century learning, multimodal learning, ICT integration, literacy learning and digital storytelling. It is intended to encourage further investigation into the authentic integration of technology into teaching and learning. This study builds on investigation into future-oriented educational themes by researchers such as Bolstad and Gilbert (2012). Maddux and LaMont (2010) recommend further research into specific tools and strategies when integrating technological strategies into education. Robin and McNeil (2012) discuss research into the digital storytelling of graduate teachers and they highlight the need for research into digital storytelling at various other age groups such as secondary school. I suggest that further research also needs to be carried out in primary school contexts such as this to broaden and extend contextual understandings. The final outcome of this study is to fulfill the thesis component of the Master of Education degree.

1.5 Chapter summary

In Chapter 1 an overview of the background context for this research was presented. Learning through technology in the context of student television offers potential value across the school for a diverse range of learners including gifted students and reluctant writers. This research study explores the role of the teacher within school television to identify and describe pedagogical strategies that facilitate literacy learning.

Chapter 2 presents a literature review into literacy learning, digital storytelling, and pedagogy. This chapter provides an overview of future-focused educational themes and of constructivist educational theory.

Chapter 3 outlines the methodology used to conduct this research study. Ethical considerations are discussed and the methodology is described in detail. Research activities, methods of data gathering and analysis and participants are presented in this chapter.

Chapter 4 presents an investigation into existing literacy learning and pedagogical conditions prior to research. This research was conducted during the first cycle of research to identify appropriate pedagogical strategies for implementation within research cycles.

Chapters 5, 6 and 7 present the findings from three cycles of action research and Chapter 8 presents an analysis of findings from research cycles. Conclusions from this study are drawn, and implications for teaching and learning are also presented in Chapter 8.

Chapter 2: Literature Review

This literature review investigates, synthesises and evaluates key current New Zealand and international literature related to literacy learning, digital storytelling and pedagogy. The review identifies and analyses multi-literacies and multi-literacy learning. It investigates the value of digital storytelling as a literacy strategy and identifies pedagogies for the development of student multi-literacies within technologically integrated learning environments such as student television.

The scope of literature lies within the last ten years, apart from notable exceptions where original sources of influential theories are included. Such exceptions include Vygotsky (1978), the New London Group [NLG] (1996), Krathwohl (2002), and Wood, Bruner and Ross (1976).

This literature review begins by examining constructivist learning theory and influential educational themes. Constructivist theories of learning influence understandings of pedagogy for literacy learning and helped refine the selection of pedagogy within this research study. Current literature regarding the future of New Zealand education provided a wider context for this research and also influenced the selection of pedagogy.

2.1 Key educational theory and themes

2.1.1 Social constructivist theory

The central concept of social constructivist theory is that learning occurs through the social building of knowledge. Students actively construct and re-organise knowledge in unique and individual ways through social negotiation, conversation and collaboration in social settings (Fox, 2001; MOE, 2006; Vygotsky, 1978). Learning is contextual and affected by cultural and socio-economic circumstances. The quality of interactions and social practices students engage in while learning at school, and out of school, affects student learning (Hay & Fielding-Barnsley, 2012). While students are encouraged to draw conclusions from their collaborative learning experiences (Fox, 2001), Maddux and LaMont (2010) argue that individual learning opportunities are also important as learning may not only occur in collaborative ways.

Social constructivist concepts include teaching within students' zones of proximal development, and providing teacher scaffolding for student learning. These teaching practices are central to literacy learning in New Zealand (MOE, 2006; Scrimsher & Tudge, 2003). Zones of proximal development are the gaps between what a student can do independently and what they can do with support; the proximal zones are for students to learn within. Teaching that targets the gaps between the knowledge a student already has, and that which they could learn next, helps students move from dependence to independence (Vygotsky, 1978). Scaffolded learning refers to the practice of providing purposeful supports for learners as they learn to work independently, in the presence of knowledgeable peers. As students gain skills and work towards

independence, scaffolds are removed until the student has mastery of the task. More experienced people help learners achieve learning that would have been impossible without their assistance (Scrimsher & Tudge, 2003; Wood, Bruner & Ross, 1976).

Social constructivist theory provides a base for contemporary literacy curriculum and education in New Zealand, within which learning is described as a process of co-construction between the learner and others. Ministry of Education learning resources supporting social constructivist views of learning were developed to guide literacy teaching in conjunction with the New Zealand Curriculum (MOE, 2007d) and the Literacy Learning Progressions (MOE, 2010c).

2.1.2 Future oriented educational themes

Future focused education is a principle of the New Zealand Curriculum (MOE, 2012a). Future focus involves thinking about students' future lives, the future of education, and preparing students for future focused issues (Bolstad, 2011). Global issues such as ecological vulnerability, globalisation, sustainability, bioethics, and political, social, climatic and economic issues have driven a future focus (Degenhardt & Duignan, 2010). The NZCER meta-study report 'Supporting future-oriented learning and teaching: A New Zealand perspective' identified several themes as emerging future-focused principles for education (Bolstad & Gilbert, 2012). Three of these themes; personalising learning, re-thinking the roles of teacher and student, and using knowledge to develop student capacity influence this research study.

Today's society can be called the knowledge or digital era in acknowledgement of the speed, interactivity and openness of knowledge through information communications technology (Gilbert, 2005). However, many current educational institutions operate along the lines of traditional schools that were established for the previous industrial era (Gilbert, 2005). Education is changing to meet the future focused needs of students and their families in a changing global environment (Gilbert, 2005; Bolstad & Gilbert, 2012; MOE, 2012a). The literacies needed by students to operate successfully within a knowledge society, and effective pedagogical strategies for teaching in a digitally connected world are under review by educationalists (Bolstad & Gilbert, 2012; Gilbert, 2005; McDowall, Davey, Hatherly & Ham, 2012; Wright, 2010).

It is impossible to know what knowledge students will need for their future lives as society continues to rapidly change (Bolstad & Gilbert, 2012; Gilbert, 2005; Gilbert, 2006; MOE, 2012a). Changing understandings of knowledge and learning are leading a paradigm shift to future-oriented education (Gilbert, 2005; Bolstad & Gilbert, 2012; MOE, 2012b). Knowledge is seen as dynamic and is used to develop new knowledge. Students must become self-reliant, critical, creative thinkers who engage with knowledge (MOE, 2012a). 'Learning to learn' is a principle of the New Zealand Curriculum (MOE, 2012e). Bolstad and Gilbert (2012) consider this ability to use knowledge to develop learning capacity an essential theme for future-oriented learning and for defining the role of students as partners in their learning journey.

Future-focused education involves a re-thinking of the traditional roles held by teachers and students (Bolstad & Gilbert, 2012). Teaching within technological environments can prompt pedagogical changes (Wright, 2010).

Pedagogical changes involve teachers developing new skills and new understandings of their role (MOE, 2012a). Teachers must evolve from information transmitters into designers of learning environments that help students become active problem solvers (Bolstad & Gilbert, 2012; MOE, 2012a).

2.2 What is literacy learning?

This section of the literature review examines literacy learning for primary school students. It discusses current literacy practice in New Zealand primary schools and defines literacies for future focused learning. It is relevant to the aims of this research that literacy is understood as multi-faceted, changing and contextual.

Literacy is the ability to use accepted codes to fluently make meaning. Literacy has been defined as, “the ability to understand, respond to, and use those forms of language that are required by society and valued by individuals and communities” (MOE, 2006, p.18). In order to be literate, a range of skills must be mastered. For example, when students are learning to read they learn to decode text, to make meaning, and to think critically (Freebody & Luke, 1999; McDowall et al., 2012; MOE, 2006). Being literate has less to do with the achievement of criteria than the application and development of literacies that people use in life (Leu, Kinzer, Coiro & Cammack, 2004; McDowall et al. 2012, MOE, 2006). Beetham et al. (p. 9, 2009) define literacy (as separate from skill or competency) to mean:

- A foundational knowledge or capability on which more specific skills depend.

- A practice without which a learner is impoverished in relation to culturally valued knowledge.
- Communication in a variety of media that express how individuals relate to culturally significant communications.
- The need for continued practice, development and refinement in different contexts.
- A socially and culturally situated practice.

The New Zealand curriculum organises English achievement objectives into the traditional literacies of listening, reading and viewing, and speaking, writing and presenting (MOE, 2007b). Oral language refers to speaking, listening and communicating information. Literacy development begins with oral language learning through formal and social interactions and student language construction (Burt, 2007; MOE, 2009b; Pinnell & Fountas, 2006).

Reading and writing strategies are explicitly taught in New Zealand primary schools in relation to one another (MOE, 2006). As schooling progresses, strategies for decoding text, developing reading comprehension and writing increasingly sophisticated texts are taught as part of teaching and assessment cycles. Increasingly, reading and writing skills are used across the curriculum as students learn to transfer information and strategies from one setting to another (MOE, 2006; MOE 2012d). Literacy development is enhanced by contexts that provide authentic, meaningful literacy experiences (Fletcher, Parkhill, Fa'afoi & Taleni, 2008; Miller & Veatch, 2010; NLG, 1996).

2.2.1 Beyond traditional literacies

While written and spoken literacies are traditionally the most widely taught, literacies such as digital and critical literacies are relevant for 21st century education (Ho, Anderson & Leong, 2010; NLG, 1996). Literacy requirements are changing through technology use and re-defined meanings of knowledge that question the skills and competencies required for literacy (Bolstad & Gilbert, 2012; Gilbert, 2005). Leu, et al. (2004) stress the importance of an expanded view of literacy to accommodate rapid technological, political and social changes. Teaching that strategically integrates multimedia and digital tools may prompt new literacies to develop that were not widely needed in the past (Leu et al., 2004; Tan & Tan, 2011).

Multi-literacy refers to multiple literacies and multiple dimensions of literacies, such as multilingual and multimodal dimensions (Cope & Kalantzis 2009). The New London Group describe multi-literacies “as a way to focus on the realities of increasing local diversity and global connectedness” (NLG, 1996, para. 11). Multi-literacy learning addresses the skills students need to understand and use a range of multimedia text types in rapidly changing digital world (Cope & Kalantzis, 2009; NLG, 1996; Sandretto & Klenner, 2011). “It is useful for teachers to think in terms of multi-literacies – a dynamic shifting set of practices that shape learners, and all people, as social, thinking, and creative beings” (MOE, 2006, p. 18). Kellner and Share (2005) discuss the written language skills required for digital forms of communication, pointing out that written literacy provides a base for multi-literacies.

Critiques of multi-literacy learning question whether educational use of multi-literacies is too unfocused and unclear. For example, ‘Net Generation’

research showed that many students possess visual, digital, adaptive and connection multi-literacy skills while teachers do not, leading to concerns that teachers will add on technological teaching without understanding. Huijser (2006) questions whether students can indeed design their own social futures as suggested by the New London Group (1996), or whether moving from a teacher directed to learner directed approach would help achieve this goal. Prain (2006) has concerns regarding student critique of technologies in the light of student perception and wider ethical issues. Multi-literacy learning theory is considered by Auerbach (as cited in Huisjer, 2006) and Huijser (2006) to be a beginning place for further discussion of new and developing literacy; an opportunity to develop student critical reflection by teaching functional literacy, critical literacy and rhetorical literacy through students becoming users, questioners and producers of multimedia.

New literacies incorporate attitudes, skills and strategies to locate, use and share information using ever changing, omnipresent technologies (Leu et al., 2004). Tan and Tan (2010) consider that new literacies involve students learning to understand, interpret and respond to information presented by others. Many students consistently use new literacies in their lives outside school (Leu et al., 2004; NLG, 1996).

According to Stone (2007) new literacies belong to a sociocultural theory of literacy. Literacy is formed in response to social environments in a political, historical and social context across all areas of life. Font (2012) believes that for students to be fully literate in today's society they need to have informational, technological, scientific, media, cultural, critical, cognitive and visual literacies. New literacies of particular relevance to student television

processes include digital literacy, information literacy, critical literacy and multimedia literacy.

- *Digital literacy*

Digital literacy is the ability to understand and communicate using digital technologies. Digitally literate people can navigate, explore and present using technology as a tool for learning. Digital literacy is a component of digital citizenship. (Bailey, 2011; Beetham, McGill & Littlejohn, 2009). Bailey (2011) identifies digital literacy as the ability of students to decipher and process complex information from a range of media sources while multitasking by navigating platforms and learning environments. Digital storytelling facilitates the acquisition of digital literacy (Bailey, 2011). Lankshear and Knobel (as cited in Tuomi & Multisilta, 2010, para.1) assert “Digital literacy is at the centre stage in educational policy, curricular development, and everyday thinking about educational practice.”

- *Information literacy*

Information literacy involves identifying, accessing, organising and evaluating relevant information. People who are literate with information know what information is needed, how to source it, how to evaluate it and use the information effectively (Beetham et al, 2009). Information literacy requires critical and multimedia literacy as learners make meaning of information sourced through a variety of media (Eisenburg, Lowe, & Spitzer, 2004). Degenhardt and Duignan (2010) recommend teaching information literacy to facilitate lifelong learning.

- *Critical literacy*

Critical literacy involves critiquing various forms of text. It began in the 1970s with the critical theory philosophies and pedagogies of Paulo Friere (Stevens & Bean, 2007). According to contemporary critical literacy theory, language responds to social practices, social groups and power (Stevens & Bean, 2007). Students learn critical literacies through direct instruction and immersion in the learning context and activities (MOE, 2012c; NLG, 1996). Students use their cultural positions to develop literacy skills as they explore their own understandings in order to make meaning (NLG, 1996). Leu et al. (2004) consider critical literacy to be central to all new literacies. For example, when reading multimedia texts students use the roles of code breaker, meaning maker, text user and text critic (Stevens & Bean, 2007). Students engage with critical thinking and analysis in order to effectively process information. “We believe that equipping students with the tools for engaging in critical literacy is becoming a necessity for leading an informed life in our global world (Stevens & Bean, 2007, preface xii).

- *Multimedia literacy*

This section discusses multimedia, media and multimodal literacy. Multimedia literacy can be described as being able to comprehend and communicate using combinations of modes and media such as static and moving images, sound and text, words, pictures, video clips, art, static images, audio narration and sound effects (Bazalgette & Buckingham, 2013). The ability to read, write, present and critically view are aspects of multimedia literacy. It is useful for teachers to understand the multimedia practices of students at home to develop them at school (Arrow & Finch, 2013). Students can use a blend of auditory, visual, and digital multimedia tools to make cohesive digital narratives such as digital stories (Bailey, 2011; Ohler, 2009; Robin, 2013).

Multimodal literacy refers to using and analysing multiple modes and media to communicate or receive messages, including movement, words, pictures, video clips, film, static images and sound (Bazalgette & Buckingham, 2013). Media literacy involves understanding and communicating messages using a range of media sources such as television, websites, applications, radio, posters, film, video, social media, and news sources. Media literacy teaches students to read, analyse and decode media text as they do written texts, and media arts education encourages an appreciation of the aesthetic aspects of media. Critical media literacy analyses culture through media and teaches skills to critique and to use the media. Students must not only be the consumers of but also the creators of media and multimedia (Kellner & Share, 2005).

Multimodal, media and multimedia literacies all involve using multiple modes and media to comprehend and communicate. I will hereafter use the term multimedia literacy to include multimodal literacy, media literacy and critical media literacy. I will use 'multimodal' to describe an approach to tasks rather than a literacy.

2.3 Digital storytelling and literacy learning

Digital storytelling means to tell stories using digital technologies. This involves combining multimedia such as static images, written or spoken words, song, video clips, audio and music. Digital storytelling refers to the act of creating and communicating using digital media (Bailey, 2011; Robin, 2013). Digital storytelling is multimodal because it uses combinations of more

than one form of media. Student television is one form of multimodal digital storytelling.

Digital storytelling is grounded in educational research and practice (Robin, 2013). Educationally meaningful digital storytelling has been carried out for at least 20 years. Universities such as Berkeley University of California, the University of Houston and the University of Virginia have established digital storytelling centers for their educational teaching programmes (Centre for Digital Storytelling, 2013; Robin, 2013; Sciences, Humanities & Arts Network of Technological Initiatives [SHANTI], 2013).

Digital storytelling encourages the development of reading and writing literacies and has potential to develop digital literacy (Bailey, 2011). Students use video cameras, computers, smart devices or Web 2.0 tools for the creation of digital stories. Students share stories through blogs, websites, video sharing sites and social media (Bailey, 2011).

In New Zealand there is an expectation that teachers will teach literacy across the curriculum so students will develop the particular literacy practices of a range of learning areas (MOE, 2006; MOE, 2012d). In order to do this, students require the ability to read, understand and create texts for that learning area. Johanssen (2003, p.19) recommends that, "technology should be used as engagers and facilitators of thinking and knowledge construction." When students purposefully view and create digital stories across the curriculum using combinations of multimedia it encourages them to think deeply and to actively construct knowledge.

Digital storytelling and video making has proven to enhance learning for students. Dogan (as cited in Robin & McNeil, 2012) reports improvements in student technical, research, presentation, organisation and writing skills. Tuomi and Multisilta (2010) concluded that making movies on mobile devices could deepen student learning. Rudnickl (as cited in Robin & McNeil, 2012) argues that educational benefits to learners may be attributed to students creating personal rather than academic narratives. For this reason the emphasis for digital storytelling within student television remains on developing the effective communication of students' stories, and on student voice. Digital storytelling assists student learning because the processes involved motivate students to explore content and new learning in greater depth (Robin & McNeil, 2012). Bull and Kajder (2012) recommend digital storytelling as an effective classroom strategy to advance learning.

The use of digital storytelling for learning can enhance the development of student digital literacy skills and problem-solving capacity. Wicked problems are problems that are “highly complex, uncertain and value-laden”, that span social, technological and political domains (Bolstad & Gilbert, 2012, para. 7). The processes involved in communicating stories using a range of media and technology present evolving and changing wicked problems for students to navigate. Using combinations of media for digital storytelling also helps engage and maintain student interest and attention (Johanssen, 2003). Digital storytelling and movie making can help prepare schools and students with online literacy skills and understandings to meet an undefined educational future (Taylor Stone & Perumean-Chaney, 2011).

Bailey (2011) asserts that as well as being enjoyable and engaging, digital storytelling provides students with a way to be heard. Digital storytelling can

connect young people to their social context, helping them define and make sense of it, leading to a sense of identity and belonging as they select ways to and represent themselves and their environment (Bailey, 2011). Digital storytelling engages a range of students, encourages them to work collectively towards goals, helps them organise their information, and helps them develop effective communication skills (Torres, et al, 2012). Bailey (2011) suggests multimodal digital storytelling is a powerful tool to express meaning and to communicate ideas, which can be utilised to suit a range contexts and purposes. “I argue that across the research sites, students used their movies to shape, mediate, and transform representations of their lived cultural and social worlds” (Bailey, 2011, p.16). Morell and Hill (as cited in Bailey, 2011) further argue that video-making processes can help youth deal with troubles they may be struggling with. Students can use film making to reflect on, question, find solutions for, and manage issues such as violence, mental illness, poverty, sexuality, eating disorders, and social issues. Bailey (2011) asserts there are further opportunities within multimodal digital storytelling to explore links between personal stories and wider social contexts and to further employ critical literacies.

2.4 Pedagogy

The final section explores connections between pedagogy, multi-literacies, and digital storytelling. It begins by defining pedagogy then discusses pedagogy to develop multi-literacies in digital environments.

Pedagogy is the art or science of teaching (Dictionary.com, 2013b). Pedagogy describes the function and work of a teacher including instructional strategies and teacher actions designed to facilitate student learning (MOE, 2007a).

Constructivist learning is one of the theories that underpin pedagogies used for teaching and learning in New Zealand (MOE, 2006). Teacher understandings of educational theory and instructional strategies influence the effectiveness of pedagogy (Bolstad & Gilbert, 2012; Lui, Jones & Sadera, 2010). Pedagogical strategies may be used simultaneously if they are complementary (Lui et al., 2010). Pedagogical strategies also need to pay special attention to priority learners in NZ including Maori students (MOE, 2007e). The New Zealand Curriculum recommends seven cross-curricular pedagogies that support digital learning (MOE, 2007a). These include:

- creating a supportive environment
- encouraging reflection
- ensuring new learning has relevance
- facilitating shared learning
- providing connections between new and prior learning
- providing sufficient opportunities to learn
- teachers inquiring into the teaching-learning relationship

2.4.1 Pedagogies supporting multi-literacies in a digital environment

Mishra and Koehler (2006) have developed a tri-Venn diagram conceptual framework for teaching and learning with technology. This framework highlights intersections between technological, pedagogical, and content knowledge (TPACK). This intersection represents the ideal position for teacher knowledge incorporating all aspects of TPACK (see Figure 1). The depth of teacher understanding of TPACK affects the depth of learning.

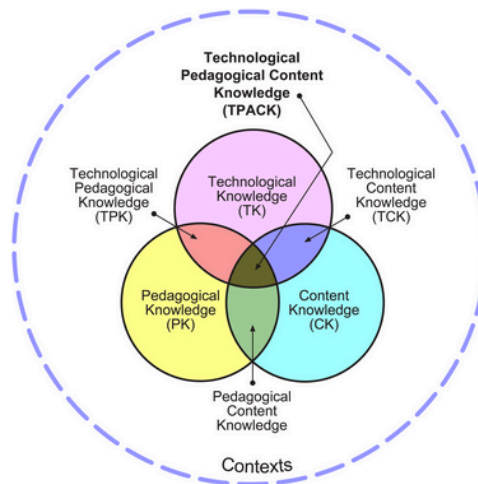


Figure 1. Model of the TPACK framework. Retrieved from <http://www.matt-koehler.com/tpack/using-the-tpack-image/>. Copyright 2012 by tpack.org. Reprinted with permission.

In a student television context the TPACK framework may manifest as instructional strategies (pedagogies) being employed strategically during digital storytelling sessions (technology) to enhance multi-literacy learning (literacy content). The TPACK framework is widely used within education to plan for balanced teaching and learning.

- *Flexible pedagogical attitudes*

Bolstad and Gilbert (2012) consider that to successfully educate in a digital age educators must re-think the roles of teachers and learners. When learning occurs regularly using digital technology class dynamics change over time. Traditional roles are challenged by the complexity of learning involved in digital environments as technologies themselves, and their effect on class dynamics, change over time (Bolstad & Gilbert, 2012; MOE, 2012a; Leu et al., 2004; Wright, 2010). Using multimedia texts can facilitate different teacher-student relationships than using paper-based texts only (Wright, 2010). The flexible and responsive teacher use of evidence-based pedagogies suited

to the learning environment may encourage sustained student understanding and a desire to learn more (MOE, 2012d). Brinthaupt et al. (2011) recommend teachers have an overarching pedagogical attitude that conveys to students the teacher's commitment to their learning and to high educational outcomes.

Digital storytelling as a literacy strategy has potential to connect the personal and school use of technology for students who create and share videos in their own time. Arrow and Finch (2013) recommend that teachers develop pedagogies through examining the independent, self-guided or family oriented use they and students make of multimedia literacies, and incorporate these into teaching and learning.

Researchers recommend differentiation and personalisation of curriculum and pedagogy for different learners (Bolstad & Gilbert, 2012; Degenhardt & Duignan, 2010; McIntosh, 2012; Miller & Veatch). Personalisation of learning helps learners to learn in their own way and at their own pace, which is particularly important in relation to the desire to support Maori learners (MOE, 2013a). Learning involves student engagement, thinking, problem solving, social interaction, opportunities to transfer learning, structure, and in depth knowledge (MOE, 2012b). Challenging and stimulating learning experiences using instructional strategies that incorporating prior experiences and student interest benefit student learning (Wilis, 2008). Personalisation of learning involves teachers selecting learning tools, activities and instructional strategies with consideration to student engagement, the relevance of learning activities, the intellectual curiosity of students and student-teacher relationships.

Timpany and Vanderschantz (2011) recommend students and teachers collaborate as partners in learning journeys that reflect student culture,

knowledge and experiences. Teachers must facilitate student use of existing knowledge to create new knowledge (Bolstad and Gilbert, 2012). Flexible pedagogical design must take into account opportunities for students to actively construct knowledge and to use it (De Souza & Towndrow, 2010). McIntosh (2013) recommends that educators use questions that cannot be answered through an internet search. De Souza and Towndrow (2010) recommend a problem-based, communicative, diverse approach to learning where students can express their learning in a range of ways.

Table 1 presents a synthesis of ideas that explore a responsive pedagogy of actions and attitudes within the making of school television. Column 1 identifies learning roles for students using the Key Competencies of the New Zealand Curriculum (MOE, 2007). Below the key competencies are learning strategies that are incorporated into the competencies. Column 2 explores the role of the teacher within school television. This column includes strategies to help create learning conditions that enable students to fulfill their television making learning tasks.

Table 1

Exploring the Role of Students and Teachers within School Television

Student	Teacher
<p>Active users of the Key Competencies</p> <p><i>Managing self</i></p> <ul style="list-style-type: none"> ○ View self as a competent learner ○ Resourceful, strategic, reliable and resilient ○ Goal set and reflect ○ Plan and manage projects ○ Maintain high standards <p><i>Relating to others</i></p> <ul style="list-style-type: none"> ○ Interact and collaborate ○ Share and build on ideas ○ Listen and negotiate ○ Compete appropriately ○ Recognise other points of view <p><i>Thinking</i></p> <ul style="list-style-type: none"> ○ Creative and critical ○ Reflective and questioning ○ Metacognitive ○ Intellectually curious ○ Seek, use and create knowledge <p><i>Using language, symbols and text</i></p> <ul style="list-style-type: none"> ○ Can 'read' society's codes <ul style="list-style-type: none"> ○ Written, visual, oral, aural ○ Informational and technological <p><i>Participating and contributing</i></p> <ul style="list-style-type: none"> ○ Actively involved ○ Contribute and make connections ○ Create opportunities for others ○ Confident ○ Sense of belonging ○ Balances rights, roles and responsibilities <p>(MOE, 2007)</p> <p>Student roles incorporate:</p> <ul style="list-style-type: none"> ○ Motivation and engagement (Hattie, 2009) ○ Curiosity ○ Learning partnerships ○ Learners in a learning community ○ Self- efficacy ○ Taking shared responsibility for 	<p>To strategically and actively facilitate learning</p> <p><i>Planning, teaching and assessing...</i></p> <ul style="list-style-type: none"> ○ Build relationships. Get to know students as learners (Hattie, 2009) ○ Hold high, realistic expectations (Hattie, 2009) ○ Scaffold learners within their zone of proximal development ○ Differentiate and personalise learning experiences (Bolstad & Gilbert, 2012) ○ Involve students in their learning journeys ○ Share learning intentions and success criteria (Hattie, 2009) ○ Connect to prior learning and experiences (MOE, 2006) ○ Organise challenging, meaningful and interesting activities. Engage curiosity and desire to know more (Hattie, 2009) ○ Set challenging goals (Hattie, 2009) ○ Incorporate critical thinking strategies ○ Design effective, open ended lessons allowing for a range of outcomes ○ Strategically and responsively use a range of pedagogies and instructional strategies (Hattie, 2009) ○ Encourage student use of a range of learning strategies (Hattie, 2009) ○ Make thinking explicit (Golding, 2013) ○ Facilitate access to relevant knowledge (Hadaway & Young, 1994) ○ Use knowledge to build learning capacity (Bolstad & Gilbert 2012) ○ Integrate technology, pedagogy and content knowledge (Mishra & Koehler, 2006) ○ Take responsibility for success and progression of lessons and outcomes (Hattie, 2009) ○ Encourage creativity (Hattie, 2009) ○ Communicate clearly and effectively (Hattie, 2009) ○ Utilise metacognitive and problem solving strategies (Hattie, 2009) ○ Encourage focused student talk ○ Facilitate students to plan, organise and evaluate their learning. Encourage students' perception of

<p>learning progression</p> <ul style="list-style-type: none"> ○ The ability and willingness to utilise strategies and attitudes such as: <ul style="list-style-type: none"> • Peer support/ feedback/ tutoring • Experimenting, exploring and innovating • Turning mistakes into learning opportunities 	<p>themselves as learners (Hattie, 2009)</p> <ul style="list-style-type: none"> ○ Use assessment to inform teaching (Hattie, 2009) ○ Check for understanding. Provide feedback and/ or re-teach. (Hattie, 2009) ○ Include wait time ○ Incorporate collaboration and peer tutoring opportunities (Hattie, 2009)
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Note: Author's own

- *Multi-literacy pedagogy*

Socially constructive pedagogies have been found to help multi-literacy learning in technological environments (Beetham et al., 2009; Leu et al., 2004). Ho et al. (2010) describe a three-stage multi-literacy model based on constructivist theory: scaffolding, collaboration and independence. The initial teacher-directed scaffolded stage is where students learn about text construction and design principles. Students collaborate, with teacher guidance, as they develop knowledge. Finally students are independent.

The New London Group (1996) propose a theory of multi-literacies pedagogy that includes four components of pedagogy. The first is 'situated practice' where learning occurs through immersion in a learning community. The second stage of 'overt instruction' involves explicit learning that builds on immersion learning. During the third stage of 'critical framing' mastery is developed as students learn to critique and extend their own learning. Finally, 'transformed practice' occurs when students transfer learning to other settings (NLG, 1996). This theory is highly relevant to this research study as it provides a suggested pathway for the application of pedagogical strategies during research cycles. Situated practice and overt instruction are recommended strategies for learning across the curriculum (MOE, 2012d).

- *Collaborative pedagogies*

Collaborative pedagogies are evident in the pedagogies described in the section above (Ho, et al., 2010; NLG, 1996). Educators agree that collaborative learning is an effective learning strategy for teaching with technology that can improve learning for students (Burt, 2007; Casey & Evans, 2011; Junco et al, 2011; Wheeler et al, 2008; Wright, 2010). Collaborative structures may include Maori pedagogical strategies such as tuakana-teina peer tutoring to encourage learning or ‘ako’ (Pihama, Smith, Taki & Lee, 2004). Collaborative pedagogies involve students in the competencies of managing self, participating and contributing and in working with others. In conjunction with creativity and student led direction, collaboration while using technology can enhance student learning (Burt, 2007; Miller & Robertson, 2011; Wright, 2010). Wright (2010) asserts that collaborative, interactive, co-operative co-constructive pedagogies and e-learning initiatives such as digital storytelling work together effectively to enhance learning and lead to improved student/ teacher relationships. Activities such as student choice, interest driven investigation, collaboration and creative problem solving can increase levels of neurotransmitters in the brain (Wilis, 2008). Researchers attribute student motivation and engagement in part to collaborative and creative opportunities provided by technological strategies (Burt, 2007; Casey & Evans, 2011; Junco et al, 2011; Wheeler et al, 2008).

- *Critical pedagogies*

In order to navigate the barrage of information from mass media, social networking, virtual worlds, gaming, and other sources it is essential that students can think critically to filter information (NLG, 1997; Sandretto &

Klenner, 2011). The New Zealand Curriculum includes thinking as a key competency for New Zealand students.

Thinking is about using creative, critical and metacognitive processes to make sense of information, experiences and ideas. (MOE, 2007c, para. 1).

Metacognition means to consciously think about thinking and is a focus of the New Zealand Curriculum's Learning to Learn principle (MOE, 2012). Metacognitive processes lead to students developing control over their thinking processes (Proust, 2010). Golding (2013) recommends teachers identify their own metacognitive processes thinking then teach by making those strategies and processes explicit for students. McIntosh (2013) defines challenge, collaboration, choice, responsibility, real things and respect as pillars for successful metacognitive thinking that unite learning.

Critical and creative thinking are inextricably intertwined and may be effectively taught together. This avoids critical thinking becoming mechanical without drawing on creative possibilities (van den Brink-Budgen, 2013). To encourage student thinking skills, McIntosh (2013) believes rich student learning occurs using questions that cannot be answered through research. Johanssen (2003) recommends that students develop the critical skills of articulation, reflection, goal setting and achievement strategies, collaboration, conversation, critique, and experimentation. Educational frameworks for critical thinking include De Bono's six thinking hats and Bloom's Revised Taxonomy of cognitive processes.

2.5 Chapter summary

This literature review outlined the constructivist perspective that students learn through interaction with others. The themes of re-defining the role of teachers and learners, using student knowledge to develop capacity and personalising learning were introduced as over-arching themes for this research.

The literature review explored and discussed traditional literacies and new literacies. Traditional literacies such as reading, writing, oral language and visual language are taught in New Zealand schools, with most emphasis commonly placed on reading and writing. Multi-literacies and new literacies have developed as a result of the societal use of digital technologies. It is important that multi-literacies are valued and taught in order for students to be fully literate in a digital society. New literacies relevant to this research include digital literacy, information literacy, multimedia literacy and critical literacy.

This literature review also investigated digital storytelling. Student television is the context for this research and is a form of digital storytelling. Digital storytelling engages and develops multi-literacies and traditional literacies. The inclusion of digital storytelling into teaching and learning can enhance learning outcomes for students. Multi-literacies pedagogy can provide a base for learning in this context. A flexible range of pedagogical strategies can be incorporated to effectively develop multi-literacy learning through student television. Constructivist, critical pedagogies that encourage creativity and collaboration can help develop literacy learning.

The next chapter, Chapter 3, presents the methodology used within this research study. Ethical considerations, research methods, participants and limitations for this study are outlined and discussed.

Chapter 3: Methodology

This research was driven by the desire to investigate, understand and improve my own teaching practice. It was imperative that methodological decisions supported the ethical responsibilities associated with being both researcher and teacher. The methodology chapter begins by describing ethical considerations including the positioning of the researcher as an integral part of this research design. This description is extended to build an understanding of how ethical considerations guided the application of ethical principles to address potential issues and challenges.

Action research is then introduced and discussed as an appropriate methodology for this study. The action research design using qualitative methods of data gathering is described including a summary of each of the three action research cycles. Research activities and methods of data collection are explained in detail and data analysis processes are outlined. Finally, the limitations of this research project are identified and briefly discussed.

3.1 Ethical considerations

In this research project the close relationship of the researcher to the context and the research participants influenced ethical considerations and guided research methodology. I am an insider participant researcher with a decade long relationship within this school as a classroom teacher. I am a syndicate leader, a member of the school management team, and a well-known and trusted member of the school community. This research was planned to

investigate my own practice of teaching student television in order to improve my practice and student learning. The ethical implications of being an insider researcher are identified and addressed in this section.

Insider researchers must show respect and confidentiality to participants. Cullen (2005) and Mutch (2005) identify ethical principles for research to ensure participant safety such as transparent consent processes and respectful research processes. Snook (2003) considers that particular ethical care must be taken when working in schools because participants are young, vulnerable and in a compulsory environment. Alton-Lee (2001) outlines safeguards for ethics when researching in a classroom, such as using student pseudonyms.

The consent process for this research was transparent with no coercion of participants or their caregivers. Consent was given in as informed a way as possible and students understood that participation was voluntary. This understanding was achieved by reading through information letters and consent forms with students and by sending a parent information letter home (See Appendix A). Students asked questions to clarify as I explained carefully what participation would involve and what methods of data gathering were planned. They understood they could withdraw from research at any time and all their research details would be removed. Four students who were invited to participate declined to do so with the understanding that withdrawal or non-participation would not impact on their learning opportunities within student television. Participants knew that pseudonyms would be used to protect their anonymity, and that I was the only person with access to raw data. Throughout the research period all data was treated as confidential. I had the best interests of the participants and school foremost in my research at all times.

New Zealand universities have ethical research guidelines governed by human ethics committees using principles around justice, safety, truthfulness, confidentiality and respect. Prior to research I gained permission from the University of Canterbury Educational Research Human Ethics Committee (EHREC) to conduct this research project, and for the use of information letters, consent forms and other documentation required.

Ethical tensions caused by insider status have potential to arise for practitioner researchers, such as boundary confusion about whether they are in the role of teacher or researcher (Cullen, 2005). Mutch (2005) highlights role conflicts as an issue to consider carefully prior to research. In this study this risk was minimised because I was in a second year of leave from the school when the research was conducted and the school community viewed my role as the student television teacher rather than a classroom teacher, syndicate leader or member of the management team. Nevertheless, I was aware of the potential for role confusion during informal discussions with staff I had worked closely with previously. To respect research ethics around data confidentiality and participant privacy and anonymity, I consciously considered myself a researcher rather than a teaching colleague during the research period. I avoided conversations regarding research findings or participating students except during research interviews with classroom teachers. To counter a potential lack of objectivity as an insider researcher Mutch (2005) recommends using a critical friend or mentor relationship to gain researcher perspective. In my context my thesis supervisors were available to help clarify roles.

Noffke and Somekh (2005) highlight the need for researchers to develop a code of accepted practice with their community prior to research that identifies

and addresses ethical issues. As an insider researcher I respected the school community by ensuring their stories were told with integrity and respect. I shared ethical documentation with the principal, teachers and students prior to the beginning of research. Research timelines were negotiated and established well in advance of research beginning so there were no surprises.

3.2 Qualitative research: action research

The aims of this research study were to identify and explore pedagogies for literacy learning within a primary school student television environment to improve teaching and ultimately learning. This research aimed to provide an understanding of the relationships between pedagogy, technology and literacy learning through an analysis of the experiences of student participants and the researcher. Research methods drew from a qualitative paradigm.

Action research methodology using qualitative research design was selected for this study. Action research does not necessarily only use qualitative methods. Qualitative data is textual and visual as it records experiences and happenings from natural life (Saldana, 2011). This study examined the impact of pedagogy on learning and qualitative methods of gathering student experience were appropriate. Methods included researcher observation, recording of student voice and student and teacher interviews. In this way this study monitored the impact of implementation of a range of pedagogies into student television processes.

Action research is widely used by teachers to investigate and improve their own practice within specific settings (Costello, 2011; Saldana, 2011; Tomal, 2010; Whitehead, 1989). In action research studies practitioner researchers use

their insider status to develop best practice and deepen understandings of teaching and learning. Action research studies benefit from researchers who are familiar with a particular setting and participants (Saul & Launius, 2010). The use of action research methodology can allow a more objective point of view for practitioners in specific environments (Noffke & Somekh, 2005). Action research can influence change for individuals, for organisations and for communities. “Action research is a systematic process of solving educational problems and making improvements” (Tomal, 2010, p.11).

Action research studies often begin with the identification of a research problem. Altricher, Posch and Somekh (1993) recommend that the beginning place for action research can arise from an unclear situation. Prior to research I had been unclear about student literacy learning within student television, and about which pedagogical strategies could enhance literacy learning. I wondered at the relationships between pedagogy, the use of technology for learning, and student television. This research was designed to clarify and improve pedagogical processes to enhance student literacy learning. I was realistic that in the short research periods I could not measure specific literacy gains.

Action research takes place in cycles during which interventions are implemented to improve the situation. The cyclic nature of action research is relevant to contexts where the goal is to improve practice and investigate problems from inside the research context (Altricher, et al, 1993; Noffke & Somekh, 2005). In this action research study, pedagogical strategies to facilitate student literacy learning were implemented into teaching and learning through three cycles of action research. One episode of television was produced within each research cycle. The ability to build on previous cycles

provided strength and purpose for subsequent cycles. The emergent nature of data during action research cycles provided rich information about what was actually happening in this research context.

3.2.1 Action research model for this research study

As a basis for research design I examined a selection of action research models. Within differing action research models there are similarities and differences that are appropriate for different contexts. Noffke and Somekh (2005) point out that models of action research are beginning points for research design. They are planning tools for researchers to tailor to their needs. The following characteristics have been identified as key to action research:

- Action research is used to make improvements within organisations (McNiff, 2013; Noffke & Somekh, 2009).
- Action research involves participation from people other than the researcher (Carr & Kemmis, 2005; Tomal, 2010).
- Researchers define a problem through critical reflection on theory and practice (Cochrane-Smith & Lytle, 2009; Tomal, 2010).
- Researchers seek solutions by implementing interventions and monitoring the results (McNiff, 2013; Tomol, 2010).
- Action research is cyclic in nature, with findings emerging during research (Griffiths, 2009).
- Reflection is a key characteristic of action research (Griffiths, 2009; McNiff, 2013; Tomal, 2010).

Many action research models have similarities. Models by McNiff (2013), Noffke and Somekh (2005), and Saul and Launius (2010) follow a typical

series of phases where the researcher:

- Reviews current practice
- Clarifies a problem or area of practice to investigate
- Imagines a solution and designs action strategies
- Implements action strategies
- Monitors and evaluates the effects of action strategies
- Uses analysis to plan the next steps
- May redefine the question to begin another research cycle
- Publishes their findings

I drew on these characteristics to develop a model for my own research and this is presented in Figure 2. This model guided the three cycles of action research, each of which related to one specific television episode. In the following diagrams and discussion, research cycles are referred to as C1 (Cycle 1), C2 (Cycle 2), and C3 (Cycle 3). The phases within the cycles are referred to as P1 (Phase1), P2 (Phase2), P3 (Phase3), P4 (Phase4), and P5 (Phase5).

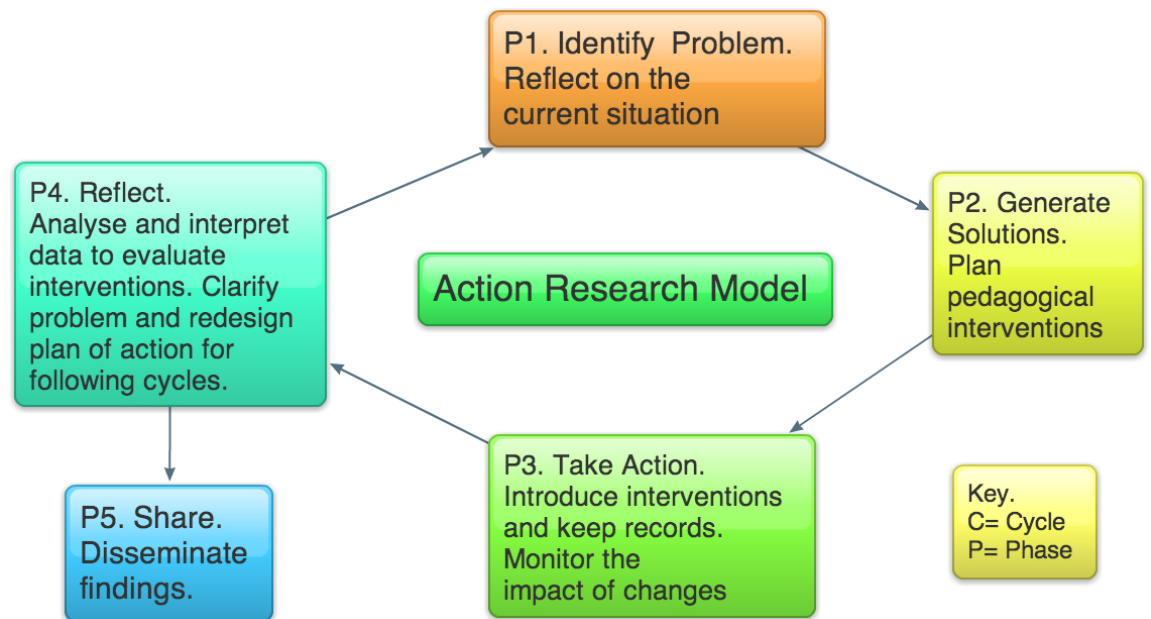


Figure 2. Action research model. Adapted by author from models by McNiff (2013), Noffke & Somekh, 2005, Saul & Launius, 2010, Tomal (2010) and Webb and Scoular (2011).

Research began at P1 with the identification of the research problem. Action researchers recommend developing problem statements through reflection on teacher practice and investigation into the current situation (McNiff, 2013; Noffke & Somekh, 2005; Saul & Launius, 2010; Tomal, 2010; Webb & Scoular, 2011). Through each subsequent cycle the research question was reflected upon and re-defined during P1. P2 of each cycle involved developing pedagogical strategies for implementation during P3. Within P4, implementation was reflected upon and evaluated leading to P1 of the next cycle. Following C3P4, research ends at Phase 5 (P5) with a discussion and analysis of findings. Finally, research findings were shared through the dissemination of this thesis.

3.3 Research methods

This section describes in detail the research cycles for this project and the qualitative data gathering processes. Included in the research methods section is a description of the C1P2 investigation that informed the selection of interventions for the three action research cycles.

3.3.2 The three cycles of action research

The three cycles of action research, C1, C2 and C3 explored specific pedagogical strategies that were implemented and monitored through the phases of each cycle. Figure 3 provides an overview of the three research cycles including information on pedagogical strategies and methods of data collection.

C1

The key research questions guiding this study were identified through practitioner reflection during C1P1. This process was introduced in Chapter 1 of this thesis.

C1P2 was a critical phase in which a range of potential pedagogical strategies for research cycles were identified and evaluated. During C1P2 an investigation was conducted to generate potential solutions to the research problem, as recommended by Webb and Scoular (2011). The investigation began with a literature review into pedagogy, digital storytelling and literacy learning. The literature review is presented in Chapter 2 of this thesis. The investigation also analysed information from open-ended student interviews, and a practitioner-researcher analysis of existing literacy practices and

pedagogical strategies within student television processes. From this investigation a range of potential strategies for enhancing literacy learning within student television were identified, some of which were implemented into each research cycle. These strategies are discussed in more detail in Chapter 4 because they represented the key interventions implemented to varying degrees in the three episodes of student television.

Five pedagogical strategies identified through the C1P2 investigation were implemented and monitored in C1P3. During C1P4 findings from C1P3 were analysed and evaluated. Findings from C1 are presented in Chapter 5. The C1P4 evaluation informed pedagogical selections for C2.

C2 and C3

C2 and C3 followed the same phases as C1. During C2P2 seven pedagogical interventions were implemented and during C3 six pedagogical interventions were implemented. Interventions for both cycles were monitored during P3 and analysed during P4. Findings from C2 are presented in Chapter 6 and findings from C3 are presented in Chapter 7.

The C2P4 analysis led to the selection of pedagogical strategies for C3. As C3 was the final cycle for this research study the C3P4 analysis did not lead to another cycle. C3P5 was the final phase for this research study. During this phase information from all three cycles was analysed and conclusions were drawn and implications for teaching were identified. C3P5 is presented in Chapter 8 of this thesis.

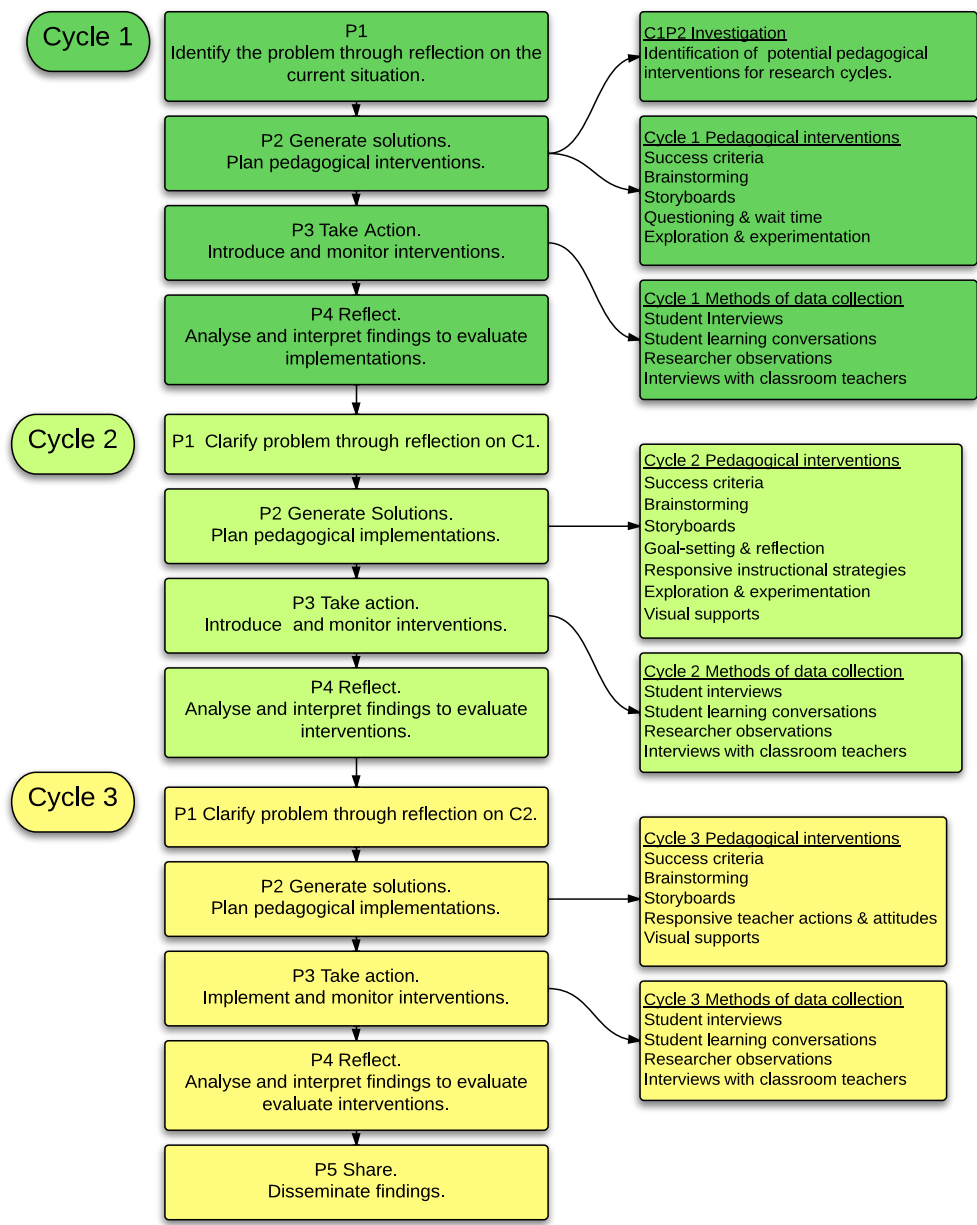


Figure 3. Action research cycles. Adapted by author based on models by McNiff (2013), Noffke & Somekh, 2005, Saul & Launius, 2010, Tomal (2010) and Webb and Scoular (2011)

3.3.2 Methods of data collection

This section presents an overview of data gathering methods for this research study. Each method of data collection is described and a rationale provided for inclusion.

Qualitative data gathering to monitor the impact of changes

Methods of data gathering to evaluate pedagogical effectiveness for student multi-literacy learning included researcher observations, student learning conversations recorded at key points of student television processes, open-ended student-researcher interviews, and interviews with classroom teachers. Table 2 shows a summary of data collection methods.

Table 2

Summary of Data Gathering Methods

Research methods	
Cycle and phase	Method
C1P2	In C1 only: Investigation to identify appropriate pedagogical strategies <ul style="list-style-type: none">• Literature review• Open-ended student interviews• Analysis of existing literacy and pedagogical strategies
All Cycles P3	<ul style="list-style-type: none">• Researcher observations of progress• Open-ended student/ researcher interviews• Audio-recorded student learning conversations• Interviews with classroom teachers

Note: Author's own.

Rationale for data gathering methods

- *Researcher observations*

Noffke and Somekh (2005) and McNiff (2013) highlight the importance of reflection in action research. I recorded daily observational notes using indicators for student actions that could demonstrate the engagement of

literacy (see Appendix B for indicators). Observations were noted as they occurred or recorded following student television sessions. Classroom observations were unstructured to allow me to attend to other activities in the room. Altrichter, Feldman, Posch and Somekh (2008) recommend the use of journal entries that are descriptive and interpretive, recording the thoughts and impressions of the researcher following teaching sessions. Re-reading the journal throughout research cycles enhanced the depth of reflection and provided rich information on teaching and learning. In this way, information from one cycle helped design the next cycle.

- *Audio recorded student learning conversations*

Student conversations were audio recorded at key points of television making processes including scriptwriting, filming and editing. Students knew they were being recorded. Recordings provided information on student learning in responses to pedagogical strategies. Three recordings were made during C1 of between 5 and 15 minutes in duration. Nine audio recordings were made during C2 of between 12 and 30 minutes duration. Two recordings of 40 and 45 minute durations were made during C3.

- *Semi-structured open-ended post cycle student interviews.*

At the end of each research cycle I met individually with participants for semi-structured open-ended interviews to gather student thoughts on learning and pedagogy following the implementation of strategies. Students reflected on their experiences and impressions in relation to the pedagogical actions. Interview questions were formed using Bloom's Revised Taxonomy to encourage deep student thinking and metacognition. Questions encouraged students to reflect on processes, events and outcomes. Each of the three two

week cycles involved a different group of students who provide a range of perspectives (see Appendix C to view typical questions).

- *Semi-structured teacher interviews*

Classroom teachers were interviewed following each research cycle to ascertain whether, from their perspectives, the making of student television made any differences to the literacy learning of students from their classes. Teachers commented on their observations in relation to multi-literacy learning. Although the short time frame did not allow for measurable gains in literacy learning, insights from the deep understanding teachers have of participating students could inform research findings.

3.3.4 Analysis and interpretation of information

Data sources included researcher observations, audio-recorded student learning conversations, interviews with classroom teachers, and student-researcher interviews. Student artifacts developed during research included student television scripts, storyboards, and brainstorm. Such artifacts were used to support the analysis of research data by providing examples of student learning.

Data analysis began during C1 and informed subsequent research cycles. This action research study was emergent in design and following each research cycle the implemented pedagogical strategies were reviewed. Pedagogical actions for research cycles were identified using findings from the C1P2 investigation and from data analysis following the previous cycle. In P4 of each cycle the effectiveness of each pedagogical strategy for student multi-literacy learning was evaluated. Strategies were discarded, selected or adapted

for the next cycle. C3P4 involved synthesising and evaluating findings from reviews of the three research cycles.

Data analysis involved deconstructing the findings by categorising information into similar groups based on emerging themes while looking for patterns in relation to the research question. Data was further analysed throughout the periods between and following research cycles. During data analysis, data was triangulated from the four sources to establish quality and accuracy. Student interviews were transcribed and synthesised for specific patterns.

The research question informed the analysis of data, which necessitated the various sources and types of data to substantiate each other. For example, student responses during researcher-student interviews regarding the effectiveness of goal setting informed, clarified and substantiated information on student goal setting gathered from student learning conversations and learning behaviours observed by the researcher. Data collected during each research cycle was also compared and contrasted with findings from other research cycles and with literature from the field.

Data analysis through categorization and triangulations revealed research trends, patterns and relationships. Findings were then synthesised for each cycle into a summary of data. Synthesising the findings enabled the researcher to form conclusions and recommend further actions.

Data analysis must be accurate, valid, reliable, and credible. Methods of research used within this study include researcher observations, audio-recorded student learning conversations, interviews with classroom teachers, and student-researcher interviews. These methods are valid, effective and

accepted qualitative practices for collecting action research data (Tomal, 2010). Triangulation was achieved through multiple data sources and via the repeated cycles of action research.

The analysis and interpretation of research data from this study provides a rich picture of the research context. Although action research reveals patterns and themes that may not be able to be generalized, there is potential for the research design to be adapted or repeated. To ensure reliability of analysis I have reported all research steps clearly so these research methods may be used in similar contexts or re-used within this context.

3.3.5 Dissemination of findings

Research was concluded following the three action research cycles. A discussion of findings and conclusions from this study is presented in Chapter 8 of this thesis. Chapter 8 also highlights implications and recommendations for teaching and learning as a result of this project. The dissemination of the thesis will occur via the University of Canterbury library and future publications.

3.4 Research participants

Research participants included the author, four teachers, and twenty-two students. During all research stages I followed ethical guidelines to minimise the effects of potential bias within the role of an insider action researcher. During the interpretation of data I was at pains to acknowledge potential researcher bias and view findings as objectively as possible. In this way I

interpreted the various aspects of my research situation while ensuring the reliability and credibility of this research project.

Twenty-two Year 6, 7 and 8 primary school students aged approximately 10-12 years of age participated in this research and they are described in Table 1. The total included seventeen students who were invited to participate because of their involvement in making television one day a week during Terms One and Two of 2013. A further five Year 8 students were invited to participate because it was their turn to anchor an episode. Two of the five Year 8 students had previously participated in one television episode each and three of the five had no prior television experience. I had previously worked with all participants except two as a classroom teacher or while making school television. Table 3 summarises participant year level and prior experience.

Table 3

Research Participants

Cycle (C)	Student	Year	Prior television experience
C1	A	6	✓
	B	6	✓
	C	6	✓
	D	6	✓
	E	8	X
	F	6	✓
C2	G	7	✓
	H	7	✓
	I	7	✓
	J	7	✓
	K	7	✓
	L	8	✓
	M	8	✓
C3	N	7	✓
	O	8	✓
	P	8	✓
	Q	8	X
	R	8	X
	S	7	✓
	T	7	✓
	U	7	✓
	V	7	✓

Note: Author's own

During this research project the twenty-two participants were divided into three mixed year groups consisting of six, seven or nine Year 6, 7 and 8 students. Participant numbers for cycles varied due to illness, student holidays, and non-participation. Each group of students participated in one of three two-week long action research cycles for a total of 22 hours, during which time they made one episode of television. For the research period participants left their usual classroom every afternoon and all Friday to work in the television studio. While this study does not measure increases in literacy

learning, data shows that I worked with a range of students who were mostly working at or above the relevant National Standard for reading and writing. For student literacy levels prior to and following research, see Appendix D.

3.6 Chapter summary

This chapter has described how this research study was planned using action research methodology, an appropriate methodology for practitioner researchers who are trying to improve learning in their context, as in this case. The action research model guiding this research was developed from models used by leaders in the field of action research. In this chapter ethical considerations were described, and research participants were introduced.

Chapter 4 describes the investigation undertaken during the first phase of research cycle one, in which pedagogical strategies for implementation during research cycles were identified.

Chapter 4: C1P2 identification of pedagogies and interventions

Chapter 4 describes the investigation conducted during C1P2 (Cycle 1 Phase 2) that enabled the identification of pedagogical strategies for implementation during research cycles. Investigation methods included a literature review, and an analysis of existing literacy practices and pedagogical practices prior to research. To further gain understanding of literacy learning within television making, individual open-ended researcher-student interviews were conducted. The literature review is presented in Chapter 2 of this thesis.

Chapter 4 presents the analyses of literacy learning, pedagogy and student interview responses. Finally, Chapter 4 outlines pedagogical strategies that were identified as a result of this investigation. Figure 4 illustrates the place of this investigation at the beginning of research Cycle 1.

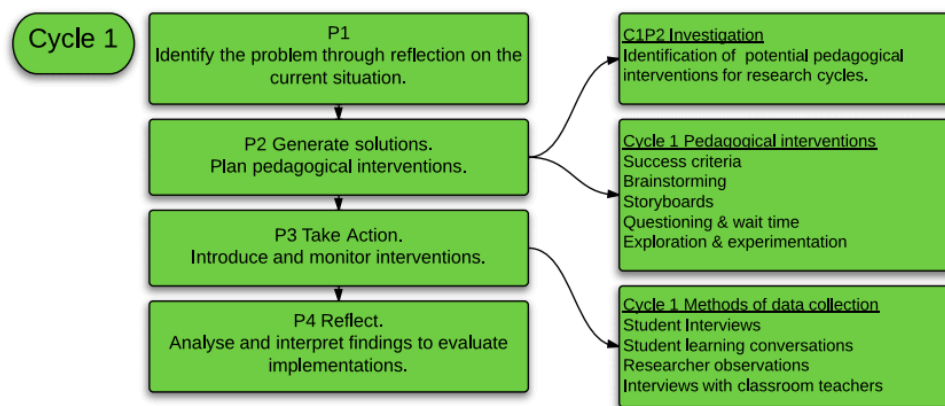


Figure 4. Cycle 1.

The C1P2 investigation was a critical part of C1 because it allowed the researcher to address the research question using all available information. To effectively plan specific actions for research cycles it was vital to fully understand the existing context while comparing it to research from the field.

Figure 5 offers a visual representation of the key considerations influencing the selection of strategies for this research study. Diagram 5 includes an overview of definitions, key competencies, and future focused themes. The following sections will describe and explain these further.

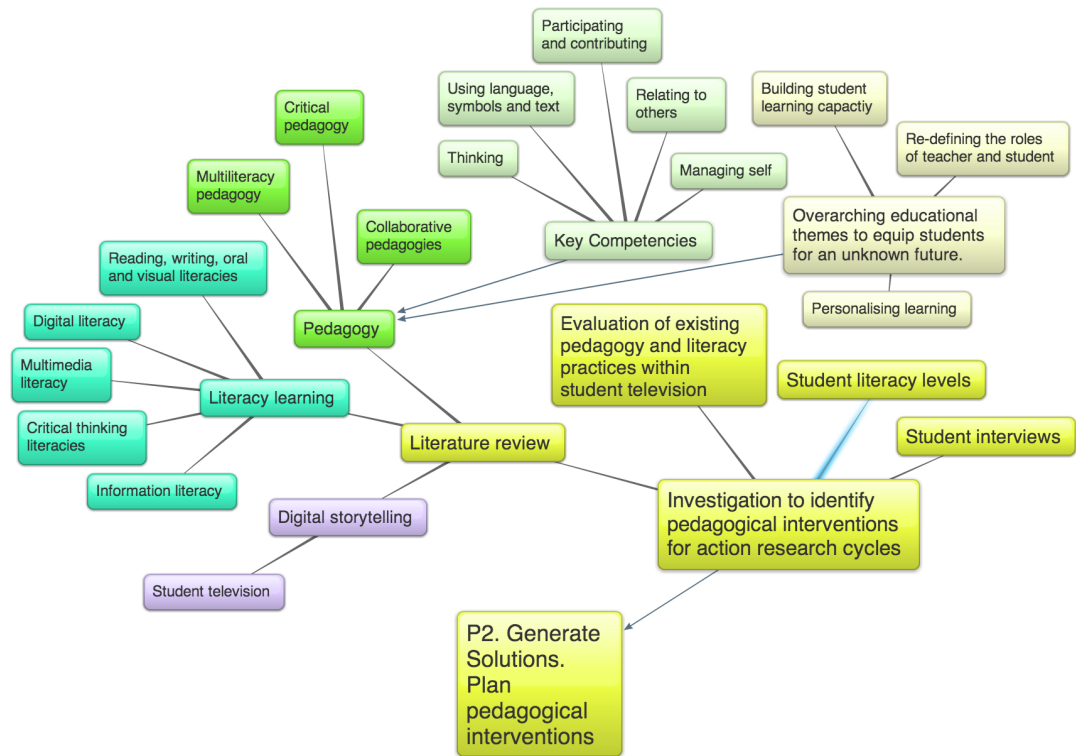


Figure 5. Investigation to identify pedagogies for action research cycles.

4.1 Investigation of existing student television practices

The C1P2 investigation is described in the following section. The investigation explored existing literacy learning and pedagogical practices within student television and gathered student views of learning through student-researcher interviews. A literature review into literacy learning and pedagogy was conducted. This investigation helped identify appropriate pedagogical strategies for implementation during C1P3 and subsequent cycles, and these are described at the end of Chapter 4.

4.1.2 Existing literacy learning

The C1P2 literature review identified multi-literacies including digital, multimedia, critical, information, written, reading, oral and visual that are potentially influenced by participation in digital storytelling. I considered multi-literacies within the existing television context by observing and recording anecdotal notes for student engagement with literacies during one session of television making and considering these observations alongside my prior experiences of facilitating school television.

Table 4 outlines literacy practices prior to research, and may be read with an understanding that literacies are not discrete; they interweave and overlap. Pedagogical actions may influence several literacies simultaneously. Significant literacy overlaps have been noted in Table 4.

Table 4

Literacy Practices Observed during One Television Making Session.

Description of literacy	Researcher observations of student activities
<p>Digital literacy <i>Being able to navigate, explore and present using digital technology. Able to use technology as a tool for learning (Bailey, 2011; Beetham et al., 2009).</i></p>	<p>Independently producing iMovie projects. Independent editing of green screen, clip trimming and sound manipulation. Some students independently navigate between iMovie, iPhoto and Internet pages, and upload photos and video to iMovie. <i>Overlaps with critical literacy</i></p>
<p>Critical literacy <i>Consciously thinking critically. Understanding how language works and is used. (Kellner & Share, 2005; NLJ 1996; Stevens & Bean, 2007)</i></p>	<p>Critically thinking about and discussing story content, sequence, multimedia, props, location, transitions, vocals, sound effects, and mood of stories. Student peer critique during story development, script workshops, and viewing episodes. Some peer feedback and self-reflection. Some use of television meta-language.</p>
<p>Information literacy <i>Being able to identify, access, organise and evaluate information. (Beetham et al, 2009).</i></p>	<p>Internet used to research, source images and plan stories. Information gathered through interviews. Information gathered from a range of sources including staff and students. <i>Overlaps with critical literacy</i></p>
<p>Multimedia literacy <i>Being able to comprehend and communicate using a range of types and combinations of media (Bazalgette & Buckingham, 2013).</i></p>	<p>Multimedia: video clips, still photos, vocals, audio and visual effects and music Evaluation, and critique of stories. <i>Overlaps with critical literacy</i></p>
<p>Oral Language <i>Underpins reading and writing in early literacy acquisition. (MOE, 2009b)</i></p>	<p>Oral presentations to camera. Identification of oral language elements. Peer critique and coaching. <i>Overlaps with critical literacy</i></p>
<p>Reading</p>	<p>Reading and critiquing of scripts, blog, emails, school notices, research information, and text within stories. <i>Overlaps with critical, informational and written literacy</i></p>
<p>Visual language</p>	<p>Incorporated into multimedia literacy. <i>Overlaps with multimedia literacy</i></p>
<p>Writing</p>	<p>Write for an audience. Write the blog, newsletter and noticeboard messages. Email television contributors. Critique and select information for presentation. <i>Overlaps with information and critical literacies</i></p>

Note: Author's own

My earlier observations summarised in Table 4 indicated that multi-literacies including digital, critical, multimedia and informational and visual literacies

were potentially developed through making television prior to research cycles. My observations also indicated that existing practices focused on written and oral literacies and that new literacies were not taught explicitly due to a low level of teacher understanding of multi-literacy learning. I also realized that digital skills were taught as required but critical digital literacy was not addressed and that multimedia referred to the range of media used rather than multimedia literacy. I was unsure how to teach or value literacy learning beyond the traditional interpretation and approaches. The literature review greatly developed my understanding of multi-literacies and new literacies through the work of the New London Group (1996) and Leu et al. (2004) and informed the implementations in this action research.

4.1.4 Existing pedagogies

Data sources for the preliminary analysis of existing pedagogy included planning documents, student-teacher online communications, observations during a one-day long television session, and student-researcher interviews. Table 5 lists existing pedagogical strategies and researcher reflections on their effectiveness for literacy learning.

Table 5

Analysis of Existing Television Pedagogical Strategies

Strategy	Initial analysis of effectiveness
Selecting own stories	✓ Appeared effective
Collaboration	✓
Peer feedback	Occasionally used with no guidelines.
Teacher feedback	✓
Peer tutoring	✓ Highly effective
Assessment	Teacher and students informally formatively critiqued episodes. Episodes were not summatively assessed.
Teacher questioning	Used responsively with limited effect.
Modeling	✓
Direct instruction	✓
Clear learning intentions	Learning intentions were displayed at times.
Success criteria	Success criteria guided aspects of Term 1 progress.
Goal setting	Some students may set their own goals.
Reflection	✓
Planning organisers	✓
Written instructions Blog	✓
Wiki	✓

Note: Author's own

Reflective analysis revealed that several pedagogical strategies including student story selection, collaboration, teacher feedback, peer tutoring, modeling, direct instruction, reflection, planning organisers, written instructions, and the wiki facilitated literacy learning within television.

Some pedagogical strategies have potential for enhancing learning beyond existing levels. These include peer feedback, teacher questioning, clear learning intentions, success criteria and goal setting have potential to enhance metacognition.

4.1.2 Existing student views of learning

As part of C1P2, student perspectives of teaching and learning were gathered through individual semi-structured open-ended interviews with the twenty-two research participants, in order to help identify effective teaching strategies for implementation during research cycles. Students were interviewed two weeks prior to implementation of the two weeks long research cycles. Interview questions were framed using the revised Bloom's taxonomy of higher order processes and inquired into students' opinion of learning within classroom learning as well as within student television. The three students with no experience of making television commented on classroom learning only. Information from student interviews has been summarised to the main points and was crucial for informing pedagogical decisions made during P2 of C1 and subsequent research cycles.

- *Students' preferred learning activities*

When asked about how they prefer to learn, prior to research, most students preferred learning collaboratively and by using visual cues. When prompted about specific strategies students indicated a range of other instructional strategies. Table 6 summarises students' responses. In this instance 'most students' means that over half the students held a similar view.

Table 6

Participants' Preferred Learning Strategies

Strategy	Student views of how each strategy helps them learn.		
	All students	Most students	Some students
Practicing a skill	✓		
Physically doing things			✓
Revisiting work			✓
Listening to instructions		✓	
Written instructions		✓	
Watching a demonstration		✓	
Choosing own learning topics		✓	✓ Prefer limited student or teacher choice.
Following own interests		✓ Prefer to choose own topic.	✓ Prefer teacher choice of topic.
Being challenged		✓ Appropriate challenges	✓ Prefer to set own challenges
Having time to finish work		✓ Would like to set own timeframes.	✓ Currently set own timeframes
Finding things out for yourself			✓
Searching online		✓ Confusion about website reliability and information quantity.	✓ Prefer to search online.
Working with peer tutors or buddies			✓

Note: Author's own

- *What do teachers do to help you learn?*

Students were asked to identify the things teachers do to help them learn. They identified the actions of telling, showing and explaining, strategies also recommended in the Year 5-8 Effective Literacy handbook (MOE, 2006). Collaborative learning was preferred by many students, and has been shown through research to benefit learning in technological environments (Wright, 2010). Student identified strategies such as instructional clarity, providing appropriately challenging tasks, having high expectations, student goal setting,

and trying different ways to communicate information are also recommended as affective by Hattie (2009). SG felt strongly that students who had different ways of learning needed to be taught “numerous amounts of times” in different ways to make sure they understand learning content.

Further teacher actions preferred by students included planning for diverse learners, encouraging problem solving, allowing time for practise and task completion, teaching the use of technology, using appropriate groupings and varied teaching strategies, regular assessment and learning conversations, providing online learning and visual cues, offering hands-on activities, making learning fun, and planning learning that students are interested in or can see value in. Desirable teacher attitudes included being approachable, encouraging, available, accessible, helpful and organised.

- *Comparing learning between student television and regular classroom activities*

Television making occurred collaboratively and students regularly tutored one another. ST notes that, “Working with people and seeing their points of view is good because there are a lot of talented kids and it’s good to see how they think and hear their great ideas as well.” Television students used technology to learn and often filmed outside. In class students worked independently using less technology. SP reports that, “I’m more interested in videos and coming up with the script than I am in normal classwork like writing a story or something.”

- *What students find engaging and challenging when making television episodes.*

Students were engaged by presenting to camera, using technology and filmmaking processes, by collaboration with other students, and by finding out more about their school. Students were challenged by presenting to camera, by filmmaking processes and equipment, by editing in iMovie, by negotiating with others, and by writing original scripts.

- *Student learning through making television*

When students were asked to reflect on what they think they learn through making television they provided a wide range of responses. Most students believed that involvement in student television has helped their written and oral literacy learning. SI noted that scriptwriting,

Helps with your writing because whenever I write a script I'll have an idea in my head and I always want to improve it and improve it, and change the words for the audience.

Several students commented that television making has developed their confidence. While SC considered it challenging to present stories to camera he added that, "I learn to be more confident ...by being in front of the camera." SF added, "I think people get more confident looking into the camera, they're not just looking into a crowd of people." ST noted that, "Student television has helped me a lot for my auditions to be an actress. When I'm in front of the camera I'm getting more confident."

Students believed television processes enhanced digital and multimedia understandings through creating digital stories. SV noted that, "Before I was in school television I didn't know much about the technology. I knew how to use

maybe an iPod or an iPad. Not so much iMovie and cameras.” SO reported that, “I’m learning a lot about film-making.” SN was learning, “Lots of camera skills and how to use technology better.”

- *The value and importance of student television*

Prior to research, all students considered television making important because it was fun, collaborative, interesting, creative, had variety, provided new learning, was public and global and used technology. They thought television making taught responsibility, organisation and confidence and could potentially lead to television, filmmaking or acting careers. Television was considered important to the community because stories reported on school events.

- *Students’ views on potential improvements to learning in student television*

The final interview question in the C1P2 investigation asked students to identify ways that teaching and learning in student television could be improved. Interestingly, responses focused on things they could do rather than the teacher. Responses included making ‘how to’ videos for future television crews, improving editing, lighting, green screening and storytelling, and using more humour while storytelling.

4.2 Pedagogies that promote critical thinking

A synthesis and analysis of information gathered during the C1P2 investigation, drawn from existing literacy learning and pedagogical conditions, existing student views of teaching and learning, and a literature review into literacy and pedagogy, led to the identification of pedagogical strategies for implementation during research cycles. The C1P2 investigation

identified pedagogies that promote critical thinking as useful for implementation during research cycles. Saavendra and Opfer (2012) believe that critical thinking leads to higher order thinking, deep learning outcomes, and complex communication skills. The New Zealand Curriculum Key Competencies include metacognitive, creative and critical thinking (MOE, 2007c). Critical literacy supports the learning of informational, oral, written, digital and multimedia literacies. Pedagogical strategies that encourage students to think critically about their learning have high potential for developing multi-literacies in this context because critical literacy underpins literacy and multi-literacy learning (Kellner & Share, 2005; Leu, et al., 2004; NLG, 1996; Stevens & Bean, 2007). Critical pedagogical strategies could encourage student-teacher learning partnerships, personalised learning, and develop learning capacity.

4.2.1 Pedagogies for implementation

The pedagogies listed below are strategies that encourage critical thinking and have potential usefulness for implementation during research cycles. The research question was complex and there were several potentially useful strategies. For this reason a range of strategies were implemented in each cycle.

Brainstorming

Brainstorming is used to generate ideas from groups or individuals and to encourage metacognition. Participants build on the ideas of others by making meaning and connections using their own previous experiences (Brown & Paulus, 2002).

Success criteria

Hattie (2009) lists challenging success criteria as an affective factor impacting on student learning. Success criteria can help students develop and work towards relevant goals. Ideally, success criteria are learning focused, understood by students, and limited in number. Student input into setting criteria allows student ownership of criteria (Hattie, 2009). Success criteria may be used for formative, reflective and summative self and peer assessment.

Storyboarding

Storyboards are graphic organisers used to plan storylines and sequences for the creation of movies, videos, TV shows, games and advertisements. Storyboards communicate information about camera angles and shots, composition and framing using combinations of words and pictures (Jew, 2013).

Questioning strategies

Questioning is an instructional strategy widely used within education to promote learning (MOE, 2006). The Revised Bloom's Taxonomy of Cognitive Processes Bloom's Taxonomy is structured into six levels of ranging from lower order to higher order thinking skills (Krathwohl, 2002). The use of Bloom's Taxonomy to form teacher questions could potentially aid student metacognition (Krathwohl, 2002).

Wait time

Fries-Gaither (2008) suggests using wait time with questioning strategies to maximum student learning. Wait time refers to the time teachers allow students before they respond to a question, and often average one second or less (Fries-Gaither, 2008; Swift & Gooding, 1983). A wait time of three

seconds or more is recommended for students to engage with, process and respond to a question, thereby facilitating learning retention (Fries-Gaither, 2008; Swift & Gooding, 1983; Tobin, 1987).

Goal setting and reflection

Participation in goal setting and reflection can motivate students and help them construct knowledge (Wilis, 2008). Challenging, specific goals can improve learning outcomes (Hattie, 2009; Locke & Latham 2013). Goal setting and reflection enables self and peer evaluation, student ownership of learning and encourages learning partnerships between teacher and learners (Carroll & Christenson, 1995; Radar, 2005). Student reflection is recommended as a cross-curricular pedagogy in the New Zealand Curriculum (MOE, 2007a).

Student exploration and experimentation

Participants were engaged and motivated by the varied, interesting and creative processes involved in making school television, and the freedom to experiment and innovate. According to Mazotti, Test and Wood, (2012) student choice is a self-determination skill that can be used as a successful learning strategy. Opportunity and time for experimentation and exploration encourage creativity, problem finding and solving, and critical thinking.

4.2 Chapter summary

The C1P2 investigation helped generate solutions to the research problem by informing the selection of strategic pedagogical interventions for action research cycles. Information from a literature review, an analysis of existing pedagogical and literacy learning conditions, and individual interviews into

existing student views of teaching and learning prior to research, provided information that identified pedagogical strategies for implementation within P3 of action research cycles. Further student-researcher interviews took place during P3 at the end of each two-week research cycle, and these interviews reflected on student learning during that research cycle.

The C1P2 investigation defined multi-literacy learning and critical pedagogies. Critical thinking pedagogical strategies selected for implementation and monitoring in action research cycle one were: brainstorming, success criteria, teacher questioning and wait time, storyboarding and student exploration and experimentation. Chapter 5 reviews C1 and identifies pedagogical strategies for implementation during C2. Chapters 6 and 7 present and review findings from research Cycles 2 and 3.

Chapter 5: Review of Cycle 1 (C1)

The presentation and discussion of data review in Chapters 5, 6 and 7 are guided by the research question:

How can pedagogical strategies facilitate literacy development during the making of school television?

Each review chapter begins by presenting an overview of participants, news stories, and selected pedagogical strategies. The impacts of pedagogical strategies on student multi-literacy learning are reviewed, followed by an analysis of how each pedagogical intervention influenced student learning. Actions for the next research cycle are identified and briefly discussed. Figure 6 overviews C1.

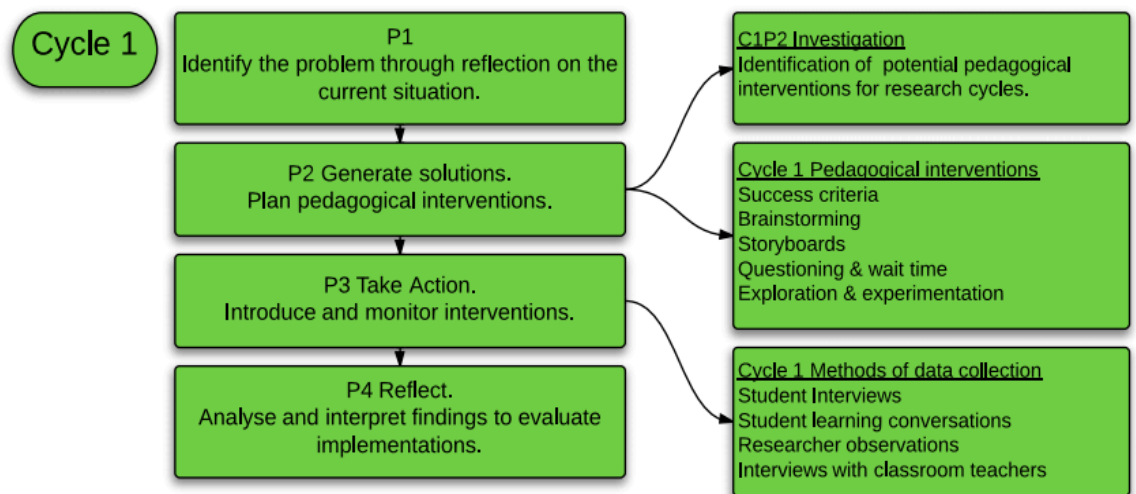


Figure 6. Cycle 1.

5.1 Implementation information

C1 occurred over two weeks during which time six students created one episode of student television. Table 7 shows participant information including prior television experience.

Table 7

C1 Participant Information

Cycle	Date of research	Participants	Year group	Prior television experience	Episode length	Episode views
1	Weeks 2-3 Term 3 2013 5 th -16 th August	SA	6	✓	15.23 minutes	228 views 6 th Sept 2013- 31 st Jan 2014
		SB	6	✓		
		SC	6	✓		
		SD	6	✓		
		SE	8	X		
		SF	6	✓		

Note: Author's own

Table 8 outlines presenters and stories for this episode. The presenters investigated, scripted, presented and edited their stories.

Table 8.

C1 News Stories and Presenters (Scriptwriters, Reporters and Editors)

Story Title	Presenters
Anchors	SE and SF
1 What to do in an earthquake	SB and SF
2 Mastermind quiz	SC and SD
3 Mrs. H's Ugandan trip	SB and SD
4 Regional Cross Country	SE and SF
5 Sundew Writing from Room 16	SA and SC
6 2013 ICAS Winner	SA and SD

Note: Author's own

As discussed in Chapter 4 the pedagogies selected for implementation during C1 were identified by examining existing television processes and are focused on strategies to develop critical thinking. Table 9 describes pedagogical activities and when during research each activity occurred.

Table 9

C1 Pedagogical Strategies, Activities and Days

C1 Pedagogical Interventions	Activities	Days
Brainstorm	Students brainstormed success criteria for roles of scriptwriter, reporter, anchor, cameraperson, interviewer, director and editor.	1
Success criteria Brainstorms	Criteria were discussed and critiqued. Similar ideas were connected. Criteria used to critique a previous television story.	1
	Displayed for use prior, during and following fulfilling roles.	Throughout C1
Storyboards	Teacher modeled storyboarding to plan and sequence stories.	1
	Storyboards used to plan C1 stories. Storyboard used by reporters, cameraperson and director during filming and editing.	3-5
Questioning and wait time	Questioning based on Bloom's Revised Taxonomy with a following wait time of 3 seconds.	Daily
Exploration and experimentation	Exploration and experimentation with vocabulary, sequence, action, camera shots, humour, storytelling and multimedia while scripting, storyboarding, presenting, filming and editing.	1-10

Note: Author's own.

5.2 Review of C1 pedagogical interventions

Interventions within this research cycle focused on developing literacies including multimedia, critical, digital, oral and written. For the purpose of this research project, multimedia literacies incorporate visual, media and multimodal literacies, and digital literacies encompass computer and ICT literacies. The impact of pedagogical strategies on multi-literacy learning during each research cycle was monitored using researcher observations,

student interviews, recordings of student learning conversations, and interviews with classroom teachers.

5.2.1 Role criteria brainstorm

Pedagogical strategies may be used simultaneously if they are complementary (Lui et al., 2010). During C1 brainstorming and success criteria were used together to brainstorm success criteria for television roles. Brainstorms were displayed on the walls as visual cues for student use. Figures 7, 8 and 9 show 3 brainstorms. Some of the writing is has been crossed out in the process of analysing the data. Figure 10 observes participants adding to the brainstorms.

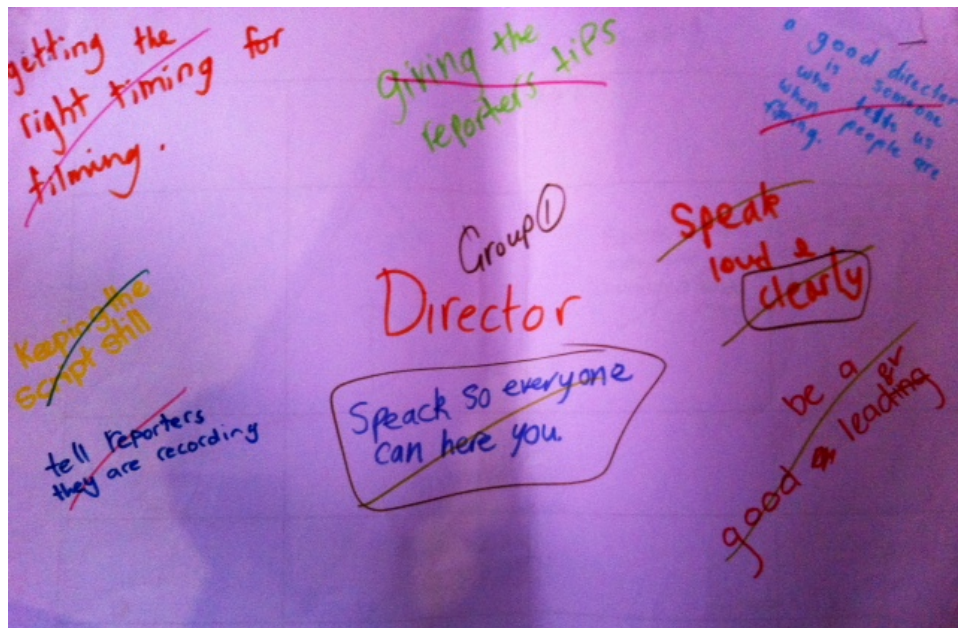


Figure 7. Director role brainstorm

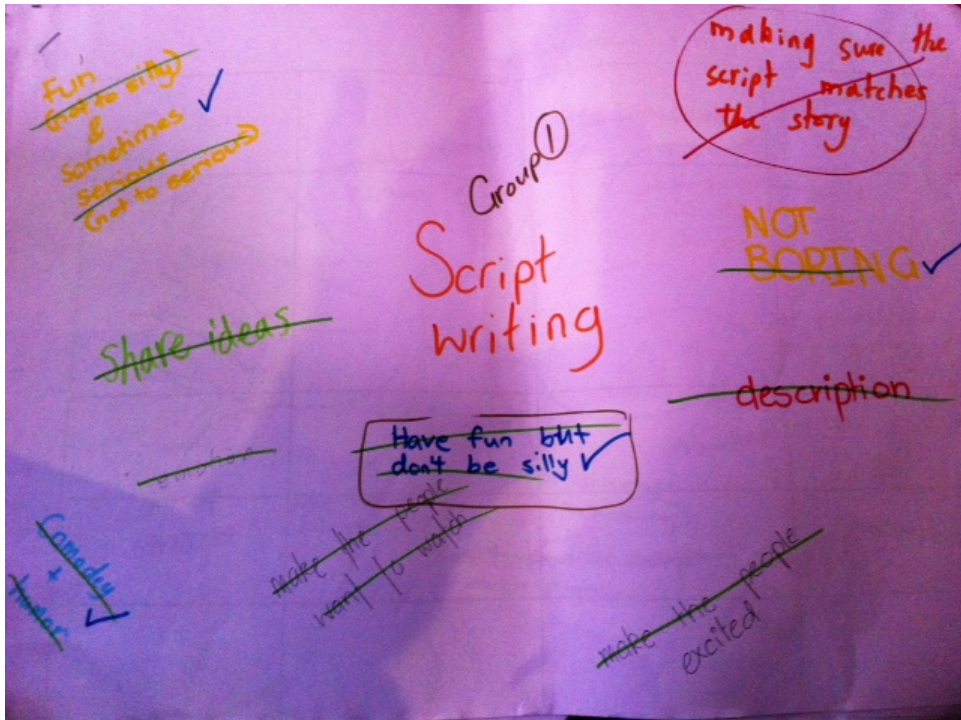


Figure 8. Scriptwriter role brainstorm

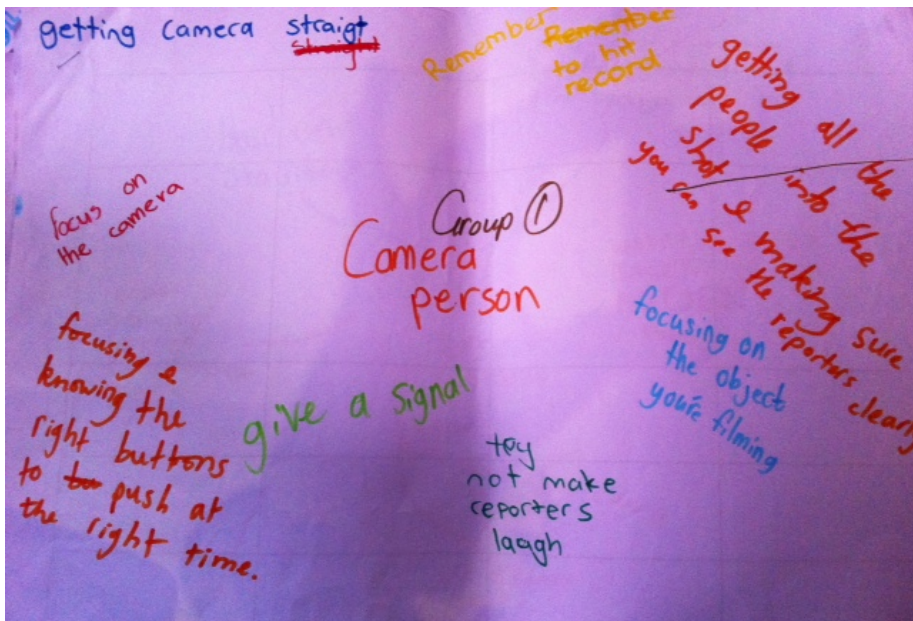


Figure 9. Camera person role brainstorm

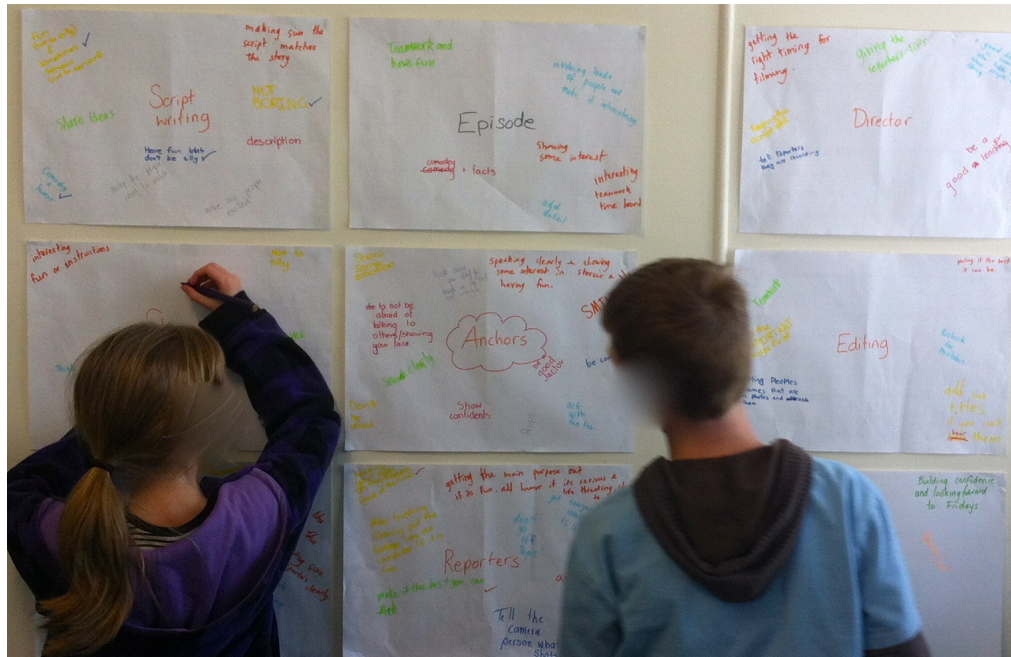


Figure 10. Students adding to role criteria brainstorms

Brainstorming was intended to stimulate and share thinking as students collaboratively developed success criteria for each television role including cameraperson, reporter, anchor, editor, and director. Participants brainstormed their own ideas while discussing and clarifying the ideas of others. Following brainstorming, role criteria were evaluated and participants connected similar items. They then viewed a previous television episode to identify any further role elements. Brainstorming effectively enabled participants to identify, record and evaluate characteristics for each role. Participants reported that developing the brainstorms helped them understand each role. SE notes, “Making the criteria gave me more confidence and helped me know what to do”.

Brainstorms were displayed throughout C1 as success criteria and students referred to them each day before, during and after fulfilling student television

roles. They reflected on their performances and identified what more they could do in each role. SB reports, “It helps you make sure you’re doing the right thing. It’s useful to look at what the other people put and try to do those things.” Students discussed connections between ideas on the brainstorm, suggesting that some items belonged on more than one brainstorm. For example, SB and SF lost their footage in iMovie and consequentially identified that responsibility for uploading and naming video files is shared among roles.

SB: I have an idea of which one I had to edit. I think it’s in the last two clips.

SF: We should have a thing where when we finish filming we put it straight into the computer.

Teacher: Whose responsibility is this; the editor’s or the reporter’s?

SB & SF: Both.

(Students add task to the brainstorms for editors and reporters)

Items on the role brainstorms remained relevant throughout C1 as students used them to improve their learning (see Figure 10).

Each day students are directed to the criteria brainstorms. Today one of the anchors added that when writing the script they had to ‘make the people excited’ and ‘make the people want to watch’. It seems valuable to students to keep referring to and adding to the list. (Researcher observation, Day 7)

Students critiqued their work and provided each other feedback today against the criteria hanging on the wall. Often I observed them looking at it and adding to it, especially if they saw another doing so. They added things they had noticed while they were doing that role. They also wanted to add more levels of criteria for storyboards to help clarify for C2 students how storyboards are most useful. (Researcher observation, Day 9)

Having success criteria displayed effectively facilitated the engagement of multi-literacies. For example, scriptwriting requires written and oral literacy; presenter roles draw on written, oral and critical literacies, while editing

requires critical, multimedia and digital literacies. Table 10 presents data from student interviews categorized into oral, visual, critical, digital, multimedia and written literacies.

Table 10

Participant Reflections using Role Success Criteria

Literacies	Reflections
<i>Oral language</i>	Kept eyes on the camera while presenting. Spoke so everyone could hear in a loud, clear voice. Tried to be more confident.
<i>Written language</i>	Made sure the script matched the story being reported on. Used humour and tried to be more interesting than the usual scripts. It helps scriptwriting to do writing in class.
<i>Digital and multimedia literacy</i>	Tried to film each scene in 3 takes or less. Focused on the subject and kept the camera straight. Editing of green screen sequences and transitions improved. Used the reporters' storyboards to know which shots were required.
<i>Critical literacy</i>	Checked for filming mistakes Added required information to storyboards. Gave communication signals while filming.

Note: Author's own

5.2.2 Storyboards

Storyboarding enabled students to pre-think and plan news stories prior to filming. Students sequenced the script into scenes and drew sketches for each scene showing the filming location, camera view, tone, multimedia and shot layout. For example, participants problem-solved whether they were using still or moving images or a combination of both. Storyboards helped explain shots, locations and filming sequences enabling the crew to plan when to end scenes and where to move the camera next. Students concluded that storyboards needed to be clear and easy to read.

Some students today needed to explain their storyboards to their director and cameraperson therefore realized the need for accuracy when naming and drawing the shots. (Researcher observation, Day 4)

Figure 11 shows a storyboard created during C1, with green writing showing ideas for items that are useful to have on storyboards, while Table 11 presents student views of storyboarding.

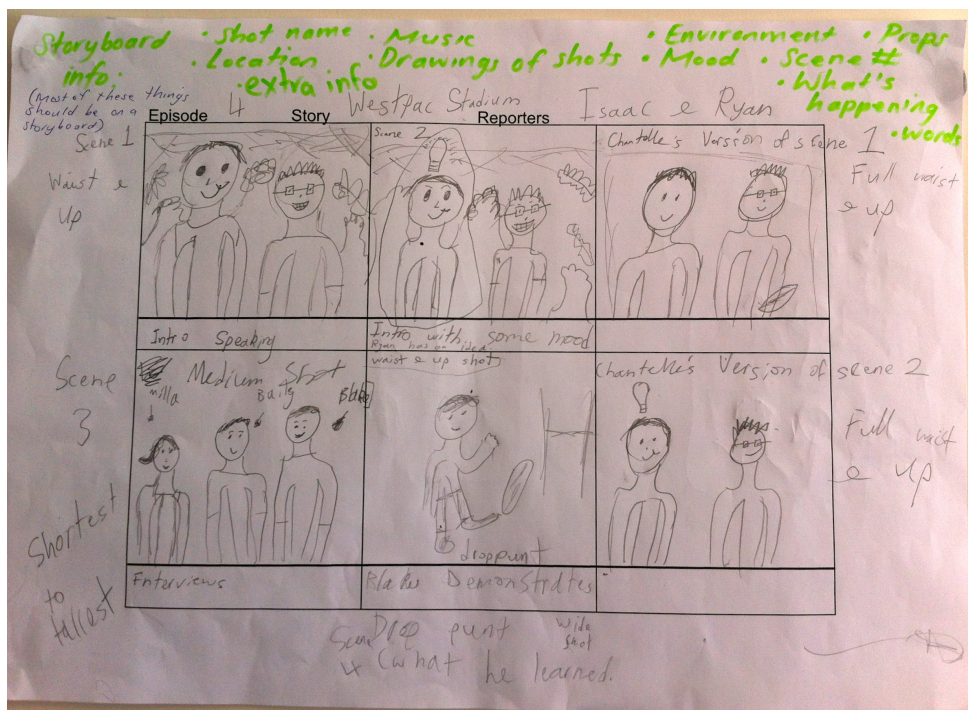


Figure 11. SF's Storyboard

Table 11

Participant Reflections on Storyboarding

Storyboard use	Reflections
Planning	<p><i>SB.</i> Yes it's helpful to plan it out in the way you want to see it.</p> <p><i>SE.</i> Storyboards are useful for planning. It gives you more of an idea and helps you remember.</p> <p><i>SD.</i> The storyboard helped the reporter organise everything instead of going to film on the green screen and not know what you are doing.</p>
Filming	<p><i>SE.</i> Really good for the camera person- didn't need to keep asking the reporters what to do. It was on the storyboard.</p> <p><i>SF.</i> Helps the director see what shots you want instead of you just telling them. Storyboards help the cameraperson know what order the shots will go in.</p> <p><i>SD.</i> The storyboards helped the cameraperson know what shots they had to take and how many scenes there were.</p> <p><i>SB.</i> Storyboards need to have the right information and be clear. They waste time if people haven't thought about it enough.</p>
Editing	<p><i>SF.</i> It helps when you're editing to know what shot you want and how to cut them up. The storyboard made things easy.</p>

Note: Author's own

I had anticipated storyboards benefiting reporters during planning but had not considered their use for the filming stage. I was surprised by how usefully storyboards combined spoken words, written words and visual images to help reporters communicate essential information with directors and camera people prior to and during filming.

The storyboards are having the unexpected flow on effect of causing dialogue between the reporters and the camera people. Students are far more purposeful with the information they add now they have realised the director and cameraperson use them as a tool. They are not just for the reporters. (Researcher observation, Day 5)

5.2.3 Teacher questioning and wait time

The strategic and frequent use of questioning based on Bloom's Revised Taxonomy was designed to clarify student intentions while prompting metacognition and engaging critical literacies. A wait time of three seconds following questioning was intended to allow time to engage with questions and form thoughtful responses. During C1 it was challenging to consistently use strategic questioning as an isolated strategy because it distracted from the responsive use of instructional strategies. Questioning was effective for clarifying, challenging, prompting and extending student learning when used with other strategies for scaffolding such modeling and explaining. Different strategies worked for different sorts of learning and at different parts of the television making cycle.

I'm forgetting to ask questions to prompt autonomy and student thinking. Lots of teacher telling. I have found wait time very effective for allowing students to form responses to questions. Three seconds feels like a long time. However several times students have taken that long to answer. (Researcher observation, Day 5)

Other teacher strategies that have been effective are having clear learning intentions and high expectations. To achieve this I use a lot of paraphrasing and clear, affirmative language combined with questioning, modeling, and explaining where needed. (Researcher observation, Day 7)

At times today questioning was an appropriate strategy for students to develop skills editing footage shot in front of the green screen. Mainly I was demonstrating and students practised. I was also explaining and discussing. As students had no experience in this area questioning was more around what they were trying to achieve. (Researcher observation, Day 8)

An example of the successful inclusion of questioning within a ‘toolkit’ of responsive instructional strategies occurred on the final day of C1. Strategies included questioning, explaining, prompting and listening. I questioned the students around each point they had made in their story, explained that it wasn’t clear and prompted and listened to student suggestions once they had re-interviewed the school Principal.

At 2:30 today there was a strong earthquake. As SB I and I were sheltering under the desk we noted that the reality of the earthquake didn’t match the information the students and Principal had included in their story, ‘What to do in an Earthquake’. After a quick clarification discussion with the Principal, SB and SF adapted their story to respond to the details that become apparent when there really is an earthquake. The students were very distressed to know that they could be misinforming people and aware of their responsible reporting role to help people know what to do. They were very satisfied once the story was adapted because they felt it could help keep students safe. (Researcher observations, Day 10)

An unexpectedly effective use for teacher questioning based on Bloom’s Revised Taxonomy occurred during researcher-participant interviews, which were planned as a research tool rather than a pedagogical strategy. However the open-ended learning conversations elicited responses that showed metacognition as participants reflected on their roles during the making of this episode.

5.2.5 Student experimentation and exploration

Conditions for learning with technology include learning with freedom and constraint (Wright, 2010). C1 students freely explored filmmaking within a two-week constraint. They experimented with language, film effects and

technology during scriptwriting, storyboarding, filming and editing, exploring ideas together and with myself during learning conversations.

Students experimented with lighting interview subjects and the green screen. Explored placement of lamps to reduce shadowing and transparency and improve skin appearance. (Researcher observations, Day 5)

Sometimes the processes of exploration and experimentation identified new options. SE and SF wanted to show that the subject of the previous story was a hero. They explored ideas until deciding to dress as a superhero with a moving cape. I located a video tutorial demonstrating how to make a superhero fly. SE and SF experimented with and adapted this information, eventually using a desk fan to make the cape flap.

Presenters experimented with language to make their scripts stand out from previous episodes. Experimentation with vocabulary and phrasing increased student confidence and story ownership. For example, in a story about earthquakes SB and SF gleefully used the phrase "...awaken a tsunami!" SE and SF ended with, "Well sadly that is the end of this amazingly wave-tastic episode. I think I spy Episode 2 in the distance." Dressed in pirate eye-patches with a pirate image green screened behind them, students peered into stage left through paper spyglasses. This sequence illustrated the effective use of experimentation and creativity with multimedia, props and oral language to communicate a message in a light and humorous way.

Anchors have made props to enhance their storytelling and audience engagement. They felt free and motivated enough to experiment by designing and making their props with confidence, and were organized enough to have everything ready today for shooting. (Researcher observations, Day 7)

Experimentation with language and effect helped scriptwriters negotiate tensions between clear communication and incorporating humour for audience interest. Presenters explored and experimented with vocabulary, sequence, humour, storytelling, and camera shots and angles. Multimedia was explored through experimenting with combinations of media including voice, sound effects, static images, written words, video clips, transitions, music, timing, and formatting. Students often asked, “How do you do that?” or “What happens if I do this?”

Students experimented with using images behind green screen footage and to enhance written or spoken text. I established an iPhoto folder of background images taken by students or I to facilitate the ethical exploration of multimedia. SC and SD experimented with iMovie timing to match the length of a photo with footage shot in front of the green screen.

SD. You need a tiny little nudge...and now it's on.

SC. Let's just check.

SD. Let's just make this a bit longer. How long is that. 18?

Both. Make it 20.

SD. Yes! We did it. It's only a bit long.

SC. Yes but that's ok.

(Plays project)

SD. Wait, just let me shrink. Make it around 19.4... 18.5.

SC. Ok I'm just going to put 19, right, because you know... we don't want it too short. Oh, see?

SD. It's only a tinsy tiny bit into there.

SC. Oh we're not even over there. Yay let's have a look. *(Plays project)*

SC. There you go. I love that.

5.2.6 Observations from classroom teachers

Open-ended researcher interviews with the classroom teachers of participating students provided the valuable opportunity for a perspective other than the researcher's. Three teachers viewed this episode to note anything that surprised or interested them about literacy for their students. One teacher noted the oral language, presentation skills and confidence levels for two students were much higher than previously. She attributed development to repeated experiences of presenting to camera in front of a student television crew.

5.3 C1 Student multi-literacy development

Pedagogical actions were monitored throughout C1 for their impact on multi-literacy learning (see Table 12)

Table 12

C1 Multi-literacy Learning

Pedagogies	Multi-literacies				
	<i>Multimedia Literacy</i>	<i>Critical Literacy</i>	<i>Digital Literacy</i>	<i>Oral Literacy</i>	<i>Written Literacy</i>
Role criteria brainstorms	Role brainstorms were used to set multimedia goals. Reflection on multimedia aspects of Editor role criteria.	Critique of ideas while brainstorming. Critique of role performances against criteria	Reflection on the digital requirements of Editor. Reflection on filming and editing using criteria.	Reflections and goal setting using Presenter criteria showed metacognition.	Reflect on their scriptwriting criteria. Reflections on scriptwriting for strategic audience impact
Storyboards	Storyboard creation used multimedia. Multimedia used to communicate storyboards to others.	Critically sequences storyboard scenes. Reflection on the usefulness and clarity of storyboards.	Used knowledge of iMovie's digital potential to plan storyboards	Negotiation and discussion while storyboarding in pairs. Verbally and visually shared storyboards with others.	Wrote and sequenced information on storyboards
Teacher questioning	Editors clarified and adapted stories in response to questioning	Responses to interview questions showed critical thinking	See teacher questioning	Researcher- student learning conversations.	Adapted and clarification of scripts and storyboards following questioning
Wait time		Critical responses followed wait time at times.		Time to respond to questioning or prepare thoughts for speech	
Student experimentation and exploration	Experimentation with and exploration of multimedia.	Engagement in problem solving. Critique of script/ story matches.	Exploration of iMovie to gain desired digital results.	Confident presentations following experimentation with language. Collaborative exploration of new media.	Experimentation with vocabulary for audience impact.

Note: Author's own

5.4 C1 Evaluation

Each pedagogical action from C1 was evaluated for effectiveness in encouraging student literacy. Pedagogical strategies were either continued in C2 or adapted for use in a different way. See Table 13 for a summary of the links between C1 and C2 strategies.

Table 13

C2 Pedagogical Strategies

C1 Pedagogical Interventions	Effectiveness of pedagogical interventions for multi-literacy learning		C2 Pedagogical interventions
	Effective		
<i>Brainstorms</i>	✓		<i>Brainstorms</i>
<i>Success criteria</i>	✓	Engaged multi-literacies and metacognition.	<i>Success Criteria</i>
<i>Storyboards</i>	✓	Assisted, planning, organisation and communication.	<i>Storyboards</i>
<i>Questioning and wait time</i>	✓	Elicited metacognitive responses during brainstorming and student interviews	<i>Responsive instructional strategies</i>
	✓	Focus on teacher questioning distracted from the responsive use of other instructional strategies. <i>Questioning and wait time</i> were incorporated into <i>Responsive instructional strategies</i> during C2	
<i>Student experimentation and exploration</i>	✓	Effectively allowed student development of learning through scripting, filming and editing processes.	<i>Student experimentation and exploration</i>
		<i>Goal setting and reflection</i> were included during C2 following researcher observations of the effectiveness of reflection and the desire of students to goal set during C1 student-researcher interviews.	<i>Student goal setting and reflection</i>
		<i>Visual learning supports</i> were informally included in C1 in response to student need. For example, C1 scripts were initially limited in content so a '5Ws chart' asking: Who? What? Where? When? Why? How? was displayed causing scripts to improve	<i>Visual learning supports</i>

Note: Author's own

5.5 Chapter summary

The implementation of success criteria brainstorms for television roles, storyboards for planning and sequencing, and exploration and experimentation were effective for learning during C1. Questioning strategies and wait time were effective, particularly in conjunction with strategies such as modeling, explaining and prompting.

Chapter 6 reviews pedagogical strategies during C2. Strategies for review in Chapter 6 include success criteria, brainstorms, storyboarding, goal setting and reflection, responsive teacher strategies, student experimentation and exploration, and visual supports. The Chapter 8 review will identify interventions for C3, the final cycle of research.

Chapter 6: Review of Cycle 2 (C2)

Chapter 6 begins by overviewing implementation information for C2 before reviewing each pedagogical intervention for effectiveness in developing multi-literacy learning. Key findings from C2 are presented and C3 interventions identified. Figure 12 outlines the phases of C2.

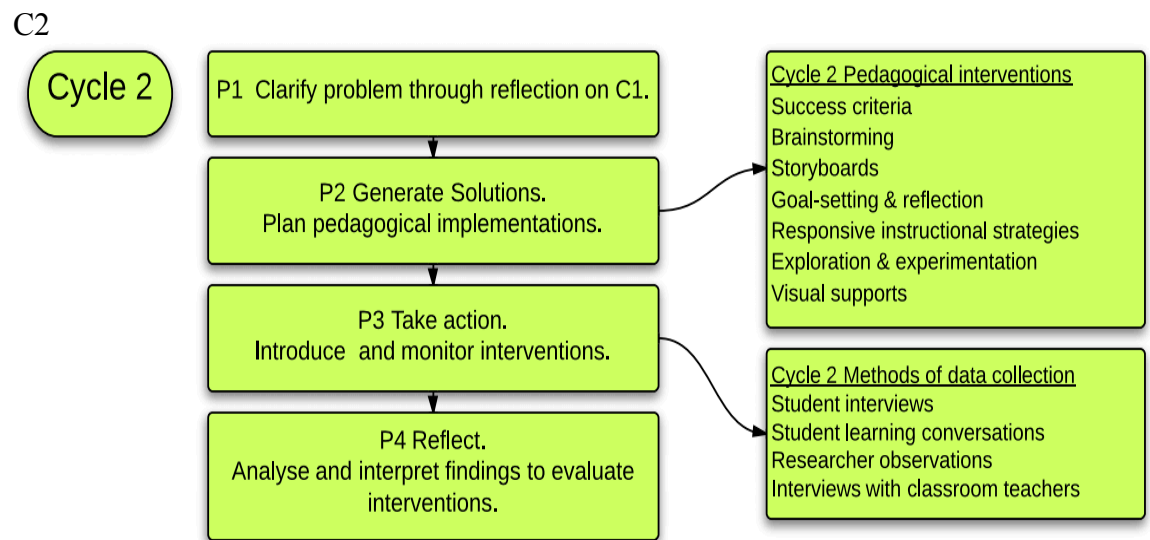


Figure 12. Cycle 2.

6.1. Implementation information

Seven Year 7-8 students participated in C2 during Term 2, 2013. Table 15 provides an overview of participant information for C2.

Table 14

C2 Participant Information

Cycle	Dates	Participants	Year group	Prior television experience	Episode length	Episode views
Two	Weeks 5-6 Term 3 2013	SG	7	✓	15.47 minutes	231 views on school website
		SH	7	✓		
		SI	7	✓		
	26 th Aug – 6 th Sept	SJ	7	✓		
		SK	7	✓		
		SL	8	✓		
		SM	8	✓		

Note: Author's own

Table 15 outlines stories and reporters for C2. SS began participating in C2 but due to illness had to withdraw to participate during C3. She helped script and present C2 stories four and five.

Table 15

C2 News Stories and Presenters (Scriptwriters, Reporters and Editors.)

Story title	Presenters
Anchors	SL and SM
1 Wearable Arts	SI, SL and SM
2 Year 7 & 8 Production- On Stage	SJ and SK
3 Year 7 & 8 Production- Backstage	SG and SI
4 School Disco	SH and SS
5 School Idol	SG, SH and SI
6 Tree Planting	SJ and SK
Dedication	All

Note: Author's own

Interventions for C2 were identified through the evaluation of the effectiveness of C1 pedagogies. Table 16 presents the C2 pedagogical interventions, highlighting any changes in implementation between C1 and C2.

Table 16

C2 Pedagogical Strategies, Activities and Days

C2 Pedagogical interventions	Activities	Days
<i>Brainstorm</i>	As in C1	1
<i>Success criteria</i>	As in C1	1
	Storyboarding success criteria displayed	Throughout C2
	Criteria displayed for student use.	3-5 & 8-10
<i>Goal setting and Reflection</i>	Individual goals for scriptwriting, presenting and editing.	1-5
	Goals displayed, referred to and discussed.	Throughout C2.
	Formal reflection on goals.	10
<i>Storyboards</i>	Storyboards- As in C1 with criteria.	2-5
<i>Responsive instructional strategies</i>	Strategies: questioning, wait time, explaining, modeling, discussing (learning conversation), listening, paraphrasing, prompting, providing feedback, and sharing high expectations and learning intentions, used in response to learning needs.	Throughout C2
<i>Exploration and experimentation</i>	As in C1	1-10
<i>Visual cues</i>	Developed and displayed.	1-10

Note: Author's own.

6.2 Review of C2 pedagogical interventions

This section examines the success of each pedagogical strategy for student multi-literacy learning. Student and teacher interviews, student learning conversations, and researcher observations provided insight into student learning processes while making this episode of school television.

6.2.1 Role criteria brainstorm

Brainstorming role criteria was useful to students. In the opinion of SG, “It is good for people to put their ideas down, that way everyone is learning from each other. SK noted, “Making the criteria was useful because you can get other ideas from different people. I think differently than other people so have different ideas.” As the teacher, I didn’t add ideas to the brainstorms after reflecting that students had accurately recorded the most useful criteria. SL reflected, “It’s useful to make our own criteria and also to have teacher criteria otherwise some things may get missed out.”

Students found referring to role criteria useful, although to a lesser degree than in C1. SM noted, “The criteria were useful. I went back and checked prior to filming to improve”. SH noted, “I knew most of it but it was good to have it there to look at”.

Students at this point are not independently utilising the criteria for each task the way the first group were. (Researcher Observations, Day 5)

Reasons may include a higher level of television experience for C2 participants and less teacher encouragement to refer to criteria. Criteria brainstorms were removed for Days 5 to 8 while the green screen was moved. Although criteria remained accessible on a shelf and were re-displayed, students rarely referred to it. This suggests that for success criteria to be most useful it must be visible and referred to for constant use.

6.2.2 Goal setting and reflection

Students set individual goals, using the success criteria, to improve scriptwriting, presenting and editing which were displayed on the wall. Goal foci were intended to help measure the impact of pedagogies on multi-literacy learning.

Students are working on their goals for scripting and presenting, and reflecting effectively on their scriptwriting in learning conversations with each other and with me. (Researcher Observation, Day 3)

Participants were asked how setting goals had helped their literacy learning and discussed progress towards their goals (see Table 17).

Table 17

Student Views of the Usefulness of Goal Setting for Learning

Student	Useful	Reflection
SI	✓	
SL	✓	If I didn't set goals it wouldn't have been as good as it is. Goals give a standard you have to reach. No goal equals no standard.
SM	✓	I know what I need to work on and don't do the same thing as last time.
SH	✓	Gave me something to try to achieve.
SK	✓	Better than having no goal.
SJ	✓	Useful as long as the goals is achievable.
SG	✓	'Thinks' goals, e.g. "Ok that part didn't work out, this is what I could do next time."

Note: Author's own

Students used goals as a deliberate strategy to improve their performance in each role. Students were focused on using their goals to improve specific aspects of written, oral and digital literacies. Goal setting was an effective tool

for motivating and focusing students to develop learning during C2. For example, SM and SL set a scriptwriting goal, “Make the script more exciting by adding different and attention catching words and phrases, and by using humour.” SL had been very reluctant to goal set but on reflection found it helpful, “Very useful to have. Not just the idea but more detailed.” SM and Sly experimented with character, vocabulary, tone and humour to achieve their goal.

SM and SL decided their anchor personalities and style would be disorganised and set comedy around that. Imparting their message in a clear way was very important to them. There was quite a lot of quite heated debate about words to choose, tone of voice, props. Compromises were made, generally with good humour. (Researcher Observation, Day 1)

SL’s reflection,

Scripting has gone quite well both for anchors and for the audience. We made it exciting, fun and sad. We added different words such as ‘intense’ and ‘spit it out’. The script was definitely more exciting and different than other anchor scripts. My next goal is to come up with more ideas. Don’t just go with the first idea.

SM’s reflection,

It was not just introducing the news; we made it humorous. We used lots of different questions. We needed to stay on topic more as we’re going off in places. We need to find the balance between humour and being the anchor.

Students commented that goals they set were more achievable and challenging than goals set by teachers. SJ noted, “It helps to set our own goals because we need to be challenged. Teachers may choose a goal that is not achievable.” SM added, “It’s useful to set my own goals so I can do it my own way.”

Participants informally reflected on goals throughout C2. Key points from reflective conversations were displayed and discussed which kept them foremost in student minds. SI considered it useful to view other people's goals to "Remind me of the stuff I need to improve on by sharing goals and seeing how they went". Reflections engaged metacognition because students had focused so closely on their goals throughout C2 to clarify learning and progress. Students were highly immersed in their learning experiences so were excited to share their learning processes with an interested audience.

Several students reflected on their increased confidence through making television. SH noted, "I'm getting better at speaking in front of the camera. I used to speak too loud or too quiet or too fast. I'm more confident at speaking in front of people." SJ and SK agreed, "I'm getting confident in front of the camera and not laughing" and, "I'm more confident in front of a camera." The classroom teacher of one participant observed that the student who appeared shy and quiet in class wrote and presented with confidence.

During C2 I discussed multimedia literacy and critical literacy with students. SI reflected on her understanding of multimedia,

Multimedia helps add to the mood of a story. Sound effects and music help with surroundings and add to the story and the mood.

SH reflects on her use of critical literacy,

If you can't get the picture you want or have problems it gets you to think of solutions. I am developing critical literacy while editing. What music suits, the transitions, and the sound effects. I'm developing critical literacy through scripting as well. I need to think if it's true or if it doesn't really suit the mood.

Goals were reflected on formally with the researcher on Day Ten in student interviews. Participants were very engaged and tried to make their responses full and useful. The examples below show engagement with multi-literacies such as critical thinking, digital, written, oral, visual literacy and multimedia literacies. Literacies are enhanced by reflection on learning goals as students strive to improve their practice in student television roles. Participants identified within their script or news clip where they had met their goals.

SK's scriptwriting goal:

Tone. Make it exciting and promotional. Tell them what it's about, the details.

Reflection: Improved. Added more detail. It was longer to tell people more about it. It could've been more exciting to watch.

SK's classroom teacher observed a high level of engagement while scriptwriting and presenting from a student who displays little motivation for writing in class. SK attributed his engagement to television making being fun and collaborative.

SJ had set a goal to film within four takes or less. His script contained complex factual information and SJ muddled his lines causing filming to take more than ten takes. He reflected to problem solve strategies for improvement.

We could do one take for a paragraph or a group of paragraphs. Then it's easier to remember. It's hard to memorise a whole script. Rather than reading it may work better to think about the main points. Have a rough idea and make up the words during filming.

SI had enthusiastically using goal setting and reflection to improve her news stories throughout C2. She viewed the goals and progress of other students closely as she felt that helped her progress. She found presenting to camera

very difficult as she easily became shy. She worked towards her own goals and towards the goals of others. She often contributed to or instigated reflective conversations around the goals of others with the teacher or participants. She sometimes suggested ways for other students to develop their learning or skills or discussed ways she had approached a similar situation. During her student interview SI expressed satisfaction with her performances even though her goals had not always gone as planned.

SI's scriptwriting goal

Make the script fun for the audience yet serious.

Reflection: I thought about doing what I say I'll do in the story introduction. I haven't gone off task and made it silly. I provided information but it's not boring. I focused on language and words.

SI's presenting goal

To be confident and not wiggly.

Reflection: I showed confidence. I smiled, used a clear voice. I was not wiggly. I only moved the bits of me that were out of the shot. I did pretty well the first story, the second story was less good because I became self-conscious and shy and forgot all the things I needed to do.

As well as being a useful research method of information gathering, formal student-researcher interviews also proved to be a useful pedagogical action. The interview situation created a learning conversation where students reflected on their learning while the researcher used focused questioning to extend responses.

6.2.3 Storyboards

Student storyboards in C2 were expected to include all items of criteria unless there was a valid reason for exclusion. This adaptation responded to C1 feedback from SB that storyboards are only useful if they are clear and easy to understand (see Figure 13).

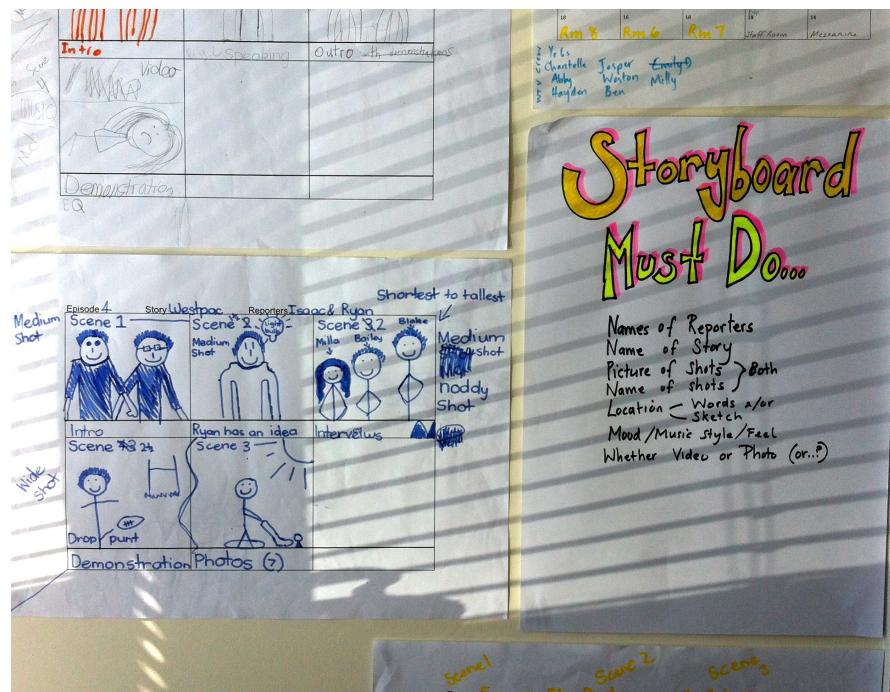


Figure 13. C2 storyboard criteria

All students found storyboards useful for planning story sequences after scriptwriting and prior to filming, apart from SL who found it an unnecessary step. SI reported, “Storyboards are useful when planning because they are a visual plan of what you’re going to do. You can visualise the shots and mood”.

Storyboarding helped reporters communicate information to the director and camera people more easily than by talking alone. SJ notes that, “It’s a lot

easier if you're the director and camera person to know what shots to do." SH agreed. "We knew exactly what we had to do instead of discussing it at the scene or during filming.' Storyboarding helped some students edit because they had planned out their ideas in advance.

6.2.4 Responsive instructional strategies

Instructional strategies including questioning, wait time, explaining, modeling, discussing, listening, paraphrasing, prompting, providing feedback, and sharing high expectations and learning intentions, were intended for responsive and strategic use during C2. In C2 I refer to discussions about learning as 'learning conversations' after reflecting that C1 student interviews operated as learning conversations that facilitated articulate metacognitive reflections. I hypothesised that using strategic learning conversations could encourage learning.

I prompted and questioned as I discussed goals with students, referring to ideas off the criteria brainstorm if they were not sure. Most students were clear without prompts about what they needed to get better at. (Researcher observations, Day 2)

I had several reflection discussions today with students about the goals they had set earlier in the cycle. (Researcher observations, Day 7)

The responsive use of strategies facilitated 'just in time' learning moments. For example when SG needed to light the green screen, I explained and demonstrated the distance the lights needed to be from the subject, and questioned later to prompt reflection. She gained enough knowledge to experiment with lighting arrangements and successfully film her sequence.

Teacher attitudes and actions such as sharing high expectations, knowing the learner and differentiating learning promoted effective learning. Following are four examples of situations where intentional teacher actions were implemented and reflected upon in relation to student learning.

I put a lot of emphasis today on the accurate use of spelling, grammar and punctuation, which I referred to as 'basic literacies'. The expectation is that they do not even dream of attempting to script, blog or email without demonstrating basic literacy skills such as these, as every time they do so they are representing their school. This caused the standard of surface features on student scripts to improve. (Researcher observations, Day 2)

SI and SG had reached a stalemate with SG saying no to everything SI suggested. This was out of character. This I acknowledged by asking her about her weekend and whether she had had much sleep, in front of her partner. She was visibly more relaxed after that and the other child was aware that she was not feeling 100%. They were given until the end of morning tea to select which idea they would use. During morning tea they decided to create voice-overs. Students were animated and interested and continued to re-shuffle the order of the story, the music and the voice-overs until it was something they were very proud of that they felt 'read' very well. (Researcher observations, Day 6)

Anchors uploaded and edited. They were much slower than the last anchors so I'll need to allow them more time. Another pedagogical strategy is being responsive to the needs of all learners, beginning to personalise learning to suit the student. (Researcher observations, Day 6)

Questioning using Blooms was very effective today as I tried to find out what the editing goals of the anchors were. Teacher questioning appeared to help clarify their thoughts and achieve their goals. Students had contradictory ideas for managing part of their story. Through questioning, paraphrasing and clarification students articulated their ideas and rationales. I

believe the voice needs to be that of the students (Researcher observations, Day 6)

It became clear during C2 that there were strong interconnections between the pedagogical strategies. For example, participants used role criteria to form goals and experimented and explored to achieve their goals. Visual cues developed through brainstorming enhanced student goal setting and reflection. Storyboarding was successful in combination with responsive instructional strategies such as modeling and explaining. Pedagogical interventions enhanced literacy learning powerfully in conjunction with each other.

6.2.5 Visual supports

During C2, new visual cues were displayed on the walls of the student television studio including information about camera shots and angles, reminders of filming cues and signals, storyboarding criteria, role criteria brainstorms, student goals and current school newsletters. Visual cues were designed to make learning shared and public, to support student autonomy and to support students in completing their learning tasks. In example one, visual cues describing a range of camera shots were displayed to encourage a consistently understood metalanguage to avoid miscommunication and confusion between reporters and camera people. Figure 14 shows a visual cue displayed to clarify camera shots.

Shot Types

There is a convention in the video, film and television industries which assigns names and guidelines to common types of shots, framing and picture composition. The list below briefly describes the most common shot types (click the images for more details).

Notes:

- The exact terminology varies between production environments but the basic principles are the same.
- Shots are usually described in relation to a particular subject. In most of the examples below, the subject is the boy.
- See below for more information and related tutorials.



EWS (Extreme Wide Shot)
The view is so far from the subject that he isn't even visible. Often used as an establishing shot.



VWS (Very Wide Shot)
The subject is visible (barely), but the emphasis is still on placing him in his environment.



WS (Wide Shot)
The subject takes up the full frame, or at least as much as comfortably possible.
AKA: long shot, full shot.



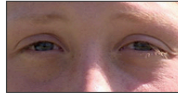
MS (Mid Shot)
Shows some part of the subject in more detail while still giving an impression of the whole subject.



MCU (Medium Close Up)
Half way between a MS and a CU.



CU (Close Up)
A certain feature or part of the subject takes up the whole frame.



ECU (Extreme Close Up)
The ECU gets right in and shows extreme detail.
Variation: Choker



Cut-In
Shows some (other) part of the subject in detail.



CA (Cutaway)
A shot of something other than the subject.

Figure 14. Example one. Camera shots visual cue

In example two, guidelines were required for signaling during filming sequences. I recorded and displayed a sequence of instructions described by participants. Other students consistently referred to this visual support while filming. (See Figure 15).

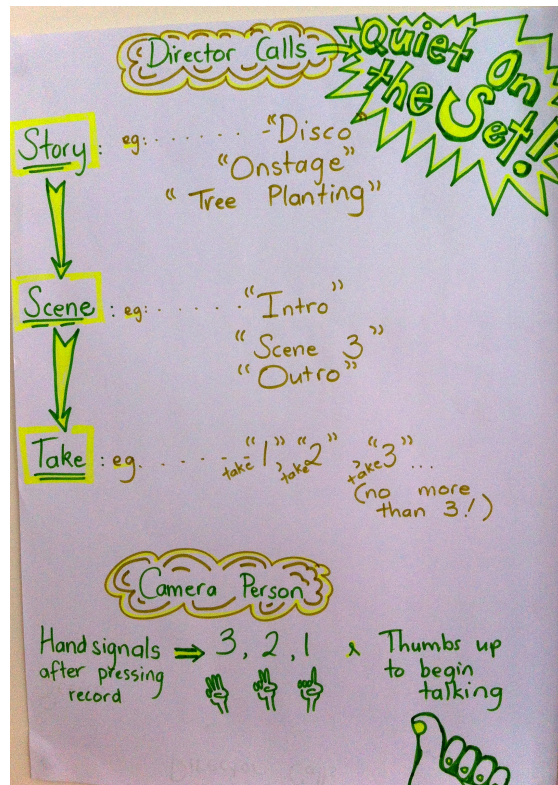


Figure 15. Example two. Visual cue showing filming communication sequence.

Students frequently viewed and discussed all visual supports. SJ reported finding the Who? What? Where? When? Why? (5Ws) chart from C1 useful to help him remember what to include in a news report.

6.2.6 Student experimentation and exploration

Throughout C2 students constantly explored and experimented with television making processes. This encouraged the development of original and interesting student media demonstrating the engagement of critical, digital, and multimedia literacies. For example, SG and SL strategically aimed to subtly communicate with the audience so they ‘read’ the story in the way they

intended. They experimented with mood music, transitions, voice-overs, sound effects and silences to develop a highly crafted sequence.

Students noticed that different transitions between photos or video send different messages to the audience and used this to convey the pace of stories. During an editing conversation SK said, “You should use this transition to show it’s not properly finished”. SJ and SK edited a story covering a tree-planting event at school.

SJ and SK were clear that a ‘story within a story’ should have shorter, less obvious transitions to indicate that it is a story in a story. A longer transition indicates a story is ending or beginning. (Researcher observations, Day Seven)

SK. ...and we need to put some more transitions in.

SJ. Use more transitions.

SK. Make it brighter.

SJ. Brighter?

SK. Yeah, it’s quite dull.

SK. ... and some more colour.

SJ. Play through... that looks so bright.

SK. Transitions.

SJ. That looks nice now. Maybe do a bit more to this one because it looks a bit dull there.

SK. No.

SJ. What do you think?

SK. It looks good like that. Keep it (*the transition*) the same because they all had crosses in.

In another example, SG, SH, SI and SS explored precise language while scripting a story covering the School Idol talent competition. They began with two reporters green screened in front of a news studio backdrop, then cut away to two reporters broadcasting ‘live’ from the school hall.

SG. *‘Hi! We’re here in the School TV studio, your source of information...’* Wait, no. *‘Hi, we’re reporters from...’*

SI. Yeah. That sounds better.
SG. *'Hi, We're reporters from School TV, your source of information...'*
SS. No, no. That doesn't make sense."
SG. Yeah it does. *'We're reporters from School TV your source of information...'* Does it?
SH. Yes it does.
SS. No, it sounds better than saying that the studio is your source of information.
SH. True, true, true.
SG. Ok. *'Hi. We are reporters from School TV, your source of information on Idol's down and dirty.'*
SS. *'In the hall is where all the acting, singing and dancing is unfolding.'*
SG. *'Reporting live from the school hall are...'*
SH. *'We are on the spot reporters reporting...'* (falters and stops)... (laughter)... I say report too much, *'Reporting live. Reporting live, Reporting live.'* (Runs through again and stumbles).
SH. *'We are the on the spot reporters for School Idol 2013.'*

6.3 C2 Student multi-literacy development

Pedagogical implementation in C2 was evaluated for multi-literacy development. All of the strategies implemented in C2 could be mapped to the multi-literacies in this study as summarised in Table 18.

Table 18

Multi-literacy development during C2

Pedagogies	Multi-literacies				
	<i>Multimedia Literacy</i>	<i>Critical Literacy</i>	<i>Digital Literacy</i>	<i>Oral Literacy</i>	<i>Written Literacy</i>
Role criteria brainstorms	Multimedia aspects of 'editor' role identified and used.	Brainstorming engaged critical literacy	'Editor' criteria improved filming and editing	'Presenter' criteria improved oral presentations to camera	'Scriptwriter' criteria improved specific aspects of scriptwriting.
Goal setting and reflection	Students deepened aspects of multimedia literacy through focus on multimedia choices.	Goals setting and reflection engaged metacognition as students critiqued progress	Editing goals and reflections helped focus and develop digital literacy	Scriptwriting goals and reflections improved oral language	Scriptwriting goals and reflections helped focus and improve written literacy
Storyboards	Storyboards plan for the use of multimedia. Storyboard criteria guided communication	Students critically analysed story sequences and elements	Digital processes were planned on storyboards	Storyboards were shared with reporters and film crew	Sequencing and writing were required while storyboarding
Responsive instructional Strategies	Strategies were utilised to target student multimedia learning	Prompts and questioning	Strategies were utilised to target student digital learning	Time to practice, high expectations, differentiating learning	Questioning, knowing the learner, high expectations,
Visual Supports	'Multimedia' visual cue helped students understand and use multimedia literacy	Students used visual supports to access and use knowledge as required	'Camera shots' visual cue helped students define and frame camera shots and angles	'Filming signals' visual cue helped students communicate during filming	'5 W' visual cue helped students remember to include elements of a news report
Experimentation and Exploration	Involved purposefully experimenting and exploring combinations of media for storytelling	Decision Making & problem solving	Students exploring areas of interest, and experimented to gain desired digital results.	Developing student television metalanguage.	Experimented to manipulate audience emotions exploring combinations of information, humour and seriousness

Note: Author's own

6.4 C2 Evaluation

Each pedagogical action from cycle two was evaluated for effectiveness in encouraging student literacy. Adaptations were made to pedagogies previously implemented, or new pedagogical approaches were introduced. Table 19 summarises the effectiveness of pedagogy for student learning in C2.

Table 19.

Evaluation of C2 Strategies to select C3 Strategies

C2 Pedagogical Interventions	Effectiveness of pedagogical interventions for multi-literacy learning		C3 Pedagogical Interventions
<i>Brainstorms</i>	✓		<i>Brainstorms</i>
<i>Success criteria</i>	✓	Works in conjunction with goal setting and reflection	<i>Success criteria</i>
<i>Storyboards</i>	✓		<i>Storyboards</i>
<i>Goal setting and reflection</i>	✓	Encouraged metacognition.	<i>Goal setting and reflection</i>
<i>Responsive instructional strategies</i>	✓	Responsive instructional strategies from C2 required further investigation. Adapted into Responsive teacher actions and attitudes.	<i>Responsive teacher actions and attitudes.</i>
<i>Experimentation and exploration</i>	✓	Effective strategy.	
<i>Visual learning supports</i>	✓	Supported learners.	<i>Visual learning supports</i>

Note: Author's own

6.5 Chapter summary

The implementation of brainstormed success criteria, storyboarding, goal setting and reflection, responsive instructional strategies, experimentation and

exploration and visual supports were effective for learning during C2. Student experimentation and exploration had very similar findings in C2 as in C1. I was satisfied that student experimentation and exploration was an effective strategy for learning in this context so discontinued formal monitoring in C3.

This cycle indicated that responsive instructional strategies required further expansion and exploration particularly in relation to the effective use of strategies in response to student's needs, the impact of teacher attitudes and actions on learning, and the role of the teacher within school television. This strategy was implemented during C3 as 'responsive teacher attitudes and actions'. Chapter 7 presents a review of pedagogical implementation in C3, the final cycle of research.

Chapter 7: Review of Cycle 3 (C3)

Chapter 7 presents a review of pedagogical interventions during Cycle 3 (C3) beginning with an outline of implementation information and a review of each pedagogical intervention. Following this is a summary of findings for the three cycles of action research. Figure 16 overviews the phases of C3.

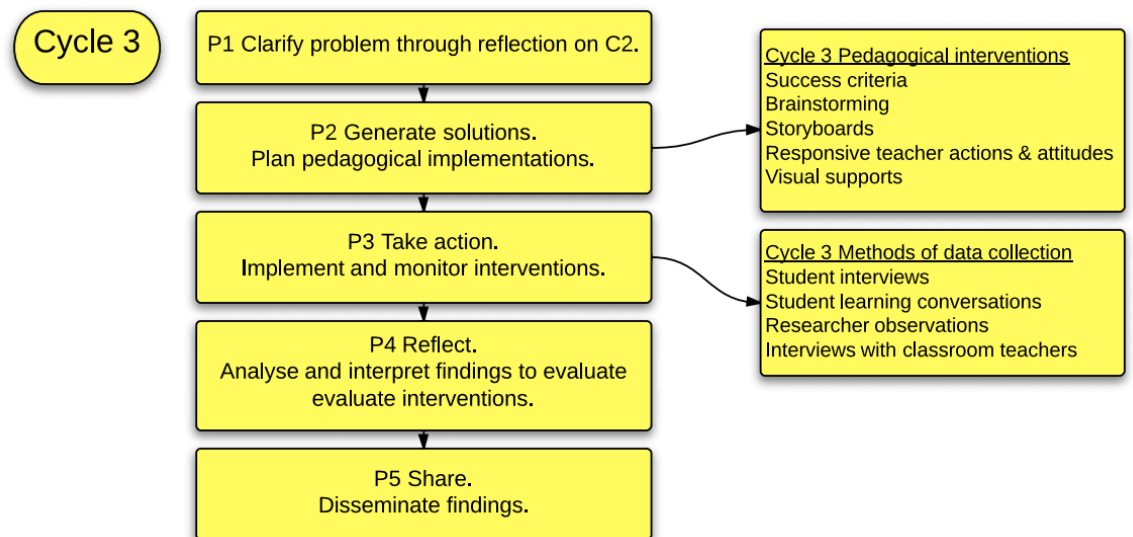


Figure 16. Cycle 3.

7.1 Implementation information

Nine year 7 and 8 students participated in the third and final research cycle at the end of Term 3 in 2013. Participant information is presented in Table 20.

Table 20

C3 Participant Information

Cycle	Date of research	Participants	Year group	Prior television experience	Episode length	Episode views
C3	Weeks 8-9 Term 3 2013	SN	7	✓	14.50 minutes	165 views 3 rd Nov 2013-31 st Jan 2014.
		SO	8	✓		
		SP	8	✓		
	16 th Sept-27 th Sept	SQ	8	X		
		SR	8	X		
		SS	7	✓		
		ST	7	✓		
		SU	7	✓		
		SV	7	✓		

Note: Author's own

During this episode of television the nine students developed seven news stories. Table 21 identifies the C3 news stories and presenters.

Table 21

C3 News Stories and Presenters (Scriptwriters, Reporters and Editors)

Story title	Presenters
Anchors	SQ and SR
1 Artsplash	SP and SQ
2 Gala Poster Competition	ST and SV
3 Writers' Walk	SS and SU
4 Second Languages	SN and SO
5 Hockey Prizegiving	SN and SS
6 Tree Planting	SJ and SK
7 NIWA Science Fair	SO and SP

Note: Author's own

Table 22 outlines the pedagogical interventions, the activities involved, and the days they were implemented.

Table 22

C3 Pedagogical Strategies, Activities and Days

C3 Pedagogical Interventions	Activities	Days
<i>Brainstorm</i> • <i>roles</i> • <i>multimedia</i>	Brainstorms from C1 and C2 were synthesised and added to.	1
	Brainstormed multimedia use within television making.	2
<i>Success criteria</i> • <i>roles</i> • <i>storyboards</i>	Role criteria brainstorms.	1-10
	Storyboard criteria.	2-10
<i>Goal setting and reflection</i>	Individual goals set for: scriptwriting, presenting and editing.	1-5
	Goals displayed and regularly referred to, reflected on and discussed.	Throughout C3
	Formal reflection during researcher-student interviews.	10
<i>Storyboards</i>	As in C2.	2-5
<i>Responsive teacher actions and attitudes</i>	Responsive instructional strategies used in conjunction with strategic teacher attitudes and actions.	Throughout C3
<i>Visual cues</i>	Displayed for camera shots and angles, role criteria, storyboard criteria, multimedia, goals, and filming cues.	1-10

Note: Author's own.

Table 23 overviews the pedagogical interventions implemented during the three cycles of action research.

Table 23

Pedagogical Strategies Implemented during Research Cycles

Pedagogical strategy	C1	C2	C3
Brainstorming	✓	✓	✓
Success criteria	✓	✓	✓
Teacher questioning and wait time	✓		
Goal setting		✓	✓
Student reflection		✓	✓
Storyboards	✓	✓	✓
Visual learning supports		✓	✓
Student experimentation and exploration	✓	✓	
Responsive teacher actions and attitudes/		✓	
Responsive teacher attitudes and actions			✓

Note: Author's own

7.2 Review of C3 pedagogical interventions

This section reviews the success of each pedagogical intervention for student multi-literacy learning. Student and teacher interviews, student learning conversations, and researcher observations during this cycle of research provided rich information regarding student learning processes.

7.2.1 Observations from classroom teachers

Two teachers viewed the completed C3 television episode to comment on participant literacy. One teacher noted a much higher level of self-management and focus than expected from SQ. In the usual classroom context, SQ identified as being less productive working collaboratively as he felt he distracted others. However, this tendency was not apparent during the making of this episode. The same teacher also noted that a student whose scripting and

video production I considered highly creative and literate was not viewed as highly creative and literate in class.

7.2.1 Role criteria brainstorm

Students synthesised C1 and C2 role criteria brainstorms to creating new brainstorms listing the competencies required for the roles of news anchor, scriptwriter, presenter, director, editor and cameraperson. Brainstorms were displayed for reference (see Figures 17, 18, 19 and 20). The role criteria brainstorms were used by students to help them set goals and understand the success criteria.

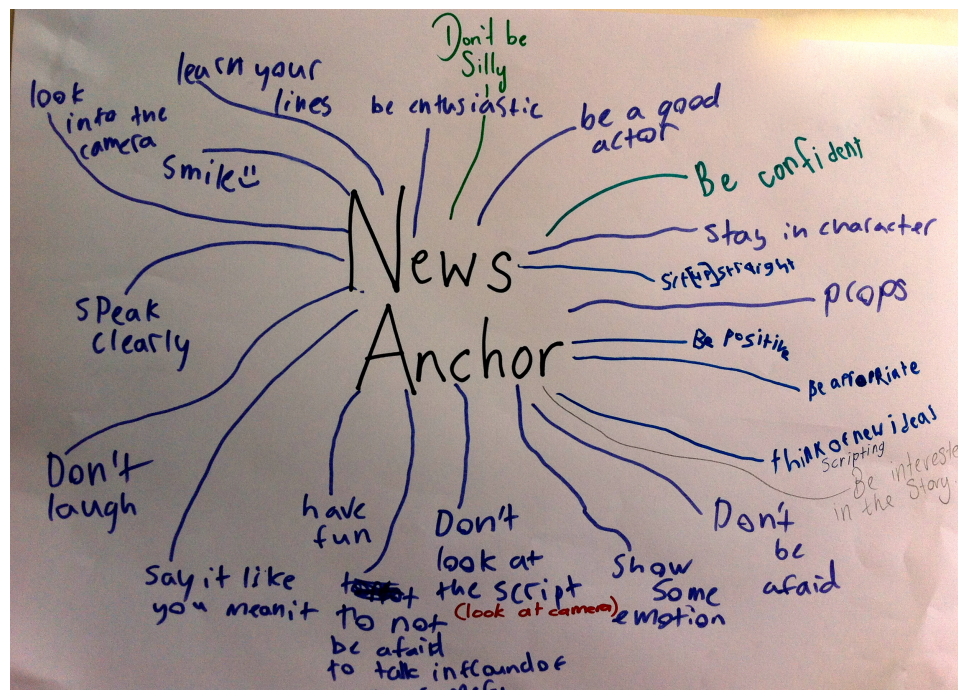


Figure 17. News anchor brainstorm

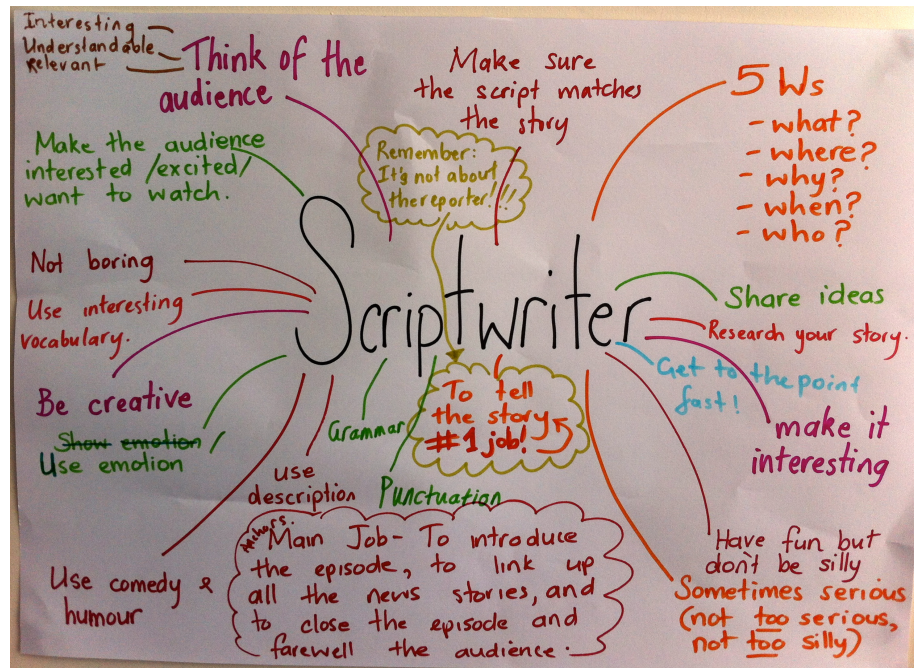


Figure 18. Scriptwriter brainstorm

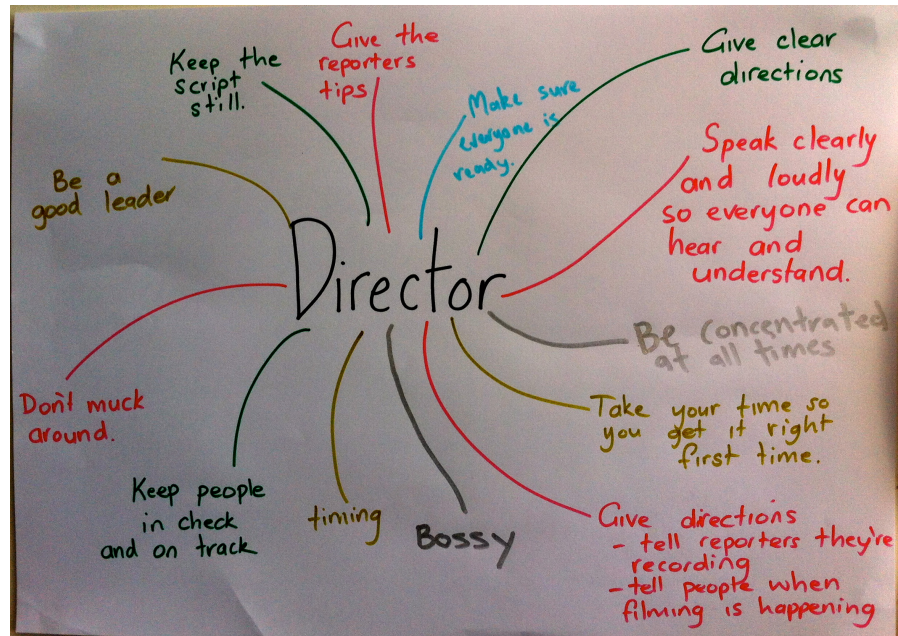


Figure 19. Director brainstorm

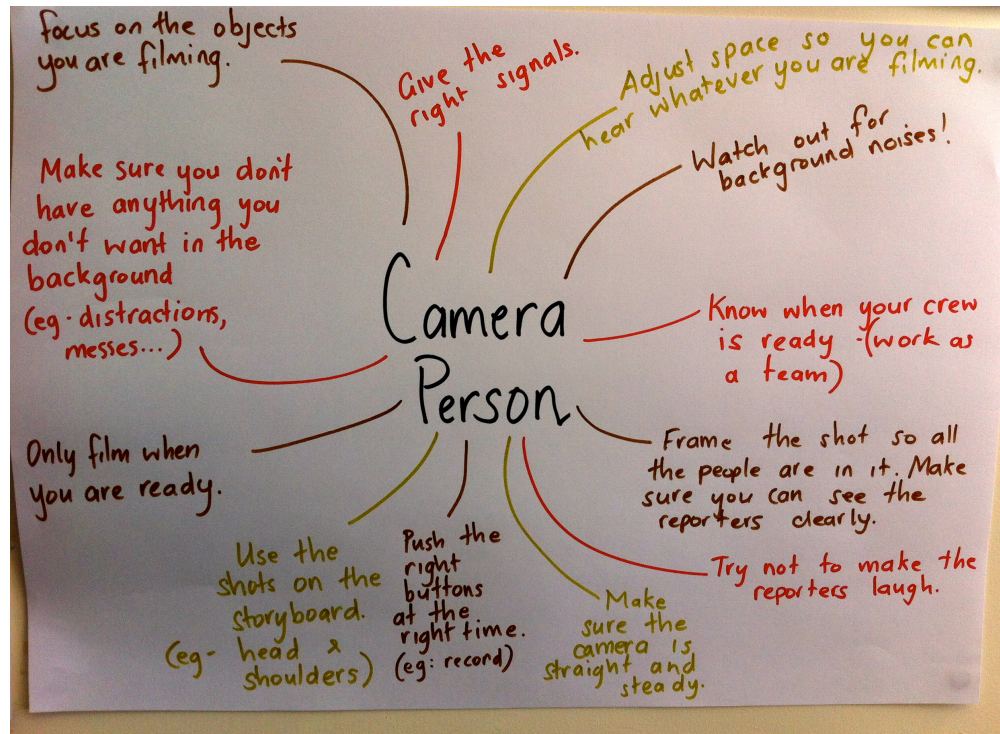


Figure 20. Camera person brainstorm

7.2.2 Goal setting and reflection

Individual goals were set for scriptwriting, presenting, filming and editing and displayed on the studio walls throughout the research cycle. Frequent student-student and student-teacher informal learning conversations discussed progress towards these goals. All students in C3 found goal setting helpful to identify what they needed to do so they could work towards achieving it. Students liked being able to see their goals displayed. ST noted that, “People can remind me” while SS felt, “It’s harder to forget them”. SQ reported that checking the goals of other students helped because others had more experience of student television.

Goals were formally reflected on during student-researcher interviews where students evaluated progression towards goals, identifying what they would do differently another time. Goal setting improved the quality of scriptwriting as participants built on their sense of audience. For example, SU's goal was to, 'Make their story catchy.' She reflected, "It was catchy. It makes sense but it's sneaky. It makes people really listen and hooks them in."

In another example, SQ's goal was to, "Make the script interesting." He reflected, "It wasn't boring it was nice and funny. It can draw in people and make them want to watch more and it was interesting. We added humour and put in all the facts that needed to be there." He added, "I have to be a better speaker because a bunch of people not even from our school will see it."

SV summed up the C3 links between goal setting and scriptwriting by reflecting:

The script is based on what the audience would like and that makes it better. If there is no audience no one is going to give you feedback. If you're writing it for no one what's the point? I keep an eye on the audience when we view episodes in class and at home.

Setting goals and reflecting on them helped improve many elements of filmmaking. SN wanted to manage surrounding noise while filming so selected location with no wind. SS used subtitles and music to suit the theme of the story. SV extended her knowledge of Garageband and multimedia, "I'm thinking about making my own jingle, something that hasn't been heard before".

7.2.3 Storyboards

As in C1 and C2, storyboarding was an effective strategy to encourage literacy learning in this context. Storyboarding helped students plan, film, communicate with each other, and edit. SS said, “We talked over the storyboard and the location and knew we would stop filming after each scene. It saved time because we were organised.” Storyboarding helps students think critically and problem solve how they will tell their news story. Storyboarding provided a helpful step between scriptwriting and filming as students shared storyboards with the film crew to explain shots, location, mood, pacing and when to film. SV noted:

Storyboards are clear and helpful to say what scene and shot. It’s easier to explain it to the crew because we put all the ideas down. If I just said it to them they might forget. The storyboard lessened frustrations during filming because we knew exactly what the reporters wanted. I want reporters to talk me through the storyboard so I know when to stop and start the camera.

7.2.4 Visual learning supports

Visual supports were provided for students during C3 as required to enable students to work autonomously and collaboratively. C3 visual supports included goals, 5Ws chart, camera shot and angle information, role criteria brainstorms, multimedia brainstorm, filming cues, and storyboarding criteria. This strategy overlapped with the intentional focus on responsive teacher actions and attitudes, brainstorming and success criteria.

A visual support that was particularly useful during C3 was a multimedia brainstorm. Participants struggled to discuss literacies beyond reading and

writing. They understood oral language conventions such as vocal clarity and projection and knew scriptwriting was essential for creating and remembering scripts. To develop a shared understanding I explicitly introduced multimedia literacy to C3 participants. Following a brief teacher outline, students brainstormed the ways they use multimedia to create television, identifying elements and characteristics such as sound effects, animation, fast/slow motion, and visual enhancements (see Figure 21). This clarified links between television and multimedia literacy, and helped develop a television metalanguage. Throughout C3 I encouraged student discussions about multimedia with reference to the displayed brainstorm.

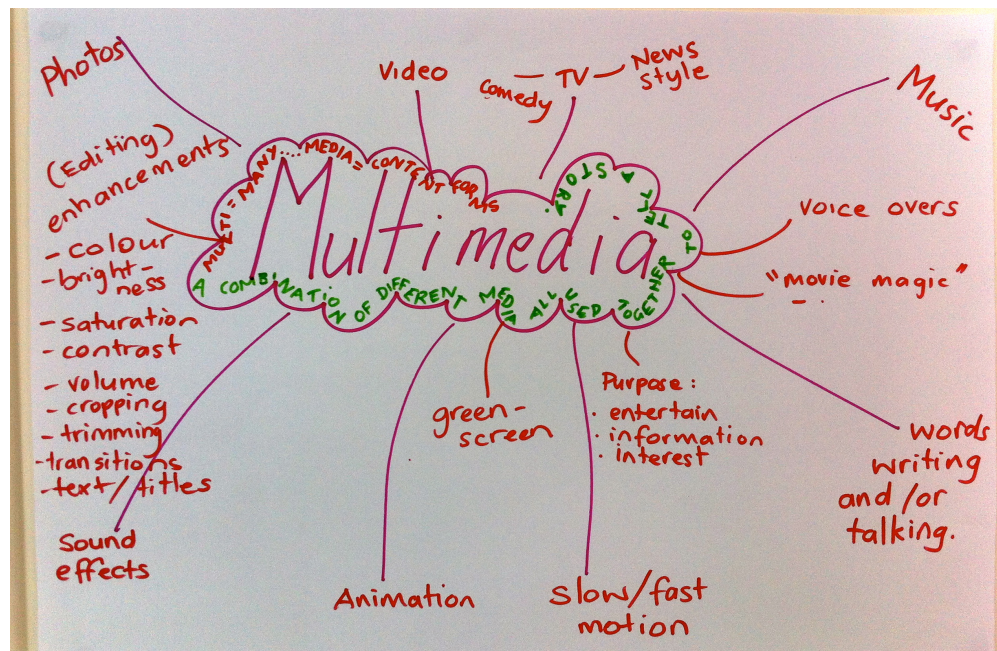


Figure 21. Multimedia usage by students

Students reported that discussing multimedia and viewing the multimedia brainstorm helped them remember multimedia elements. SQ appreciated that the brainstorm showed him aspects of multimedia he hadn't used before. SU

explained how she manipulated transitions of different length and style to make her viewer ‘read’ her story the way she intended, “Multimedia went well. I used ‘movie magic’. I used transitions, the right type of ‘transition language’ of the cube moving from one door to another. The page transition is a bit more together”. The longer transition indicated the end of a story whereas the shorter ‘more together’ transition let the viewer know they were still in the same story. She used the transitions as a form of punctuation. Making the brainstorm enabled students to articulate their practice and helped students develop a sense of what multimedia literacy is. It helped them to reflect metacognitively on how and why they combine media. Students drew on critical literacy, digital literacy and visual literacy as they developed stories using multimedia literacies. Students were observed referring to all of the visual supports while making this episode of school television.

7.2.5 Responsive teacher actions and attitudes

Brinthaupt et al. (2011) recommend teachers have an overarching pedagogical attitude that conveys to students the teacher’s commitment to their learning and to high educational outcomes. During C2 I paid particular attention to my attitudes towards student learning and how I could be more responsive in drawing on and using a variety of instructional strategies and teaching actions. For this reason during C3 the instructional strategies used in C2 were incorporated in C3 within a wider pedagogical framework, which I termed “responsive teacher actions and attitudes”. Responsive pedagogies are particularly important in a television-making environment where students required varying amounts of teacher support while planning, organising, and problem solving. In the three episodes described in this research sources of information varied from story to story, as did the storytelling media. This

required varying degrees of structure and organisation. Each of the 19 stories was unique and had its own challenges.

Researcher observations and reflections during C3 noted that pedagogical strategies were interconnected to support student learning. For example, the responsive use of modeling, questioning, directing and brainstorming encouraged reporters to take scriptwriting risks that enhanced their storytelling and contributed to learning beyond the making of television. Although transfer from one setting to another is often a challenge, participants identified how the skills learned within student television could help other areas of learning. ST reflected that, “I am confident because of being in front of the camera. It will influence the speech competitions. I have got better at presenting”.

The analysis and interpretation of data across three cycles of action research has clarified key attitudes adopted by the teacher within student television to encourage responsive, reflective teaching. Useful teacher attitudes included an open-ness to multi-literacy learning, availability for just-in-time learning, flexibility, critical thinking, reflection, and showing interest and enthusiasm for learning.

These attitudes led to teacher actions that proved helpful for student learning and for the learning of the researcher-practitioner. This section discusses actions that were effective and are desirable as pedagogical strategies for teaching within school television. Actions included sharing high expectations for learning with the learners, instructional clarity, organisation, explicit teaching, responsively using and adapting pedagogy, encouraging students as partners in their learning, and differentiating learning. Some of these ideas are elaborated upon in the section below.

In a student television context, organisation refers to teacher preparation, to the employment of efficient systems and to the deliberate scaffolding of student organisation. Explicit learning includes deliberately teaching specific television skills such as scriptwriting, multimedia usage, presentation skills, camera work, and digital editing skills. Learning can be made explicit through peer tutoring, visual cues, video tutorials and direct teacher instruction. Explicit teaching includes making clear the links between class literacy, television learning and multi-literacies and digital citizenship. Useful instructional strategies to draw upon responsively during teaching include modeling, prompting, questioning, wait time, and explaining. Encouraging students to be learning partners through goal setting, reflection, clear criteria, shared learning intentions, topic choice, and through exploration and experimentation can lead to differentiated learning and a deep knowledge of learners and their learning pathways. Monitoring student learning conversations and facilitating teacher-student learning conversations during which the student and teacher critique, goal set, reflect, and clarify the learning pathway enables the teacher to provide feedback, assess progress, and reteach.

The deep reflection on my own pedagogical actions is similar to processes defined by Schon (1995) as 'reflection in action' and 'reflection on action'. Practitioners respond to situations that arise during teaching by drawing on strategies that experience or knowledge of learning has shown to be effective. Practitioners reflect on action after the event to evaluate the success of selected actions. According to Schon (1995, p. 250), "...what many teachers are working towards, is to design methods of teaching for a reflective practicum that more directly assists students to seek self- learning and to find it".

7.3 Student multi-literacy development

Table 24 presents an analysis of how multi-literacies are developed through pedagogies implemented during C3. Brainstorms, goals setting, storyboards, visual supports and responsive teacher attitudes and actions are all student-focused strategies and all of these supported the development of multi-literacies.

Table 24

Multi-literacy Development in C3

Pedagogies	Multi-literacies				
	<i>Multimedia</i>	<i>Critical</i>	<i>Digital</i>	<i>Oral</i>	<i>Written</i>
Brainstorms <ul style="list-style-type: none"> • role criteria • multimedia 	'Multimedia' brainstorm helped students define and understand multimedia	Role criteria brainstorms were used to set goals Students engaged critical literacy to brainstorm multimedia	'Editing' and 'Filming' role criteria used to improve performances	'Presenter' role criteria used to improve oral presentations	'Scriptwriting' criteria used to improve specific scriptwriting aspects
Goal setting and reflection	Students reflected knowledgeably on their multimedia choices	Students reflected critically on learning progressions Reflections showed metacognition	Editing goals helped focus student digital literacy as students reflected on digital progress and goals.	Goal setting and reflection helped develop confident camera presentations confidently	Scriptwriting goals and reflections helped improve student written literacy
Storyboards	Multimedia for filming and editing was problem solved and planned using storyboards.	Students critically analysed their own story sequences and elements and those of others.	Problem solving occurred at storyboard stage to achieve the digital elements planned during scripting	Storyboards were discussed and shared between reporters and film crew	Sequencing and writing were required while storyboarding
Visual Supports	'Multimedia' visual cue helped students understand and use multimedia literacy	Students critically used visual supports to access and use knowledge as required	'Camera shots' visual cue helped students define and frame camera shots and angles	'Filming signals' visual cue helped students communicate during filming	
Responsive teacher attitudes and actions	Explicit discussion of multimedia usage	Teachers and students critiqued progress of stories	Explicit teaching of digital skills	Students experimented with oral language.	Students experimented with written language.

Note: Author's own

7.4 Summary of key findings

Key findings from this research study into pedagogical practices to enhance literacy learning within television are summed up in six main points, which are discussed further in Chapter 8. The points are:

- Learning through school television engaged and developed multi-literacies.
- All implemented pedagogical strategies enhanced learning.
- Pedagogies were interconnected and enhanced each other.
- Teacher actions and attitudes significantly influenced student learning.
- Peer and teacher-student learning conversations enhanced learning.
- The role of the teacher within digital contexts such as school television requires further examination.

Chapter 8 presents a discussion of the findings for all three research cycles reviewed in Chapters 5, 6 and 7. Chapter 8 presents conclusions drawn by the researcher, outlines implications for teaching and learning, and suggests areas for future research.

Chapter 8:

Discussion and conclusion

The aim of this research was to identify and explore effective pedagogy for enhancing student literacy through making school television. This research investigated the question:

How can pedagogical strategies facilitate literacy development during the making of school television?

In Chapter 8 findings from this research study are discussed in relation to the key research question and sub-questions inquiring into multi-literacy learning, pedagogy, and future-focused educational themes. Conclusions are drawn and implications for teaching and learning are identified. Finally, recommendations for further action are noted for myself, for the research context, and for educators and researchers.

8.1 Discussion

During three cycles of action research a range of specific pedagogical strategies were implemented into television making processes. These pedagogical actions were intended to encourage literacy learning through thinking critically, and developing student multi-literacy learning. Implementations were evaluated through an analysis of student interviews and learning conversations, through the researcher's observations and reflections, and through interviews with classroom teachers.

The research aim was to identify and evaluate pedagogical strategies for engaging and developing literacy learning, and to improve teacher practice in this context. This section presents a discussion of literacy learning within school television.

8.1.1 Literacies

Sub Question 1: What literacies are developed through student television making?

Sub Question 1 was answered in part through a literature review presented in Chapter 2 of this thesis, by an evaluation of exiting literacy during the initial cycle of research, and through evaluating the effect of specific pedagogy on literacy learning during cycles of research. Learning through school television engaged students and developed multi-literacies and this is discussed in this section.

The literature review presented in Chapter 2 of this thesis identified that multi-literacies, or new literacies beyond the traditionally taught written, visual and oral literacies, are engaged and developed through learning in technology rich environments (Cope & Kalantzis, 2009; Ho, et al, 2010; NLG, 1996; Leu, et al, 2004; Wright, 2010).

This study has focused on this specific group of multi-literacies and on sets of specific pedagogies to support the development of these multi-literacies. An evaluation of the effect of specific pedagogical interventions on literacy learning during cycles of research indicated that multi-literacies including digital, critical, written, oral and multimedia were positively influenced by

participation in television. While developing episodes of television, participants engaged these multi-literacies as they made meaning and created within a range of media.

Multi-literacies influenced through making television include digital, critical, written, oral and multimedia. Digital literacy is a key part of television making as students use digital media to create television. Critical literacy is constantly utilized as students explore and experiment and make decisions throughout television making processes. Written literacies are engaged as students read information and write scripts and storyboards, and oral language is used to deliver presentations to camera. Students require a degree of multimedia literacy as they combine written, filmed and visual media to create their stories. As identified in the literature review, multi-literacies cannot be tightly defined. They are drawn upon by learners in response to their needs and are interconnected, multi-faceted, changing and contextual (see Figure 22).

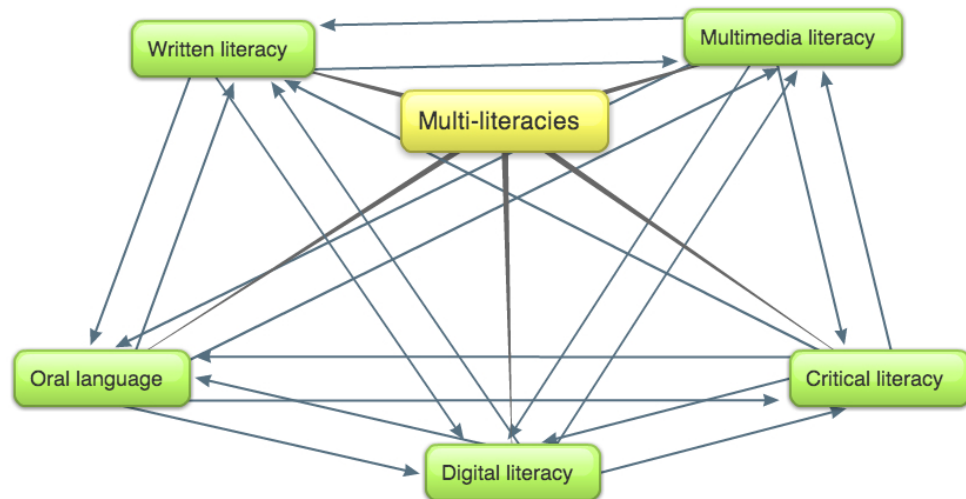


Figure 22. Interconnectedness of multi-literacies

8.1.2 Pedagogies

Sub-question 2: What pedagogical strategies develop literacy learning through making school television?

Pedagogy refers to the function and work of a teacher to facilitate student learning (MOE, 2007a). This section discusses the pedagogical actions implemented during this research study, and their effectiveness for developing multi-literacy learning within a school television environment.

This question was answered in part through the CIP2 investigation into existing literacy learning and pedagogical practices prior to research (see Section 4.1). The CIP2 investigation also included a literature review (see Section 2.4) and a round of preliminary researcher-student interviews (see Section 4.2). This question was further explored and answered through the review of pedagogical interventions into research cycles presented in Chapters 5 - 7 of this thesis.

- *Pedagogical strategies identified through the CIP2 investigation*

A literature review presented in Chapter 2 of this thesis identified pedagogies shown to develop student learning within technological environments. Strategies include collaborative pedagogies (Burt, 2007; Miller & Robertson, 2011; Wright, 2010), pedagogies that develop critical thinking (Johanssen, 2003; McDonald, 2012; NLG, 1996; MOE, 2007a), and multi-literacy pedagogy (NLG, 1996). Underpinning a review of literature into pedagogies for digital environments were knowledge of literacy learning, cross-curricular pedagogies and theories of social construction.

Information from the literature review and the analysis of existing strategies led to the selection of pedagogical actions with potential to encourage critical thinking and develop critical literacies. The strategies implemented were intended to develop participant metacognition and enable them to understand, analyse and evaluate their own learning processes. Strategies identified during the C1P2 investigation and implemented in research cycles included: brainstorming, success criteria, goal setting, student reflection, visual supports, and student experimentation and exploration.

The pedagogical strategies listed above were selected to encourage the development of critical thinking. Critical thinking is central to multi-literacy learning as it enables learners to understand, make meaning from, and critically evaluate a range of text types through developing critical literacy (Kellner & Share, 2005; NLG, 1996; Stevens & Thomas, 2007; Wright, 2010). Critical thinking is an essential step in literacy learning (Leu, et al. 2004). Thinking is one of the key competencies of the New Zealand Curriculum (MOE, 2007c) and is learned through immersion in the learning context (MOE, 2012c; NLG, 1996). Bolstad and Gilbert (2012) discuss the solving of ‘wicked problems’ as a part of future oriented learning. As noted by Johanssen (2003, p. 19), “Thinking mediates learning. Learning results from thinking.”

- *Implementation and effectiveness of pedagogical strategies*

Selected pedagogical strategies were implemented in each of the three research cycles using the four stages of multi-literacy pedagogy: situated practice, overt instruction, critical framing and transformed practice (NLG, 1996). Participants were immersed in a collaborative community of learners where overt instructional strategies guided learning. Students critiqued and extended their learning through critical frames provided by success criteria, goal setting

and reflection. They made choices about their learning pathways, and demonstrated metacognition during student-researcher interviews and learning conversations. There was some evidence of transformed practice when students noted that they used their television presenting skills to enhance their performances speech competitions and performance auditions.

Pedagogical interventions were systematically evaluated for effectiveness for student learning. There was evidence in each research cycle of the positive influence of pedagogical strategies for multi-literacy learning. All implemented pedagogical strategies enhanced learning by encouraging the engagement of literacies throughout the process of making an episode of student television. For example, goal setting and reflections provided students with opportunities to critique their own progress, allowing them to self monitor and correct as they progressed towards their goals. According to Johanssen (2003), the ability to reflect and articulate learning enables students to understand more and use information more effectively.

Multi-literacies were developed through being repeatedly engaged by students. The multi-literacies that are developed within student television processes are integral literacies for making television. Students would not be able to create television without digital, multimedia, written, oral or critical literacies. Learning is socially constructed in this context and students seek knowledge and skills as required to do their learning task.

- *Links between multi-literacies and pedagogical interventions*

Multimedia, critical, digital, oral and written literacies were enhanced by the strategic use of brainstorming, success criteria, goals setting, student reflection, visual supports, and student experimentation and exploration. The

effectiveness of pedagogical strategies was in turn enhanced by the literacy requirements for participation in each pedagogical strategy.

The researcher noted inter-connections between pedagogies and multi-literacies and these are illustrated in Figures 23 and 24. The arrows in Figure 23 indicate which pedagogical strategies help develop each multi-literacy. The arrows in Figure 24 indicate the multi-literacies that influence the effectiveness of specific pedagogical strategies. For example, experimentation and exploration using multimedia requires a degree of student multimedia literacy. In a second example, critical literacy is required for the effective interpretation of visual cues and the use of success criteria, among other strategies.

These inter-relationships suggest a reciprocal, cyclic and complex relationship between how learning opportunities are delivered and what learning is developed through each strategy. With repeated student practise within each pedagogical strategy, literacies are potentially developed, and the strategy became an embedded and useful process for learning within student television. Pedagogies and multi-literacies do not stand alone but are interrelated and constantly changing.

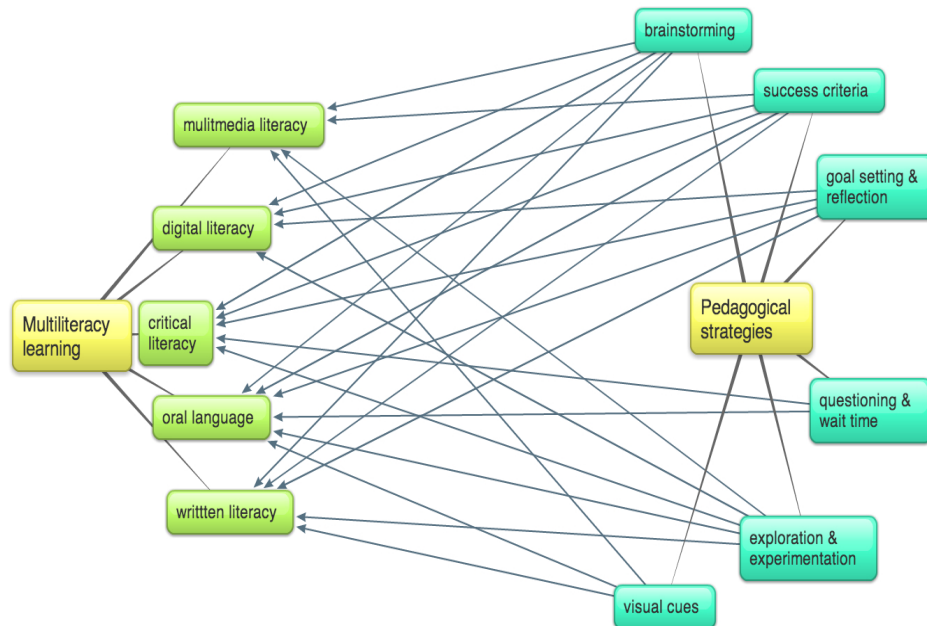


Figure 23. How pedagogical strategies influence multi-literacies

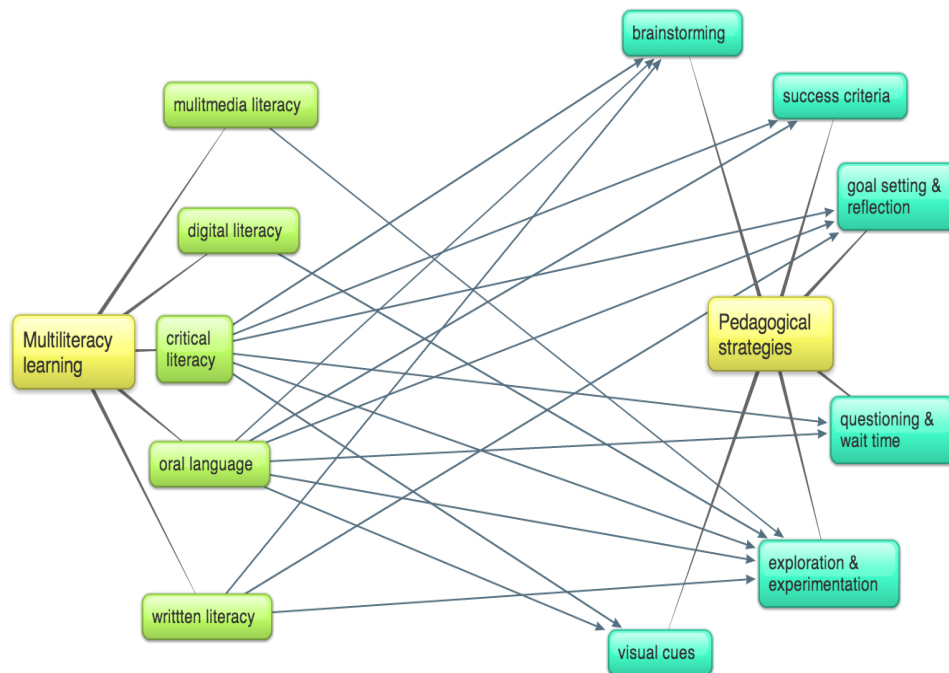


Figure 24.. How multi-literacies interconnect with pedagogical strategies

- *Pedagogical interconnections*

Pedagogical actions were complementary and worked effectively in conjunction with one another. For example brainstorming produced effective success criteria, which informed goal setting and helped to structure participant reflections. In another example, specific success criteria for storyboarding enhanced the effective communication of filming information from reporters to the film crew, because the criteria ensured that all relevant filming information was presented. Student reflections enabled participants and the teacher to evaluate the effectiveness of learning strategies. Success criteria and brainstorming worked effectively together as strategies to encourage students to develop criteria for their roles within student television. Brainstorms of the success criteria for each role were used as visual supports that helped students work towards their goals using clear criteria. As students explored and experimented they used success criteria, their goals and visual cues to keep their exploration focused on the tasks. Figure 25 maps interconnections noted by the researcher between five of the implemented pedagogical strategies during research cycles.

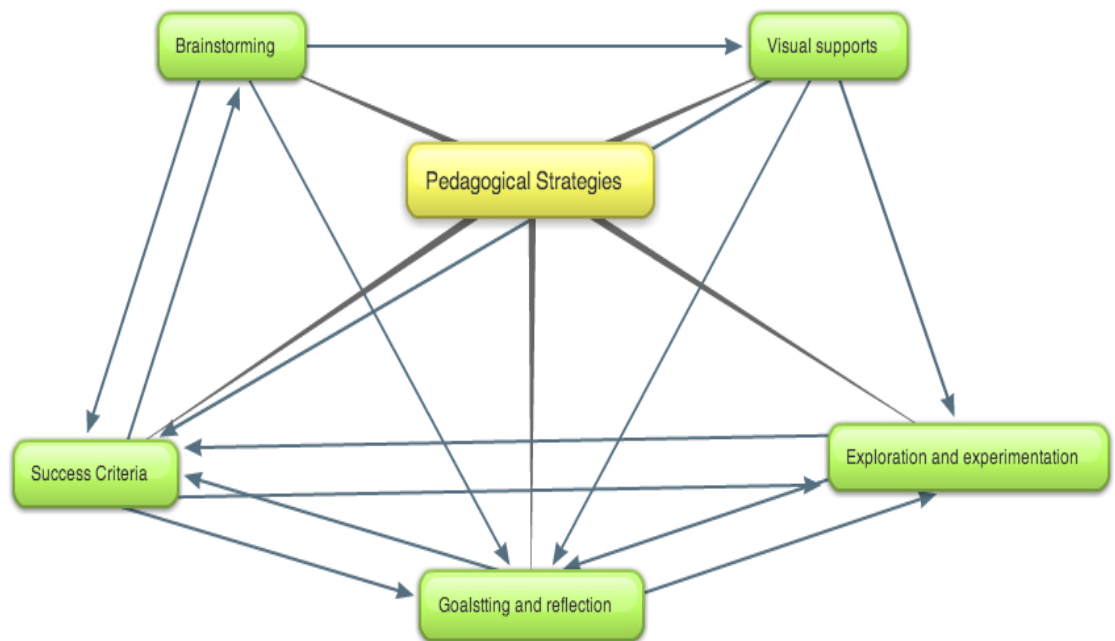


Figure 25. Pedagogical interconnections

- *Links with Hattie's research*

The previous section highlighted that within this research there are complex interconnections within and between each of the multi-literacies and pedagogical strategies. While this research took place within a digital school television context, these findings evidence elements of good teaching identified by Hattie (2007). Strategies that have a high effect size on student learning, or were recommended practices, and were evident during research cycles include: teacher-student relationships, feedback, metacognitive strategies, challenging goals, peer influences and student motivation, clear learning intentions, success criteria, and using a range of learning strategies (Hattie, 2009).

- *Learning conversations*

Social constructivist learning theory underpinned this research and it was evident that social interactions influenced students' learning as they conversed and shared ideas. An effective and unintentional pedagogical strategy that emerged during research cycles was that of student-student, and student-teacher learning conversations. Student conversations were employed as a data collection method but added value in themselves. Learning conversations in this context were defined as those spoken communications that furthered metacognition and progress towards learning goals. Some conversations were spontaneous, for example conversations between students such as those recorded for this research, and some were planned, such as student-researcher interviews.

One of the valuable forms of data from this research was recording the learning conversations that students held as they worked. During Cycles 2 and 3 informal learning conversations were encouraged, and were instigated by both teacher and students as required. Questioning, goal setting, reflection and the clarification of learning intentions and success criteria occurred during learning conversations. These interactions suggest a rich research vein for further exploration.

8.1.3 Future-focused themes

Sub-question Three: How do strategic pedagogies relate to the themes of personalised learning, increasing learning capacity and redefining the roles of teachers and learners?

The final sub-question locates this small study within a global educational conversation by inquiring into relationships between these research findings

and educational themes identified in the 2012 NZCER metastudy ‘Supporting future-oriented learning and teaching: a New Zealand perspective’ This literature review identified future-oriented educational themes including personalising learning, re-thinking the roles of teacher and student, and using knowledge to develop student capacity (Bolstad & Gilbert, 2012). These themes provided an over-arching framework for this research and were evident within the research context.

- *Personalised learning*

Personalised learning recognises that students learn in different ways, therefore teachers must provide the flexibility to allow students to learn in ways that suit them (Bolstad & Gilbert, 2012). Bolstad (2011-2012) considers that learning opportunities within authentic contexts based on student interest and aptitude provides a base for personalized learning. Personalisation of learning involves using pedagogies strategically for different learners (Bolstad & Gilbert, 2012; McIntosh, 2012; Miller & Veatch;). Personalisation through the application of learning strategies in response to student needs was at the heart of this research into how pedagogy could enhance literacy learning.

Learning in this context was personalised by both the teacher and participants. School television is an authentic context that had meaning for participants and was embedded within their learning community. Student input is an integral component of school television. During the research, student-teacher learning conversations provided knowledge of individual learners so pedagogical actions could be further personalised for individual learning pathways. Learning steps were identified then scaffolded either by the teacher or peers according to individual needs. The teacher applied pedagogical strategies with

consideration to engagement, relevance, and the intellectual curiosity of students.

Within this research context the teacher set conditions in place to allow students to personalise aspects of their own learning, for example, by providing choice in the selection of stories, and the freedom to explore and experiment in pairs. Students had the resources to support learning choices at all times, for example by using success criteria, goal setting, and visual supports. Opportunities were provided during research cycles that allowed participants to learn in ways that work for them.

- *Developing student learning capacity*

Bolstad and Gilbert (2012) consider the ability to use knowledge to develop learning capacity as essential for future-oriented learning and for defining the role of students as partners in their learning journeys. According to Bolstad and Gilbert (2012, Theme 3, para 3), “Instead, the focus needs to be on equipping people to do things with knowledge, to use knowledge in inventive ways, in new contexts and combinations.”

Gilbert describes pedagogies of co-construction between teachers and learners, and between peers where knowledge is used to develop new knowledge (2005). The responsive use of pedagogies implemented within this study allowed opportunities for students to actively construct and utilise knowledge. Making television helped students to problem solve and think critically about their learning. Participants used the knowledge of each news story to create television episodes that shared their knowledge with others. Learning capacity was developed through shifting responsibility and choice to students. They also transferred scriptwriting and speaking skills from making television to a

live audience for speech competitions, which links to the development of literacy.

- *The roles of teacher and students within school television*

In response to learning with technology, the traditional role of the teacher as ‘information transmitter’ is changing into that of a learning guide or mentor. Teaching with technology facilitates different teacher-student relationships than in the past and leads to pedagogical changes that focus on learning (Bolstad & Gilbert, 2012; MOE, 2012d; Wright, 2010). Although Maddux and Johnson (2010) believe that this paradigm shift can be problematic, in creative digital environments such as school television, information transmitting teaching practices do not suit the organic learning that occurs. The evolving nature of creating student television involves students taking a lead in storytelling through the television news format. There is no one right way to complete any given task and no one correct answer to problems presented within television making processes. This research study demonstrates the importance of including students as learning partners in this context and of personalising learning. The following section explores the role of the teacher as it was investigated through three cycles of action research.

Cycle 1 (C1)

During C1, questioning based on the Revised Bloom’s Taxonomy of Cognitive Processes was implemented with a following three-second wait time. An evaluation of C1 identified that questioning and wait time were particularly effective when used strategically and responsively with other instructional strategies.

Cycle 2 (C2)

During the C2 questioning and wait time were implemented with an intentional focus on complementary strategies of explaining, modeling, discussing, listening, paraphrasing, prompting, providing feedback, and sharing high expectations and learning intentions. These strategies were applied in response to learning needs (see Section 6.2.4). Researcher observations noted that teacher attitudes and other actions also influenced student learning. As well as the responsive, strategic use of instructional strategies and the ongoing implementation and evaluation of pedagogical actions, there was a need to further explore the role of the teacher.

Cycle 3 (C3)

In C3 an exploration of the role of the teacher involved deep reflection regarding the implementation of attitudes and actions to enhance learning. Kellner and Share (2005) consider the development of critical literacy should involve collaborative activity between teachers and students. Research shows that teacher understandings of educational theory and instructional strategies influence the effectiveness of pedagogy (Bolstad & Gilbert, 2012; Lui et al, 2010). Within C3 teacher actions were implemented and attitudes adopted to promote student metacognition and foster learning partnerships. Teacher actions continued the ongoing implementation of the responsive instructional strategies used in C2. In addition, teacher attitudes of open-ness to multi-literacy learning, availability for just-in-time learning, flexibility, critical thinking, reflection and showing interest and enthusiasm were applied during C3. Teacher attitudes were reflected in teacher actions such as more deliberately engaging students in learning conversations or providing a visual cue where required. Figure 26 outlines the progression of exploring the teacher role throughout the three research cycles. Although the research periods were

relatively short, initial findings show that teacher actions and attitudes can influence student learning and this requires further exploration.

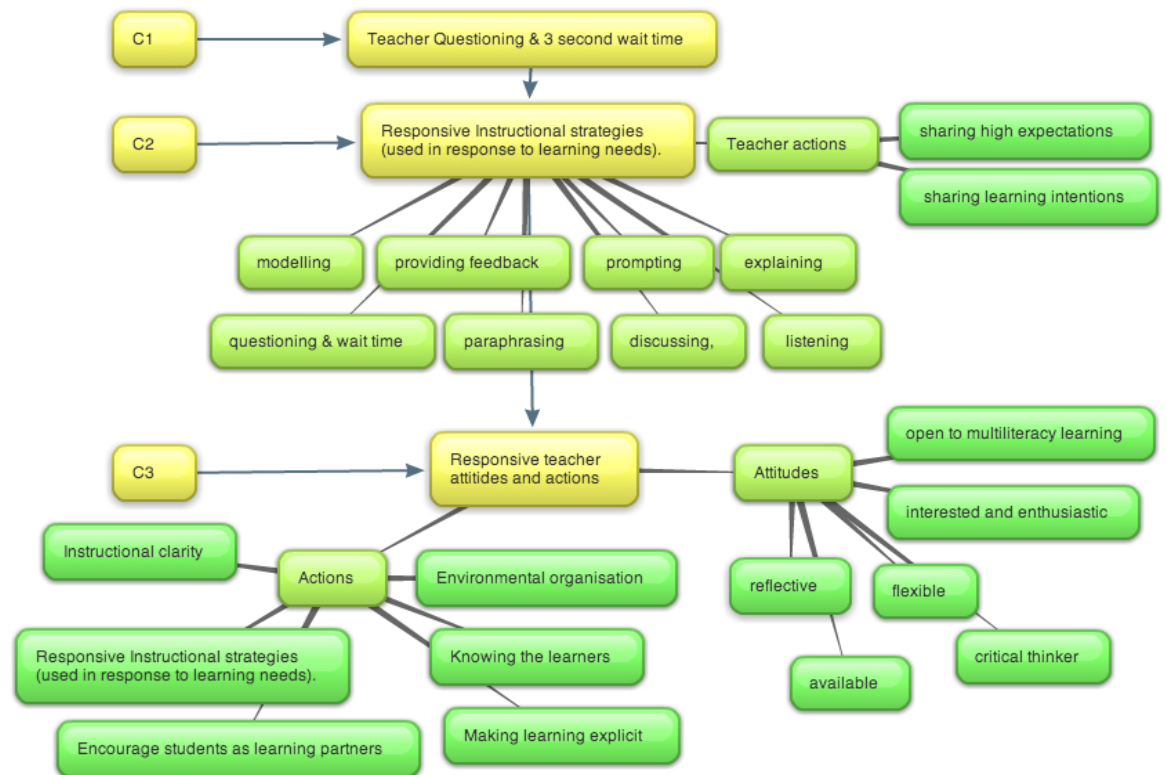


Figure 26. Exploring the role of the teacher through research cycles

- *The role of the teacher within school television*

While this study was designed as an action research to identify effective pedagogical strategies for literacy learning within student television, it developed into a deeply reflective self-study of my own teaching. Personalising learning and developing student learning capacity are part of the role of the teacher within school television. This research investigated the teacher role in different ways during each of the three cycles, as described in

Section 8.1.2. The teacher within student television ensures that students engage with material required, and supports them to order to get their news stories made. This can range from helping students articulate and plan their storyboards to help them arrange times to interview teachers. The student leads the development of the story and the teacher acts as a guide who provided supports while constantly evaluating when to allow independence, peer tutoring and exploration.

Researcher exploration of the role of the teacher within school television has identified teacher attitudes such as: openness, availability, flexibility, critical thinking and teacher reflection helped set the tone of the learning environment. The following teacher actions were particularly helpful for student learning within school television (see Table 26 for further detail):

- Sharing high expectations for learning
- Instructional clarity
- Environmental organisation
- Making learning explicit
- Responsively use instructional strategies
- Encourage students as learning partners
- Knowing the learners

These actions and attitudes are not used in isolation; rather they are interconnected and drawn on as required. The attitudes are building blocks for teacher actions. Research participants stated in their initial interviews that they prefer teachers to be responsive to their needs using a range of strategies and knowledge of learners and learning. They also expressed a desire to develop autonomy by developing their own challenges, timelines, choice and interest. Teaching that utilises these actions and attitudes can create a climate within

student television where both the need for scaffolding and for exploration are met. “When learners are allowed to assume ownership of the product, they are diligent and persevering builders of knowledge” (Johanssen, 2003, p. 21)

8.2 Conclusion

This study investigated the question:

How can pedagogical strategies facilitate student literacy development during the making of student television?

These are my conclusions about the strategic implementation of pedagogies into student television to enhance literacy learning within student television. Teaching strategies that develop thinking skills can assist with the development of multi-literacies in a school television context. Multi-literacies combine a range of written, video, photographic and aural media to present news stories that can be effectively understood by a range of viewers. Once students have developed a degree of mastery and confidence through scaffolding, guidance and practice supported by peers and their teacher, they are able to make subtle and sophisticated television storytelling decisions.

Informal teacher observations prior to research suggested that participation in television making engaged and motivated students through working collaboratively in an authentic digital environment. The systematic examination carried out in this research confirms this observation. This research study found that multimedia, critical, digital, oral and written literacies were enhanced by the strategic use of brainstorming, success criteria, goal setting, student reflection, visual supports, and student

experimentation and exploration and selected teacher attitudes and actions. This research identified 6 key findings for teaching school television.

- 1) Learning through school television engaged multi-literacies
- 2) All implemented pedagogical strategies facilitated learning
- 3) Pedagogies were interconnected and complemented each other
- 4) Teacher actions and attitudes significantly influence student learning
- 5) Peer and teacher-student learning conversations enhanced learning
- 6) The role of the teacher within digital contexts such as school television requires further examination

8.2.1 Limitations of this study

This study is situated in a particular primary school context. In this context students are withdrawn from their regular classroom programme to work on student television. The interventions were designed for this specific context and therefore the findings and conclusions are not necessarily transferable to others. Approaches and findings are described in depth so that teachers and other practitioners who wish to can adapt similar pedagogies for their own settings.

8.2.2 Significance of the study

This study is significant for the continued development of school television in this primary school context. It can support sustainable teaching practices that ensure the ongoing public presentation of school stories through digital storytelling. This research is significant for classroom teachers who are interested in developing digital storytelling within their classes, or schools who

are developing school television. This deeply reflective study builds on current educational themes by implementing and evaluating pedagogies that encourage critical thinking and help define the role of the teacher while teaching within digital environments. This study used pedagogical interventions to encourage multi-literacy learning, helping to develop academic understandings of the complex interconnections between the multi-literacies required for learning in digital contexts, and between pedagogical actions that encourage them. This study built on the research of Wright (2010), Bolstad and Gilbert (2012), the New London Group (1996), Leu et al. (2004), and others to investigate through action research how literacy development, pedagogy and future focused learning are inter-related within this learning context.

8.2.3 Implications

- *Implications for teacher practice*

This research has shown that the responsive application of a range of effective strategies helped develop multi-literacy learning within this context. This study has improved my own teaching practice by exploring a series of targeted pedagogical interventions to enhance student multi-literacy learning within student television, vastly deepening my understanding of the role of the teacher in a digital environment. I have become a more considered practitioner who can strategically apply combinations of pedagogical strategies with the confident knowledge they are likely to enhance learning, as I constantly evaluate progress and reflect on my teaching. This research has led to the ongoing refinement of teaching practice and pedagogical strategies within school television. The importance of remaining adaptable and responsive to student learning through the ongoing use and monitoring of the pedagogical

strategies explored in this research can continue to develop the quality of student multi-literacy learning.

- *Implications for the research context*

This study has shown that participation within television enhances the multi-literacy learning of students with indications that they are also able to transfer learning from this context to other parts of their learning. For example, several students noted that they were more confident and prepared for speech competitions and production auditions because of the speaking skills they had developed while practicing and presenting to camera.

This research study provides a beginning place from which to continue developing student television within this school. The results of this research will support and help develop student television processes within this school.

- *Implications for the wider teaching community*

It is important that multi-literacies are valued and taught in order for students to be fully literate in a digital society. Aspects of this research study are informative and adaptable for educators seeking to integrate digital storytelling into their classroom practice. Pedagogies and the role of the teacher are inseparable. It is a pedagogical strategy on the part of the teacher to adopt certain roles and attitudes, to set up a certain classroom environment and set condition for learning as well as designing lessons that include technological opportunities that are meaningful to students, that motivate them and that are conducive to rich learning experiences.

Pedagogical aspects identified in this study could be adapted to suit a whole class environment. For example, goal-setting and reflection, classroom

conversations, success criteria, brainstorming, visual cues and learning conversations may be integrated into general technology rich or technology poor environments. Using responsive learning strategies, combined with clear learning intentions, success criteria and goal setting are all effective practices in any environment, used selectively and purposefully with the goal in mind always being the advancement of student learning. Research has shown that future focused, knowledge age, 21st century learning is imperative no matter what the environment. NZCER have conducted several studies into future focused learning and its implications for researchers and for schools and for teachers. Bolstad and Gilbert's meta-analysis guided policy documents including a curriculum update into future oriented teaching and learning (2012a).

This research has developed from a study designed to explore the effect of pedagogy on literacy learning into a deeply reflective self-study into pedagogy within the making of student television. My understandings of teaching and learning have deepened as I inquired into pedagogy and multi-literacy learning within this digital environment. The process and results of this research project have profoundly improved the responsiveness and focus of my teaching practice as I continue to facilitate student television.

8.2.4 Recommendations for further research

This research study contributes to educational discussions in the fields of pedagogy, student television, and multi-literacy learning. It has potential to encourage further investigation into the authentic integration of technology into teaching and learning. Areas for investigation include exploring ways to further encourage student metacognition, and research into effective classroom learning conversations. Further self-study into effective pedagogy

within technological learning environments is an area of high researcher interest, as is further self study into elements of effective literacy learning and teaching.

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Appendices

Appendix A. Information letters and consent forms

College of Education

Caroline Lockyer

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carolines.dreams@gmail.com

Date: 2/5/13

Multimodal Storytelling:

Exploring the Role of Pedagogy in Developing Student Literacy via
School Television.

Information Letter for Students

My name is Caroline Lockyer. I have taught as a classroom teacher at our school for eight years, five of these as the team leader for the Year 3 & 4 syndicate. I have facilitated student television since 2011. This year I am on study leave working on a thesis towards a Master of Education through the University of Canterbury. I am studying how to use ICT for teaching and learning.

As part of my study I plan to research how I can improve my teaching to help your literacy learning. I would like to invite the students who are already part of the school television crew or who volunteered to be the student news anchors for episodes 6, 7 & 8 to take part in my study. You can choose whether you take part or not. If you decide not to participate in the research activities you can still continue in the student television programme.

Student participants are invited to:

- Take part in an individual recorded interview at the beginning and another interview at the end of the research. This will help me understand what students think about ways of learning. This should take no longer than 20 minutes each time.
- Take part in student television every afternoon for two weeks as well as the usual Fridays. During this time students will make one episode of television. Student television stories will be about activities and learning that happens in the classroom and school during that time.
- Have learning conversations recorded at times during the making of student television. This will help me understand what learning is happening during times such as planning, filming and editing. I will let students know when recording times will be.

Taking part in this research study is voluntary. If you decide to help with this research you are free to withdraw at any point during the study and no-one will mind. You can do this by telling me or by talking to your classroom teacher. If you decide to withdraw I will do my best to

withdraw of any information about that student.

I will take particular care to ensure the confidentiality of all data gathered for this study. I will use code names for all students. No-one else will be able to see the data or know what students did or said during the study. After the study is finished the results will be published using code names for students.

All the data will be stored in password protected facilities and locked storage for five years following the study. It will then be destroyed. A summary of findings will be available for students, parents and staff to read following the research. The results of this study will be published as a thesis at the University of Canterbury. It may be submitted for publication to national or international journals or presented at educational conferences. You may at any time ask for additional information or results from the study. Results will be used by myself, our school and potentially by other teachers, educators and researchers to improve teaching and learning practices around ICT, literacy learning, digital storytelling and student television.

If you have any questions about this study you can talk to me or contact me at carolines.dreams@gmail.com, or ask your parents or teachers. My thesis supervisors are Dr Julie Mackey, at julie.mackey@canterbury.ac.nz and Nicki Dabner at nicki.dabner@canterbury.ac.nz of the University of Canterbury. If you have a complaint about this research please contact the Chair, Educational Human Ethics Committee, University of Canterbury, Private Bag 480, Christchurch (human-ethics@canterbury.ac.nz).

If you would like to participate in this research please fill in the attached consent form and return it to your classroom teacher on (day/month).

Thank you, Caroline Lockyer

College of Education

Caroline Lockyer

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Date: 2/5/13

Multimodal Storytelling:

Exploring the Role of Pedagogy in Developing Student Literacy via
School Television.

Consent Form for Students

My student television teacher has talked me about this study and we have read the information letter together. My parents have also talked to me about this study. I am interested in taking part in this student television research study.

I understand that I will go to sessions of student television every afternoon for two weeks that will replace my usual classroom afternoon programme, as well as the usual Friday sessions. I understand that I will be individually interviewed by the researcher as part of this research at the beginning and the end of the study which will be recorded. I understand that at times my conversations and discussions will be recorded while we are making student television.

I know that any information collected about me will be kept private and will be stored away in a locked cabinet.

Caroline will also not use my name or the name of my school in the project. All information will be destroyed after the project has been written up. My school will receive a report of the study.

I understand that I can change my mind about being in this project and no one will mind. I know that if I have any questions about the research study I can ask my parents/whanau, my teacher, or Caroline.

I agree to take part in this research and my parents have also signed their consent form.

Please fill in this consent form and return it to your class teacher in the envelope provided.

Thank you, Caroline Lockyer

Full name
(student): _____

Signature: _____

Class: _____

[Note: Parents/caregivers will also receive a full information sheet and will be required to complete a consent form as well before the child can take part in this research.]

College of Education
Caroline Lockyer
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Date: 09/9/13

Multimodal Storytelling:

Exploring the Role of Pedagogy in Developing Student Literacy via
School Television.

Information Letter for Participating Teachers

My name is Caroline Lockyer. I have taught as a classroom teacher at our school for eight years, five of these as the team leader for the Year 3 & 4 syndicate. I have facilitated student television since 2011. This year I am on study leave working on a thesis towards a Master of Education through the University of Canterbury. I am studying how to use ICT for teaching and learning.

As part of my study I plan to research how I can improve my teaching to help student literacy learning. In order to find out more about student literacy learning that may occur as a result of student television I would like to invite the teachers of participating students to take part in my study. As the classroom teachers of participating students have a deep understanding of the learning of students in their class, it is likely that they may provide observations and insights about student learning that are different to those of the researcher. These observations will provide additional data about student learning that occurs during the creation of student television.

I invite teachers to view episodes of student television that were completed during action research cycles 1, 2 or 3. Teachers are invited to observe and comment on aspects of literacy learning evident in the presentations of students from their classes. Teachers can choose whether to take part or not.

Teachers are invited to:

- Take part in an individual or group interview at the end of each research cycle. This will help me understand what teachers have observed about the literacy learning of students through making student television. This should take no longer than 20 minutes each time. Teachers may select whether to be individual or in a group.
- Fill in a short questionnaire answering focussed questions about the literacy learning of students observed during the viewing of an episode of student television.

Taking part in this research study is voluntary. If you decide to help with this research you are free to withdraw at any point during the study. You can do this by telling me. If you decide to withdraw I will do my best to withdraw any information you have provided. I will take particular care to ensure the confidentiality of all participants and data gathered for this study. All interview information will be kept confidential by the researcher following the interview. It will

not be shared with anyone else during the study. All data will be stored for five years following the study. It will then be destroyed. If teachers choose to participate in group interviews they will be asked to keep private any information shared during the interview.

A summary of findings will be available for students, parents and staff to read following the research. In this summary and any publications or presentations all participants and the school will remain anonymous. The results of this study will be published as a thesis at the University of Canterbury. It may be submitted for publication to national or international journals or presented at educational conferences. You may at any time ask for additional information or results from the study. Results will be used by myself, our school and potentially by other teachers, educators and researchers to improve teaching and learning practices around ICT, literacy learning, digital storytelling and student television.

If you have any questions about this study you can talk to me or contact me at carolines.dreams@gmail.com. My thesis supervisors are Dr Julie Mackey, at julie.mackey@canterbury.ac.nz and Nicki Dabner at nicki.dabner@canterbury.ac.nz of the University of Canterbury. If you have a complaint about this research please contact the Chair, Educational Human Ethics Committee, University of Canterbury, Private Bag 480, Christchurch (human-ethics@canterbury.ac.nz).

If you would like to participate in this research please fill in the attached consent form.

Thank you, Caroline Lockyer

College of Education

Caroline Lockyer

+64 0210583031

carolines.dreams@gmail.com

Date: 09/9/13

Multimodal Storytelling:

Exploring the Role of Pedagogy in Developing Student Literacy via
School Television.

Consent Form for Participating Teachers

The researcher has talked me about this study and I have read the information letter. I am interested in taking part in this student television research study.

I understand that I will be interviewed by the researcher at the end of research cycles that have a student from my class in it. I understand that I will fill in a brief questionnaire as I view the relevant episode of student television. I understand that I will take part in a semi-structured interview following the viewing and the questionnaire. I will take care to keep private any information shared during a group interview. I understand that if I participate in a group interview the other teachers will be asked to keep interview information private. I know that any information collected from me will be kept confidential by the researcher following the interview and will be stored away in a locked cabinet. All the data will be stored for five years following the study after which time all information will be destroyed. The interviewer will not use my name or the name of my school in the project. The project will be written up and my school will receive a report of the study.

Thank you, Caroline Lockyer

Full name : _____

College of Education
Caroline Lockyer
+64 0210583031
carolines.dreams@gmail.com

Date: 2/5/13

**Multimodal Storytelling:
Exploring the Role of Pedagogy in Developing Student Literacy via
School Television.**

Information Letter for Parents

My name is Caroline Lockyer. I am a postgraduate student at the College of Education, University of Canterbury. I have taught as a classroom teacher at Paremata School for eight years, five of these as the team leader for the Year 3 & 4 syndicate. For three years I co-led the ICT project within the school and helped facilitate the ICT school cluster. Since 2011 I have facilitated student television. I am currently on study leave working on a thesis towards a Master of Education. This degree has a focus on researching educational uses for ICT.

As part of the thesis requirement I plan to conduct an action research into the effectiveness of teaching strategies for literacy learning. I am particularly interested in strategies that encourage student collaboration and personalised learning. Within the context of student television. I plan to conduct this investigation during Term 3 with the participation of students who are already part of the school television crew, or who have volunteered to be the student news anchors for upcoming episodes. Students will be separated into three groups to produce one episode of student television for each two week cycle of research. Each group of students will only be involved in one two week cycle.

Student participants will be invited to:

- Participate in an individual recorded interview at the beginning of the study, to give their thoughts on what they are learning, why they are learning it and what their preferred ways of learning are. Participate in a second individual recorded interview at the end of the study/ cycle of study reflecting on learning that occurred during the study period. These interviews should take no longer than 20 minutes.
- Participate in sessions of student television that would replace the usual classroom afternoon programme for two weeks as well as the usual Fridays. To minimise potential student disconnection from their classwork, episodes of student television produced during the research periods will use class programmes as themes for episodes. For example if there is a science focus in classes, the student television episode filmed during that time will be about science learning that is happening in the school.
- Be knowingly recorded for research data during parts of the student television process, such as during editing conversations, while filming or during group discussions.

Please note that participation in this study is voluntary. Participants are free to withdraw at any point during the study and this will not affect their ability to participate in student

television. If a student participant does withdraw I will do my best to withdraw any information pertaining to that student. I will take particular care to ensure the confidentiality of all data gathered for this study and the anonymity of all participants during publication of the research findings. All data will be stored for five years following the study. It will then be destroyed. A summary of findings will be available for students, parents and staff to read following the research. The results of this study will be published as a thesis at the University of Canterbury. It may be submitted for publication to national or international journals or presented at educational conferences. You may at any time ask for additional information or results from the study. It will be used by myself, our school and potentially by other teachers, educators and researchers to improve practices around ICT integration, literacy acquisition, digital storytelling, student television, pedagogies to improve the integration of ICT into teaching and learning, personalised learning, redefining the role of teachers and learners, multimodal learning, new literacies, 20th century learning and future focussed teaching and learning.

If you have any questions about this study please contact me at carolines.dreams@gmail.com. My thesis supervisors are Dr Julie Mackey, at julie.mackey@canterbury.ac.nz and Nicki Dabner at nicki.dabner@canterbury.ac.nz of the University of Canterbury. If you have a complaint about this research please contact the Chair, Educational Human Ethics Committee, University of Canterbury, Private Bag 480, Christchurch (human-ethics@canterbury.ac.nz). If you consent to the participation of your child in this research please complete the attached consent form and return it to school with your child on (day/month). Thank you. I am looking forward to working with these students.

Caroline Lockyer

College of Education

Caroline Lockyer

+64 0210583031

carolines.dreams@gmail.com

Date: 2/5/13

Multimodal Storytelling:
Exploring the Role of Pedagogy in Developing Student Literacy via
School Television.

Consent Form for Parents

I have read the information and understand what will be required of my child if they participate in this research study.

I understand that my child will participate in sessions of student television that will replace the usual classroom afternoon programme for two weeks of as well as the two usual Friday sessions. Class programmes will be integrated into episodes.

I understand that my child will be individually interviewed by the researcher at the beginning and end of this research and that interviews will be recorded.

I understand that some student conversations and discussions that my child takes part in will be video or audio recorded.

I have read the information letter and understand that all information collected during the study will be only accessible for the researcher and that it will be kept confidential and secure.

I understand that student participants and the school will not be identified in any presentations or publications that use this research.

I understand that I can get more information about this research from the researcher, and that I can contact the University of Canterbury Ethics Committee if I have any complaints about the research.

I agree for my child to participate in this research and my child has also given their consent on their consent form.

Thank you, Caroline Lockyer

Name: _____

Signature: _____

Name of
Student: _____

Email
address: _____

Date: _____

***Please complete and return this consent form to your child's
class teacher in the envelope provided.***

College of Education

Caroline Lockyer

+64 0210583031

carolines.dreams@gmail.com

Date: 2/5/13

Multimodal Storytelling:
Exploring the Role of Pedagogy in Developing Student Literacy via School
Television.

Information Letter for the Board of Trustees

My name is Caroline Lockyer. I am a postgraduate student at the College of Education, University of Canterbury. I have taught as a classroom teacher at Paremata School for eight years, five of these as the team leader for the Year 3 & 4 syndicate. For three years I co-led the ICT project within the school and helped facilitate the ICT school cluster. Since 2011 I have facilitated student television. I am currently on study leave working on a thesis towards a Master of Education. This degree has a focus on researching educational uses for ICT.

As part of the thesis requirement I plan to research into the effectiveness of teaching strategies for literacy learning using an action research approach. I am particularly interested in strategies that encourage student collaboration and personalised learning within the context of student television. I plan to research with the participation of students who are already part of school television or have volunteered to be the student news anchors for episodes 5, 6 and 7. Students will be separated into three groups to produce one episode of student television for each two week cycle of research. Each group of students will only be involved in one two week cycle.

Student participants will be invited to:

- Take part in an individual recorded open-ended interview at the beginning of the study outlining their thoughts on what they are learning, why they are learning it and their preferred ways of learning. This will take no longer than 20 minutes.
- Participate in sessions of student television that replace the usual afternoon classroom programme from Monday to Thursday for two weeks, as well as the usual Fridays. Classroom activities and learning opportunities that happen in classes during this time will be integrated into student television to provide themes for those episodes.
- Be knowingly recorded for research data during strategic parts of the student television process, such as editing conversations, while filming or during group discussions.
- Take part in an individual recorded open-ended interview at the end of their cycle of study reflecting on learning that occurred during the study period. This should take no longer than 20 minutes.

Please note that participation in this study is voluntary. Participants are free to withdraw at any point during the study. If a student participant withdraws I will do my best to remove all

information pertaining to that student. Students who withdraw from participation in this research will still be able to participate in the student television programme without penalty.

I will take particular care to ensure the confidentiality of all data gathered for this study. I will use pseudonyms for all students and I will take care to ensure the anonymity of all participants during publication of the research findings. All data will be stored in password protected facilities and locked storage for five years following the study. It will then be destroyed. A summary of findings will be available for students, parents, staff and the BOT to read following the research. The results of this study will be published as a thesis at the University of Canterbury. It may be submitted for publication to national or international journals or presented at educational conferences. You may at any time ask for additional information or results from the study. It will be used by myself, our school and potentially by other teachers, educators and researchers to improve practices around ICT integration, literacy acquisition, digital storytelling, student television, pedagogies to improve the integration of ICT into teaching and learning, personalised learning, redefining the role of teachers and learners, multimodal learning, new literacies, 20th century learning and future focussed teaching and learning.

I would like permission from the Board of Trustees to conduct this research project and I have attached a consent form for this purpose. Please complete the attached consent form and hand it in to the school office. If you have any questions about this study please contact me at carolines.dreams@gmail.com. My thesis supervisors are Dr Julie Mackey, at julie.mackey@canterbury.ac.nz and Nicki Dabner at nicki.dabner@canterbury.ac.nz of the University of Canterbury. If you have a complaint about this research please contact the Chair, Educational Human Ethics Committee, University of Canterbury, Private Bag 480, Christchurch (human-ethics@canterbury.ac.nz).

Thank you,
Caroline Lockyer

College of Education
Caroline Lockyer
+64 0210583031
carolines.dreams@gmail.com

Multimodal Storytelling:
Exploring the Role of Pedagogy in Developing Student Literacy via
School Television.

Consent Form for The Board of Trustees

Please tick each box

On behalf of the Board of Trustees I agree to Caroline Lockyer conducting research related to multimodal storytelling in the context of school television

I have read the information and understand what will be required of students if they participate in this research study.

I understand that students will participate in sessions of student television that will replace the usual classroom afternoon programme for two weeks as well as the two usual Friday sessions. Class programmes will be integrated into episodes.

I understand that students will be individually interviewed by the researcher at the beginning and end of this research.

I understand that some student conversations and discussions will be video or audio recorded.

I have read the information letter and understand that all information collected during the study will be only accessible for the researcher and that it will be kept confidential and secure.

I understand that school will not be identified in any presentations or publications that use this research.

I understand that I can get more information about this research from the researcher and her supervisors and that I can contact the University

of Canterbury Educational Research Human Ethics Committee if I have any complaints about this research.

Name:

Signature:

BOT

Role: _____

Date: _____

Please return this consent form to the school office in the envelope provided.

Thank you, Caroline Lockyer

College of Education

Caroline Lockyer

+64 0210583031

carolines.dreams@gmail.com

Date: 9/7/13

Multimodal Storytelling: Exploring the Role of Pedagogy in Developing Student Literacy via School Television.

Information Letter for the Principal and Teachers

My name is Caroline Lockyer. I am a postgraduate student at the College of Education, University of Canterbury. I have taught as a classroom teacher at Paremata School for eight years, five of these as the team leader for the Year 3 & 4 syndicate. For three years I co-led the ICT project within the school and helped facilitate the ICT school cluster. Since 2011 I have facilitated student television. I am currently on study leave working on a thesis towards a Master of Education. This degree has a focus on researching educational uses for ICT.

As part of the thesis requirement I plan to conduct an action research into the effectiveness of teaching strategies for literacy learning. I am particularly interested in strategies that encourage student collaboration and personalised learning within the context of student television. I plan to conduct this investigation with the participation of students who are already part of the school television crew, or who have volunteered to be the student news anchors for upcoming episodes. Students will be separated into three groups to produce one episode of student television for each two week cycle of research. Each group of students will only be involved in one two week cycle.

Student participants will be invited to:

- Participate in an individual recorded interview at the beginning of the study, to give their thoughts on what they are learning, why they are learning it and what their preferred ways of learning are. This should take no longer than 20 minutes.
- Participate in sessions of student television that would replace the usual classroom afternoon programme for two weeks as well as the usual Fridays. To minimise potential student disconnection from their classwork, episodes of student television produced during the research periods will use class programmes as themes for episodes. For example if there is a science focus in classes, the student television episode filmed during that time may be about science learning that is happening in the school.
- Be knowingly recorded for research data during parts of the student television process, such as during editing conversations, while filming or during group discussions.
- Participate in an individual recorded interview at the end of the study/ cycle of study reflecting on learning that occurred during the study period. This should take no longer than 20 minutes.

Please note that participation in this study is voluntary. Participants are free to withdraw at any point during the study. If a student participant does withdraw I will do my best to withdraw any information pertaining to that student. I will take particular care to ensure the confidentiality of all data gathered for this study and the anonymity of all participants during publication of the research findings. All data will be stored in password protected facilities and locked storage for five years following the study. It will then be destroyed. A summary of findings will be available for students, parents and staff to read following the research.

The results of this study will be published as a thesis at the University of Canterbury. It may be submitted for publication to national or international journals or presented at educational conferences. You may at any time ask for additional information or results from the study. It will be used by myself, our school and potentially by other teachers, educators and researchers to improve practices around ICT integration, literacy acquisition, digital storytelling, student television, pedagogies to improve the integration of ICT into teaching and learning, personalised learning, redefining the role of teachers and learners, multimodal learning, new literacies, 21st century learning and future focussed teaching and learning.

If you have any questions about this study please contact me at carolines.dreams@gmail.com. My thesis supervisors are Dr Julie Mackey, at julie.mackey@canterbury.ac.nz and Nicki Dabner at nicki.dabner@canterbury.ac.nz of the University of Canterbury. If you have a complaint about this research please contact the Chair, Educational Human Ethics Committee, University of Canterbury, Private Bag 480, Christchurch (human-ethics@canterbury.ac.nz).

Thank you,

Caroline Lockyer

Appendix B: Indicators for the effectiveness of pedagogical strategies

Table B1.

Indicators of Effectiveness of Pedagogical Strategies for Literacy learning during Cycle One

	Multimedia literacy	Critical literacy	Digital literacy	Oral literacy	Written literacy
	<i>The ability to comprehend and communicate using a range of types and combinations of media.</i>	<i>The ability to think in a discerning way. Critical literacy includes understanding how language works and is used.</i>	<i>The ability to use digital technology adaptively and confidently The ability to navigate, explore and present using technology.</i>	<i>The ability to communicate through speaking and listening. The ability to think about and control language use.</i>	<i>The ability to read and write, and to use language proficiently.</i>
Pedagogy	Indicator	Indicator	Indicator	Indicator	Indicator
Brain Storming	Student contributions to 'editor' role criteria show understanding of ways students use multimedia.	Brainstorms show critical analysis of each role.	Brainstorms demonstrate an understanding of aspects of 'editor' role criteria. Brainstorm discussions show deepening understandings	Students identify and discuss roles using student television vocabulary and ideas	Student use of ideas, vocabulary and spelling. Student engagement with brainstorm activity.
Success criteria	Students use 'editor' role criteria to try to improve their editing skills and multimedia literacy.	Student use/ analysis of criteria shows critical thinking.	Students use 'editor' criteria to improve aspects of digital literacy e.g., checking criteria.	<i>During class discussion of criteria:</i> Students use specific student television vocabulary. Students listen to each other. <i>Informal student discussions:</i> Students analyse criteria.	Students use scriptwriter criteria to improve scripts.
Questioning strategies	Students justify multimedia decisions.	Student responses show critical thinking	Student responses articulate increasing digital understanding and confidence	Students demonstrate metacognition. Students articulate learning.	Students act on script feedback
Wait time	Student responses show depth of	Student responses show critical thinking	Students use wait time to think deeply	Student responses show depth of	Student responses show depth of

	thinking.		about digital learning.	thinking	thinking.
Storyboards	<p>Storyboards include multimedia aspects of storytelling:</p> <ul style="list-style-type: none"> • Photos • Location for shoot • Green screen • Mood • Sound 	<p>Storyboards show evidence of problem solving strategies (Rewriting/ student learning conversations/ discussion/ evidence in sequencing)</p>	<p>Students include digital components in storyboards. Student problem solving digital issues</p>	<p>Students discuss and negotiate while storyboarding. Students describe storyboards using:</p> <ul style="list-style-type: none"> • Specific language • Effective communication 	<p>Students use of written language:</p> <ul style="list-style-type: none"> • Specific, clear vocabulary • Effective communication
Student exploration and Experimentation	<p>Student exploration demonstrates developments in multimedia literacy.</p>	<p>Student exploration demonstrates critical thinking through student conversation and response to questioning.</p>	<p>Digital presentations show effective communication Student conversations articulate digital learning. Student editing demonstrates increasing digital fluency and use of tools</p>	<p>Students explore and experiment with vocabulary and presentation skills.</p>	<p>Student use of impact, personal voice, language features, structure and organisation, spelling, punctuation and grammar while script-writing.</p>

Note: Author's own

Table B2

Indicators of Effectiveness of Pedagogical Strategies for Literacy learning during Action Research Cycle Two

	Multimedia literacy	Critical literacy	Digital literacy	Oral literacy	Written literacy
	<i>The ability to comprehend and communicate using a range of types and combinations of media.</i>	<i>The ability to think in a discerning way. Critical literacy includes understanding how language works and is used.</i>	<i>The ability to use digital technology adaptively and confidently. The ability to navigate, explore and present using technology.</i>	<i>The ability to communicate through speaking and listening. The ability to think about and control language use.</i>	<i>The ability to read and write, and to use language proficiently.</i>
Pedagogy	<i>Indicator</i>	<i>Indicator</i>	<i>Indicator</i>	<i>Indicator</i>	<i>Indicator</i>
Brain Storming	Student contributions to 'editor' role criteria show understanding of ways students use multimedia.	Brainstorms show critical analysis of each role.	Brainstorms demonstrate an understanding of aspects of 'editor' role criteria. Brainstorm discussions show deepening understandings	Students identify and discuss roles using student television vocabulary and ideas	Student use of ideas, vocabulary and spelling. Student engagement with brainstorm activity.
Success criteria	Students use 'editor' role criteria to try to improve their editing skills and multimedia literacy. Students use criteria to goal-set.	Student use/ analysis of criteria shows critical thinking.	Students use 'editor' criteria to improve aspects of digital literacy e.g., goal setting or checking criteria.	<i>During class discussion of criteria:</i> Students use specific student television vocabulary. Students listen to each other. <i>Informal student discussions:</i>	Students use scriptwriter criteria to improve scripts.
Questioning strategies	Students justify multimedia decisions.	Student responses show critical thinking	Student responses articulate increasing digital understanding and confidence	Students demonstrate metacognition. Students articulate learning.	Students act on script feedback
Wait time	Student responses show depth of thinking.	Student responses show critical thinking	Students use wait time to think deeply about digital learning.	Student responses show depth of thinking	Student responses show depth of thinking.
Goal setting	Student goals demonstrate self-assessment of multimedia.	Students critically reflect on goal selection.	Students set digital/ editing goals. Goals show	Students articulate and rationalise goals. Presenter goals	Student goals show specific aspects of written language

	Students use goals to improve multimedia use and ability.	Students strategise towards achieving goals.	depth of thought.	show analysis of student's oral language development.	to improve during scriptwriting.
Student reflection	Students articulate progress towards goals.	Student reflections describe critical thinking and analysis.	Students reflect on their digital development and improvements.	Student vocabulary observed for metalanguage. Students reflect on oral presentations in 'presenter' role.	Student reflections show metacognition of written language progress.
Storyboards	Storyboards include multimedia aspects of storytelling: <ul style="list-style-type: none"> • Photos • Location of shoot • Green screen • Mood • Sound 	Storyboards show evidence of problem solving strategies (Rewriting/ student learning conversations/discussion/evidence in sequencing)	Students include digital components in storyboards. Student problem solving digital issues	Students discuss and negotiate while storyboarding. Students describe storyboards using: <ul style="list-style-type: none"> • Specific language • Effective communication 	Students use of written language: <ul style="list-style-type: none"> • Specific, clear vocabulary • Effective communication
Student exploration and experimentation	Student exploration demonstrates developments in multimedia literacy.	Student exploration demonstrates critical thinking through student conversation and response to questioning.	Digital presentations show effective communication. Student conversations articulate digital learning. Student editing demonstrates increasing digital fluency and use of tools	Students explore and experiment with vocabulary and presentation skills.	Student use of impact, personal voice, language features, structure and organisation, spelling, punctuation and grammar while script-writing.
Visual supports	Students use visual supports to enhance multimedia use	Students critique and draw on visual supports.	Students use visual supports such as camera shots	Students use visual cues to enhance communication and presentations.	Depth of ideas and content using '5Ws' to guide scriptwriting.
Responsive instructional strategies	Students demonstrate mastery or independent use of skills through selective application of instructional strategies.	Student responses to instructional strategies.	Students gain skills and ability through selective use of instructional strategies	Students develop performance and presentation in response to instructional strategies (eg. feedback and modeling).	Students adapt and improve written language through application of instructional strategies.

Note: Author's own

Table B3

Indicators of Effectiveness of Pedagogical Strategies for Literacy learning during Action Research Cycle Three

	Multimedia literacy	Critical literacy	Digital literacy	Oral literacy	Written literacy
	<i>The ability to comprehend and communicate using a range of types and combinations of media.</i>	<i>The ability to think in a discerning way. Critical literacy includes understanding how language works and is used.</i>	<i>The ability to use digital technology adaptively and confidently. The ability to navigate, explore and present using technology.</i>	<i>The ability to communicate through speaking and listening. The ability to think about and control language use.</i>	<i>The ability to read and write, and to use language proficiently.</i>
Pedagogy	<i>Indicator</i>	<i>Indicator</i>	<i>Indicator</i>	<i>Indicator</i>	<i>Indicator</i>
Brain Storming	Student contributions to 'editor' role criteria show understanding of ways students use multimedia.	Brainstorms show critical analysis of each role.	Brainstorms demonstrate an understanding of aspects of 'editor' role criteria. Brainstorm discussions show deepening understandings	Students identify and discuss roles using student television vocabulary and ideas	Student use of ideas, vocabulary and spelling. Student engagement with brainstorm activity.
Success criteria	Students use 'editor' role criteria to try to improve their editing skills and multimedia literacy. Students use criteria to goal-set.	Student use/ analysis of criteria shows critical thinking.	Students use 'editor' criteria to improve aspects of digital literacy e.g., goal setting or checking criteria.	<i>During class discussion of criteria:</i> Students use specific student television vocabulary. Students listen to each other. <i>Informal student discussions:</i> Students analyse criteria.	Students use scriptwriter criteria to improve scripts.
Questioning strategies	Students justify multimedia decisions.	Student responses show critical thinking	Student responses articulate increasing digital understanding and confidence	Students demonstrate metacognition. Students articulate learning.	Students act on script feedback
Wait time	Student responses show depth of thinking.	Student responses show critical thinking	Students use wait time to think deeply about digital learning.	Student responses show depth of thinking	Student responses show depth of thinking.
Goal setting	Student goals demonstrate	Students critically reflect	Students set digital/ editing	Students articulate and	Student goals show specific

	self-assessment of multimedia. Students use goals to improve multimedia use and ability.	on goal selection. Students strategise towards achieving goals.	goals. Goals show depth of thought.	rationalise goals. Presenter goals show analysis of student's oral language development.	aspects of written language to improve during scriptwriting.
Student reflection	Students articulate progress towards goals.	Student reflections describe critical thinking and analysis.	Students reflect on their digital development and improvements.	Student vocabulary observed for metalanguage. Students reflect on oral presentations in 'presenter' role.	Student reflections show metacognition of written language progress.
Storyboards	Storyboards include multimedia aspects of storytelling: <ul style="list-style-type: none"> • Photos • Location of shoot • Green screen • Mood • Sound 	Storyboards show evidence of problem solving strategies (Rewriting/ student learning conversations/discussion/ evidence in sequencing)	Students include digital components in storyboards. Student problem solving digital issues	Students discuss and negotiate while storyboarding. Students describe storyboards using: <ul style="list-style-type: none"> • Specific language • Effective communication 	Students use of written language: <ul style="list-style-type: none"> • Specific, clear vocabulary • Effective communication
Visual supports	Students use visual supports to enhance multimedia use	Students critique and draw on visual supports.	Students use visual supports such as camera shots	Students use visual cues to enhance communication and presentations.	Depth of ideas and content using '5Ws' to guide scriptwriting.
Responsive teacher attitudes and actions	Students demonstrate mastery or independent use of skills through selective application of instructional strategies.	Student responses to instructional strategies.	Students gain skills and ability through selective use of instructional strategies	Students develop performance and presentation in response to instructional strategies (eg. feedback and modeling).	Students adapt and improve written language through application of instructional strategies.

Note: Author's own

Appendix C. Interview questions

Typical questions asked during end of cycle researcher-student interviews.

What roles did you fulfill during the making of this episode?

Was making and using the criteria brainstorms useful to you?

What were your goals during the making of this episode?

Did setting goals help you learn?

Did the criteria help you achieve your goals?

(How) did making and using the storyboard help you?

What were your goals during this episode?

What are your reflections against those goals?

How did goal setting and reflecting help you learn?

How did the visual supports help you learn?

Do you have any thoughts on the smaller group and more frequent sessions of student television?

How did making this episode of student television help your multi-media literacy? How about digital literacy? How about your critical thinking? (Show me where. /Can you show me examples in the script/ project, storyboarding)

What would you do differently during another episode/ What changes would you make to the next episode of student television?/ Do you have any recommendations for the next episode?

Appendix D. Student-participant literacy levels

Table D1

Student Literacy Levels Assessed Against the National Standards Before and After Research Cycles

Cycle (C)	Writing National Standard (NS) Term 2 2013	Writing NS Term 4 2013	Reading NS Term 2 2013	Reading NS Term 4 2013
C1	At	At	At	At
	Above	Above	Above	Above
	At	At	At	At
	Above	Above	At	Above
	Below	At	At	At
C2	At	At	Above	Above
	Below	At	Above	Above
	Above	Above	Above	Above
	At	At	Above	Above
	At	At	At	Above
	Below	At	At	At
	At	At	At	Above
C3	Below	At	At	Above
	At	Above	Above	Above
	At	Above	At	Above
	At	Above	Above	Above
	Below	Below	At	At
	Below	At	At	Above
	At	At	At	Above
	Above	Above	At	Above
	Above	Above	At	Above
At	Above	At	Above	

Note: Author's own