Contemporary technology and 10-12 year old childhood constructions: a critical discourse analysis.

A thesis submitted to Auckland University of Technology in fulfillment of the requirements for a Masters of Philosophy

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Contents

Attestation of Authorship

"I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning."

Acknowledgments

Ethical approval

Ethical approval for the research in this thesis was approved on 27 October 2010 by the Auckland University of Technology Ethics Committee (AUTEC). Ethics Application Number 10/215.

Abstract

Children's use of contemporary technologies is a much debated topic in the literature. There are various opinions on the positive and negative effects of technology on childhood development. Much of this literature appears to be statistically based, or from adult observation. To help understand more about the socio-cultural context children are living in and how they are internalising this information, this research study asked the question: 'What are the current discourses used by 10-12 year old children when talking about contemporary technologies such as mobile phones, the internet, console games and computers?'

Ten children aged between 10-12 years were recorded discussing and demonstrating the types of technology they regularly used at home. The children were purposely selected, with two being of Maori descent. The recorded interactions were transcribed verbatim and a Foucauldian discourse analysis was carried out to identify dominant discourses that emerged from the children's discussions. These dominant discourses were interpreted using the philosopher Michel Foucault's theories on the history of existence, power relations, the subject, and ethics of the self. Ethical approval was given for the research by the AUTEC research committee in October 2010.

Three dominant discourses were identified in the analysis. Virtual reality as a new dimension; panoptic play; and technological play as risky. By analyzing these discourses the children in the research appeared to assume subject positions within their play that have been created by and through their technology use. These subject positions were created by the unique historical context of the present era and have allowed new relations of power to develop for the children.

The discourses revealed by the children in this research appeared to indicate the emergence of norms of behaviour and relations of power unique to technological play. These norms and power relations also appeared to indicate a new form of ethical substance which may be contributing to the constitution of the children's moral self.

Chapter One - Introduction

This interpretative qualitative study identifies some of the current discourses that were used by children aged between 10-12 years old when speaking about their use of technologies, such as the internet, mobile phones, console games (playstations™, x-boxes™), and computer games. It has involved ten children, Maori and Pakeha,[1] living in Hokitika on the West Coast of the South Island, Aotearoa/New Zealand, whose lives have predominantly been within the new millennium. These children are living in a unique historical moment in which technology is an enormous part of their everyday life (Ito et al., 2010). Children aged between 10-12 years have reliable verbal and cognitive abilities (Kuhn & Franklin, 2008), are developing an understanding of morality (Drewery & Bird, 2004), and have been living amidst the dominant discourses of the new millennium. They can provide us an insight into how these discourses have been constructed, creating the discursive frameworks that make up their particular culture's way of living and thinking, and the way it orders reality (Cheek, 1999).

A postmodern theoretical background has been used to guide this understanding of the present day that the children involved in the research are living in, as well as to inform the methodology of the research. A postmodern theoretical context includes knowledge from the philosophers Michael Foucault, Jean Baudrillard and Jean-Francis Lyotard about how reality can be perceived in a new and different way from the views of positivism and modernity. The choice to use postmodern theory was made as it appeared the most congruent with the

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[1]This was determined through parental identification to Maori or Pakeha cultures. Maori being the indigenous people of Aotearoa/New Zealand, and Pakeha being a New Zealander of other European descent. No other cultures were identified by participants of the study.

reality that children live in. Postmodernity is a broad term that emerged in the 1960's and covers many aspects of human existence, including philosophy, the arts, social sciences, and fashion (Crotty, 1998). Postmodern theorists emphasise that reality is plural and there are multiple positions from which to view reality (Cheek, 1999). Postmodern theory claims we have left a modern world behind and are now entering a new era from which the world needs to be viewed and interpreted (Best & Kellner, 2001). Ambiguity, hyperreality (the way consciousness creates a reality portrayed from a multitude of sources), and simulation (the blurring between reality and imagination) prevail, where nothing is certain (Crotty, 1998).

It appeared to me that the pervasive use of technology in Aotearoa/New Zealand is an example of postmodern theory in action. For example: the internet is an endless source of ambiguity, both of truths and realities as anybody's opinion can be considered the truth or what really happened; console games, text messaging, movies, television, and the internet provide a constant form of simulated reality leading to states of hyperreality; the speed of technology uptake and dependence makes the outcome of its use difficult to predict and analyse, creating uncertainty and conflicting discourses. Thus in this thesis, technology is viewed from a perspective that it is an integral aspect of postmodernism, that it is significant in creating and maintaining a postmodern society. In 2001 Best and Kellner purported that technology is largely what is driving the rapid changes ('the postmodern turn') in the present time. They described this technological age as one of technocapitalism, a term to describe the complex interdependence of globalization, capitalism, science and technology. They also discussed the mergers of the large information and entertainment corporations as creating an 'infotainment' society where new technologies are much more than a means of information. They are sources of entertainment, play, communication, and are restructuring labour and leisure.

The significance of technology in the lives of the present generation of children is a new historical phenomenon, contributing to longer term societal and cultural change (Ito et al., 2010). It appears important to gain perspectives from children and young people as they are the first generation to actually live the themes of post-modern theory (Best & Kellner, 2003). They are growing up in a world where digital technology and instant communication are natural contexts for their ordinary life. Concern about the effects of technology on these millennial children and their childhood appears to be accelerating with innumerable articles, books, media releases and internet content devoted to it (for examples see Frost, 2010; Ito et al., 2010; Olsen, 2006; Rideout, Foehr, & Roberts, 2010).

In the context of these perspectives and concerns the focus of this research was to explore the question:

'What are the current discourses used by 10-12 year old children when talking about contemporary technologies such as mobile phones, the internet, console games and computers?'

The purpose of this research question is:

- To identify children's understanding and worldviews in relation to technology;

- To identify historical, social, cultural factors and power relations that affect children's use and understanding of their use of technology; and

- To create information about the significance of technology in childhood occupations, from their perspective.

The research uses Foucauldian discourse analysis as a guide to identify and examine the discourses and what technology might have meant for children living in a small rural New Zealand town in 2010. To create textual data to analyse, semi-structured interviews with ten children were carried out in their own homes. The dominant discourses were then identified to provide a discursive framework that reflected the children's constructions. This then provided information for further interpretation about the power dynamics evolving with children, their families and society, the histo-cultural impacts of postmodernity on children, and the occupational implications of these.

Motivation for the research

The motivation for this research has come about by observing children and teenagers in their day-to-day life, and feeling that there has been a significant change in discourses and social environments over the last two generations – as part of the postmodern turn, as Best and Kellner (2001) would put it. As a mother of three young children and step mother of two 11 year olds, this significant change is apparent in my everyday life. Through completion of a Post Graduate Diploma in Health Science (Occupational Therapy) in 2009, the importance of occupation to health, wellbeing, identity formation, and childhood development had become very clear to me. As using technology is such a large and new occupation that children are constantly engaged in, it became a subject I was drawn to as a focus for research.

The voice of children and their ability to articulate their understanding or interpretation of events and issues has always been an important aspect of my clinical interventions as a paediatric occupational therapist. Carrying out research with the children themselves is a natural continuation of valuing children's voice, as only they can provide the unique

constructions of their reality that adults seek to understand. I was hoping to gain an insight into the childhood world of technology that would aid me as a therapist, a parent and as a member of postmodern society. The knowledge gained from this research may also be of interest to occupational scientists and disciplines involved with child development and social analysis, as well as other parents and caregivers of children.

Leading developmental psychologists have described understanding how children live in a new virtual world which is full of complexity, as a new field of enquiry in developmental psychology (Greenfield & Yan, 2006), and a lack of literature about the effects of technology and new media on social and cultural ecology has been identified (Ito et al., 2010). In New Zealand, Jackson et al. (2007) have challenged researchers to incorporate the developmental areas of cognition, socialisation and ecology when considering children's interface with media. Jackson et al. also suggest research involving children's media use needs to involve interdisciplinary theories and methodologies. This research is aiming to contribute to these identified gaps in knowledge, as well as adding to the Occupational Science literature.

Methodological background

Qualitative research paradigms provide ways of understanding dimensions of childhood that quantitative research cannot (Hatch, 2007). In the introduction to Hatch's 2007 text, Nicola Yelland described children as "collaborators and agents of change in our shared and intersecting lives" (p. ix) rather than subjects to be studied. She also described qualitative perspectives from disciplines beyond the traditional researchers of children, psychology and education, as being particularly appropriate for use in the postmodern world, and especially

relevant to everyday practice of early childhood professionals. Greig, Taylor and MacKay (2007) also advocated qualitative research as being particularly suitable for doing research with children. They listed several reasons why this is so: practitioners who are most likely to be doing research with children often have ready access to naturalistic settings such as homes, schools or playgroups that reflect real life; access to large numbers of participants required for quantitative research is difficult, but small groups of children are often accessible; and children provide excellent sources of rich data to be analysed.

Discourse analysis is a qualitative research methodology that studies the "way texts are constructed, the functions language serves, and the contradictions that run through it" (Parker, 2002, p. 123). Nicola Gavey (1989) provided a clear description of what discourse and discourse analysis means. She understands discourse analysis as examining language that people use to relay their and others' understanding of personal and social phenomena. Discourse analysis attends to language in detail and to the wider social picture. Language is analysed in text forms that can be obtained from interviews, conversations, documents, records or other social practice literature.

 The term discourse is used to define a constitution of meaning that is specific to a particular group, culture or historical period, and thus is always changing (Gavey, 1989). Discourses are created when taken for granted, common assumptions become the basis for conscious knowledge (Cheek, 1999). A dominant discourse reflects the meaning that most of the people understand most of the time about a particular subject. Hence dominant discourses appear 'natural' or common sense to most people (Gavey, 1989). Dominant discourses change at different times in history, can enable or constrain access to knowledge, and are not always

afforded equal presence or authority (Cheek, 1999). There can be different discourses about the same reality that allow the individual different subjective positions (Weedon, 1987). By identifying current discourses via children's own words, the constructions that are becoming children's worldviews and 'norms' may be revealed.

Using these understandings of discourse, Foucauldian discourse analysis examines language and text, revealing the networks of meanings within the dominant discourses that construct the social and psychological realities of the speaker (Weedon, 1987). In keeping with postmodern theory, there can be multiple realities, which are created by the dominant discourses. These realities are taken up by the individual in conscious and unconscious ways, reflecting societal structures, institutions and processes (Weedon, 1987). The power relations, social realities and historical context are of particular interest within Foucauldian discourse analysis (Willig, 2001). Using Foucauldian discourse analysis allowed this research to reflect the multiple realities in the children's understanding about technologies, as well as allowing investigation into the power relations and socio-historical context that may be creating these realities.

Context of the research

The current use of technology by New Zealand children is difficult to quantify. However there have been some studies on what children are using, what they are doing with the technologies and for how long. These studies will be summarised and a comparison made with international findings. The use of technology is of interest because it provides an idea of how much time technology use takes in a child's day, and what the main interests of children are when using technology.

An issue that is important when critiquing the literature is the emergence and escalation of the digital divide. This term is used to describe children who have access to technology at schools and at home, and those who do not (Buckingham, 2007). It can also be used in terms of the knowledge divide between adults and children, or expert children and novice children in their use of technology (Aarsand, 2007). The digital divide has been discussed as an equity issue in terms of education and future skill development (Buckingham, 2007). Recently the social implications of the digital divide have also been documented. Being unable to participate in digital social networking environments appears to be becoming a socially isolating factor (Ito & Bittani, 2010). The digital divide may not be a significant factor to this research, as the participants were recruited because they do have at least two forms of modern technology in their homes. However it is important to acknowledge as it has implications for generalising the research findings and the discourses identified in the study may reflect the children's perception of the digital divide.

In New Zealand, using technology is a common part of most children's day. Ninety-eight percent of New Zealand homes have televisions (Ministry of Economic Development, 2007), 88% of homes with dependent children have internet access, (Statistics New Zealand, 2009), 74% of 10-11 year old children and 94% of 12-13 year old children have use of a mobile phone (Kleeb, 2007), and 92% of 15-19 year olds have a mobile phone (Statistics New Zealand, 2009). Ipods and MP3 music players have also become common, and most children have access to a gaming machine such as a playstation, x-box, wii or similar (Martini, 2010). It is also an integral part of New Zealand's education system now, with the Ministry of Education (2008) stating "all New Zealand students should be able to access ICT at school and have the opportunity to become confident and capable users of ICT" (p. 3).

Earlier this century New Zealand literature lamented the poor access to broadband for children compared to other countries (Jackson et al., 2007; Lealand & Zanker, 2003). Now this trend has reversed with the uptake of broadband connection far ahead of other comparable countries, with nearly 90% uptake compared to 70% in Ireland, and 40% in Australia, UK, Italy and the OECD (Nelson, 2009a).

The research has taken place in a rural town in New Zealand, on the West Coast of the South Island where the researcher lives. Statistics relating to technology ownership in West Coast households appear similar to the rest of New Zealand, with the West Coast having the highest digital television uptake in New Zealand (approximately 80% of televisions are now digital), which could be seen as an indicator of the adoption rate of new technologies here (Ashton, 2011).

The West Coast was included in the New Zealand Government's 2009 National Ultra-Fast broadband initiative, which is a 10 year investment programme to provide access from Auckland to Greymouth (Nelson, 2009a). The West Coast has some of the fastest broadband in New Zealand, and 97% of homes have access to broadband (J. Gurdin, personal communication, August 8, 2010). According to Statistics New Zealand (2010), at the end of 2009 71% of households actually had internet connections in the Marlborough/Nelson/WestCoast regions. A recent survey of 468 primary school aged children (8-13years old) in the southern half of the West Coast (Runanga to Haast), found that most children had access to broadband, a console game (play-station or x-box), i-pods/MP3 players, and approximately 50% (257 children) had cellphones (Martini, 2010). When compared to the above New Zealand statistics, these statistics about access to

technology on the West Coast, demonstrate access is not dissimilar to other children in New Zealand. There are other contextual issues important to this region that may affect children's technology use. The region is very rural, being at least three hours by road from a significant city, and there is a strong culture of outdoor recreation (hunting, fishing, whitebaiting, gold panning, tramping etc), that may influence the occupational choices of children (Nathan, 2009).

While being cautious about generalising the findings, this research may provide unique data for this region, as well as being relevant to the New Zealand context. The research findings may also be applicable elsewhere in the world as the emergence of recognisable 'hybrid', 'global' or 'transient' identities of children because of technology use has been documented in anthropology, sociology and education literature. The combination of common socio-cultural and technocapitalistic influences throughout the developing world appear to be producing these states of identity in children that supersede geographical and ethnic backgrounds (Boden, 2006; Merchant, 2005; Peterson, 2005).

Structure of the thesis

Chapter one has provided an introduction to the research including the methodology used, motivation for the research, and social context. Chapter two presents a review of the current literature relevant to this study. The different aspects of the study required reviews of specific literature. It was important to have a clear understanding of these areas to objectively and in an informed manner analyze what the children were saying in the context of the present day, rather than from my personal worldview/opinions. It also was important as it established that there was limited research of this kind, despite a need for this information being identified in

the literature (Best & Kellner, 2003; Greenfield & Yan, 2006). Chapter three covers the methodology and methods utilised in the research in more depth. It clearly links the theoretical background of postmodernism, and discourse analysis. Chapter four details the methods used in the research including a justification for these and ethical considerations. Chapters five and six present the discourse analysis of the textual and contextual material researched within the study. Chapter seven concludes the thesis with a discussion of the findings, contribution and limitations of the research, placement within the literature, and further research directions that could be pursued.

Overview of chapter one

To summarise, this is a qualitative research study that identifies the current discourses children used when talking about technology use. These discourses were identified through analysis of unstructured interviews carried out at the children's homes. The purpose of the study was to provide new knowledge about children's constructions of the postmodern world they live in, giving insights to parents, academics, clinical practitioners and other interested peoples about this unique generation of children.

The research is motivated by both a clinical and parental interest, and is a contribution to the emerging area of child development in the new postmodern technological age. It is specifically relevant to New Zealand but the findings may be able to be generalised to the development of children globally.

Chapter Two – Literature Review

This literature review provides an overview of some of the main themes that are currently prominent regarding children's use of technology. The literature reported was located through the AUT library catalogue, multi-search and article finder services, through Google searches, listening/watching media releases/programming about technology, and by searching through references cited by other authors. From previous study I was aware that longitudinal studies were being carried out around the world so the latest publications involving these were located. Initially I used the terms 'technology and children', 'discourse analysis and children', 'discourse analysis and technology', 'postmodernism and technology', and 'postmodernism and children' to locate journal articles and books. I also searched for books published on the subjects of qualitative research with children, Foucault, New Zealand society, child development and discourse analysis.

As there was a vast amount of literature that could be accessed it was necessary to have some conscious guidelines about what to review. These guidelines developed over time as I read more literature, and became familiar with the body of knowledge about the current discourses. In selecting literature to include in this review, the date of publication was a useful guide, as well as being cited by other authors. The timeframe was of particular relevance to this research topic because of the speed of technological change involving the media children regularly use. The length of time between research and publication can cause literature in this area to date quickly (Jackson, et al., 2007). Recent literature (from 2007) was therefore prioritised, especially in the literature related to children's use of technologies because important changes such as the establishment of the 'networked public' and

'multimodal connectedness' via social networking internet sites and mobile phones occurred from approximately 2007 (Ito, et al., 2010). These technological changes have significantly altered the social environment of children and young people's everyday use of technology (Ito et al., 2010; Jackson, et al., 2007; Schroder, 2010). The other important factor relevant to New Zealand children was the rapid uptake of broadband since 2008, as a consequence of the Government initiated and funded roll out of fibre optic cable throughout most of New Zealand (Nelson, 2009b). This was an important consideration for the children living on the West Coast, as access to high speed broadband connection was no longer a limiting factor to their engagement with the internet.

Literature and information involving New Zealand children and technology was also prioritised as Aotearoa/New Zealand has its own unique context for children growing up. There was a range of research, statistical data and texts available that provided information to relate to the international literature. It is important to consider the literature specific to New Zealand as every country appears to be developing different cultures and practices that are idiosyncratic (Baron, 2010; Lealand & Zanker, 2008; Schroder, 2010).

Within the international literature the commonly cited authors were selected for inclusion and where possible, literature involving children aged between 10-12 years was reviewed as that coincided with this research's sample. However this 'tween' period is under-represented, with many studies being on younger children or teenagers (Greig, Taylor & MacKay, 2007; Jackson, et al., 2007; Sodha, 2008). There was minimal literature identified that involved discourse analysis and Foucauldian principles in relation to children. What was located is

discussed in the section reviewing qualitative research with children. To provide some structure to the discussion, literature was grouped to reflect contemporary themes and to allow the reader to develop a sense of the international context within which the discourse analysis has been applied.

Growing up in a postmodern world

Developmental considerations

The age (10-12 years) of the child participants in this research was initially chosen as it appeared to be period of childhood where the children were old enough to discuss concepts with some depth, but young enough to be unselfconscious in their opinions and thoughts. Child development theory about cognitive and moral development appears to support this instinctive reasoning. For example Kuhn and Franklin (2008) described in depth the cognitive changes that mark the age of 10-12 years as a very significant period of development for children, when their ability to think about their own thoughts emerges as a more prominent executive or metacognitive process. It is also a time of neural growth and neural 'pruning' that occurs in response to the environment a child is in. Activities children engage in affect which neuronal connections are strengthened, weakening others in the process. Thus children will get better at what they are already good at or carry out the most. The cognitive development that can occur from the age of 10 years enables children to gain conscious control and management of their own cognitive resources.

As well as the significant cognitive development that occurs during the 10-12 year age range, children are seen to be developing a stronger sense of morality. They are aware of their society's basic rules of right and wrong and are beginning to understand the influence of

government and legal processes (Drewery & Bird, 2004). It is beyond the scope of this literature review to present the various theories of moral development. For example, Sigmund Freud, B.F. Skinner, Jean Piaget and Lawrence Kohlberg each have provided major bodies of work in this area. The interactions between social experience, emotions, cognition and actions effect moral development (Turiel, 2008). Citing earlier work, Turiel (2007, 2006) came to the conclusion that morality is not compliance to societal norms or values, but is individual, where people resist and oppose the cultural practices they judge to be unfair. There is evidence moral development begins in childhood with defiant or oppositional behaviour where the child perceives unfairness or harm. The concept of morality is important to this research as it is an integral aspect of understanding the social world (Turiel, 2008). It also appears relevant as the 'technological age' is creating a new culture which involves new cultural practices and norms. Children growing up in this era may perceive judgements involving technology (such as what they are allowed to access on the internet or watch on television) differently from older children or adults who have grown up in different era.

As well as implications for cognitive and moral development, another important area in the literature about technology and children is the effect that technology is having on the development of children's identities. As there are many different ideas about what is occurring for children who are forming identities in a technology immersed world, and many of these ideas contribute to the formation of an understanding of the social world children live, this subject is given more detailed attention.

Technology and identity formation

Cote and Levine's (2002) social psychological text on identity formation discussed issues facing young people in the present day. They suggested that forming an identity can be a process of passive compliance or active adaptation to the environment of mass youth culture and consumption of technology. Passive compliance involves acquiescing to the consumer/corporate society and mainstream cultures of image being everything. When this happens young people discover themselves through the latest fashion/music/internet site, this not being their 'real self' but a 'situational self'. This is in contrast to active adaptation where young people choose more difficult developmental, social and occupational paths and experience committed behavior, thus revealing more of their 'real self'. Cote and Levine also suggest that for young people to choose positive developmental paths, strong internal resources and stability are more necessary today than in previous eras. This is because people now face a lifetime of decreased stability with continually changing jobs, relationships, and expectations of what is acceptable in society. Becoming non-committal and reflexively following these changes becomes a normal behavioral pattern that affects identity formation.

Although using differing terms, Merchant (2005) had a similar interpretation of children's identities formed from use of technology although he appeared to have a more positive perspective. He described identities as being anchored or transient. Anchored identities are formed from children's cultural and social environments, whereas transient identities are easily made, remade or unmade according to the activity or environment at the time. He describes these identities as on a continuum of multiple identity performance, each having a place according to context, interactions and events. He illustrated these in case studies of children's digital communication in the classroom. Merchant felt that digital communication

is a playful and exploratory way of forming transient identities, with children assuming and learning about others' identities through the internet. They use text speak, capitals, and topics of conversation, for example, music preferences and sports stars they admire, to communicate these identities. These transient identities then interact with the child's anchored identities providing opportunities for growth and change.

This idea of the two identities interacting was illustrated in a study of Egyptian children. It found that the internet, combined with other youth targeted consumerism (magazine sales and television), were ways that Egyptian children assume a global identity separate from their traditional cultural identities. The study called this a 'hybrid identity', as it was a combination of these two dichotomous worlds (Peterson, 2005). The appearance of this global identity is possibly what Boden (2006) described in her exploration of the ready access to role models and popular culture through the media. She discussed this as an influence on children's social identities. Sporting and pop stars are highlighted as role models for children today, influencing how they dress and act, at ages from 8 years old.

The linkage between television, DVD's, books, magazines and internet is also acknowledged as being part of a global marketing strategy, which children are exposed to when using any or all of these media (Pecora, 2007). The occurrence of media images in young childhood was also discussed by Arthur (2005) and Marsh (2005). Arthur and Marsh found that images from popular media appeared simultaneously on television, in movies, books, comics, on toys, computer and console games, in mail outs and on clothing, food packaging, and through peer socialisation. This meant that even if children did not have direct exposure to the media images, the themes and characters from popular media culture could still be a present in their world

Accordingly, Selwyn (2003) argued that rather than focussing on the effects of technology use on children, academics need to acknowledge the political and economic interests involved in promoting technology to children. Buckingham and Bragg (2009) provided academic discussion about economic interests in the media, marketing to children and globalisation. They described how the international media is owned by a small group of multinational companies (such as Mattel, Hasbro, Disney, and Vivendi) that are 'cross-media empires', being involved in broadcasting, publishing, media technologies, hardware and software production. These multinationals create an international language or common culture, particularly among young people.

More specific analysis of how personal internal resources and skills can be affected by technology is in the literature. The superficial nature of playing computer games or participating in online communities and how that influences the depth of children's thinking was discussed by Turkle (2002). She suggested that children learn to play games and participate in virtual worlds by a process of trial and error. They tend not to question why things don't work or what they mean, unless it directly affects their virtual life or state of play. She translated this into having a more superficial understanding of the world and a tendency to take things at face value.

The idea that computer games affect children's personal skills has also been explored by observing boys play. Cross (2005) proposed that boys' communication is not linear and sequential anymore, rather it has become multilineal and presenting ideas, often derived from computer games or recent movies, simultaneously. She related this to using split screens in internet use, inferring boys are attending to and processing several activities at once and not

processing information in a traditionally sequential way. Cross suggested this is a change in literacy that adults need to understand and make use of in educational environments.

Focusing on a different area of personal resource development, Koskela (2004) discussed issues of privacy in terms of the continual surveillance provided by CCTV and webcams, and the use of mobile phones to send an image in minutes to the world. She suggested that this can be a liberating environment where panopticonian ideas of power and control from this constant survelliance were being altered to one of 'empowering exhibitionism'. Identity development through use of technology has also been described in positive terms by others. For instance Turkle (2002) claimed that cyberspace creates opportunities for 'identity play'. This is serious play, with those who develop awareness about what is behind their on-screen identities experiencing personal and social transformation. As a virtual world designer, Jarron Lanier (2007) agreed with this perspective, suggesting that virtual life experiences are enriching as people have the opportunity to do more than they would in their real life. From this perspective virtual worlds are seen as a form of escapism, and a playful, fun place to form an identity.

In contrast, Baronness Greenfield (2007) a British neurobiologist, has expressed concern about children growing up with a feeling of no inner private self. In using sites such as 'Facebook' and 'BeBo' that involve sharing personal information, children have always been part of the internet with no psychological firewall between their inner selves and the world. She also felt that the parallel existence of soap operas, reality television, virtual worlds and computer games provided excitement to life without the risks or suffering. This leads to a life

that becomes more action and narrative oriented instead of reflective and interpersonal, creating a feeling of 'endless present'..

From a psychoanalytical perspective, Professor Michael Ermann (2004) and Cote and Levine (2002) have also voiced reservations about postmodern technology making it more difficult to form a stable identity, as society is continually changing. Ermann felt participation in the virtual worlds evokes a sense of omnipotence and provides relief from feelings of limitations. However the relationship between the user and media is a narcissistic one, with the media evoking desires that are not seen, confirmed or satisfied (a one sided relationship).

Thus it appears that the development of identity in the present day is purported to be influenced by the information, activities and culture accessed through technology. How this influence affects a child is contested from being strengthened by providing opportunities for growth of inner resources, to being superficial, providing opportunities to participate in consumerism and reality based cultures. As well as this, the combination of socio-cultural and technocapitalistic influences appears to be producing a recognisable global identity.

Postmodernism in New Zealand

Growing up in a postmodern or new historical era is often referred to when discussing children and their development, with children being described as a digital generation, or living in a technological age (Best & Kellner, 2001; Drewery & Bird, 2004; Hatch, 2007). The cognitive, moral and identity implications have been discussed above, but what postmodern actually means for children living in New Zealand was important to deconstruct

to provide the context in which children were forming their discursive frameworks. By understanding what the postmodern context was for New Zealand children power relations and historical factors can be identified, which were essential for a Foucauldian discourse analysis to occur.

Eleven years ago, Best and Kellner (2001) described the postmodern era as the development of society, technology, economics and politics coalescing into a larger worldview, which influenced culture and the values and practices of everyday life. From the literature discussing children's identity, this does appear to be occurring in the everyday lives of children worldwide. In 2004 Kellner suggested that we are living in a time where we can reconstruct education and society, with technology being a 'revolutionizing force' in this reconstruction. Similarly Buckingham (2007) described contemporary children's culture as being changed by political, economic, and social changes, such as family structures and power relations between adults and children. In this text Buckingham also referred to the world of computer games, specialized language of texting, crazes such as Pokemon, music videos and rap music all as being postmodern forms of media, seemingly deliberately designed to exclude adults. Not all commentators are as positive about this era being dramatically different from prior ones. Ito et al., (2010) were wary of claims that the digital generation is overthrowing knowledge and culture as we know it, but conceded that we are living in a unique historical moment which is contributing to longer term systematic change to sociability and culture. Buckingham (2007) also voiced a similar opinion, questioning the term 'digital generation' and stating that technology itself is not producing change; it is the introduction of it into social situations that creates gradual and uneven changes to society's functioning.

The postmodern context for New Zealand children is described to some extent in the text *Human Development in Aotearoa* edited by Drewery and Bird (2004). The authors describe the text as relativist, which explains the context of childhood in terms of discourses and uses other constructionist language. It identifies six dominant discourses of youth in New Zealand that were thought to contribute to the socio-cultural environment, through the people they come into contact with every day. Youth can be variously positioned as: a biological phenomenon, where changes within are inescapable as they originate from physiological processes such as hormone levels; a separate developmental stage that needs to be passed through to reach adulthood; a problem and a threat to society; a subculture where young people are stereotyped as all being similar – only being interested in leisure, sport and the latest fashions; He mokopuna he taonga – the value of young people is proclaimed and they are precious treasures of the future; and as a period of transition between childhood and adulthood involving rites of passage and becoming more responsible for oneself.

The role of technology within the above discourses is only briefly alluded to in Drewery and Bird's (2004) text. However, linking 10-12 year olds' behaviour surrounding their use of technology to the construction and maintenance of all of these discourses is possible. For example, hormones could be blamed for behaviour around rules and boundaries set by adults for using technologies. Hormones may be used as an explanation for why children of this age choose particular types of games/activities/music. Participating in technology-related activities may be seen as part of youth development, necessary for them to learn about themselves and others. Youth as a subculture appears to be a strong discourse related to technology use with the emergence of the terms such as 'global identity' being used to describe all young people. The enormous amount of marketing and entertainment via

technology that is focussed on children and young people also contributes strongly to the maintenance and encouragement of youth seen as a separate similar subculture. Celebration of children and young people using technology can also be found at times in the media and schools. This appears to be an example of technology being part of the discourse of children being treasures. Technology also appears to be involved with rites of passage for children becoming teenagers. Ownership of a mobile phone or laptop could be seen as a transitional rite, as well as being allowed to have an email address, spend time on the internet alone or play rated computer games which indicate a change from being a child. The way children are perceived on the West Coast is difficult to quantify in terms of the six discourses Drewery and Bird (2004) described, youth as a biological phenomenon, a developmental stage, a subculture, a problem, as treasure for the future, and as a period of transition. However it seems likely these discourses and the examples I have provided on how these link to technology use by children, would also be applicable on the West Coast.

As well as identifying discourses contributing to the creation of the socio-cultural environment, Drewery and Bird (2004) described New Zealand society in more general terms. They stated that New Zealand society has become more violent, resulting in children being less likely to wander around unaccompanied and are more likely to be spending time indoors playing computer games or watching television. How Drewery and Bird have come to this conclusion is unclear, but in stating this in a textbook for human science students such as this contributes to this commonly held discourse – the discourse that the world is now much more dangerous for children to live in.

Along with the above discourses and societal descriptions, Drewery and Bird (2004) also emphasised that particular to New Zealand are Maori and other Pacific Island culture's view of the family rather than the individual. In a more recent New Zealand sociological text, *Health and Environment in Aotearoa/New Zealand* (McNeill, Paterson, Sundborn, DeSouza, Weblemoe, McKinney, & Smith, 2010), the Maori worldview of health is elaborated on. Three different Maori health models, Te Whare Tapa Wha, Te Pae Mahutonga, and Te Wheke are described. These health models give a context within which to understand Maori worldviews. Community and family relationships are enmeshed in their children's development from birth. Maori children descend from a culture of history based on strong genealogical links and relationships. Makereti or Maggie Papakura's (1938) influential anthropological thesis on Maori life, states that:

> The Maori did not think of himself, or do anything for his own gain. He thought only of his people, and was absorbed in his whanau, just as the whanau was absorbed in the hapu, and the hapu in the Iwi[2]. (p. 38).

Bringing this concept into more recent times, Teorongonui Josie Keelan (2001) discussed the Maori worldview in her thesis about developing a taiohi (youth) development framework for New Zealand social service providers. She explained life principles of tikanga Maori as people sharing and being together, functioning as one in all aspects of life. Keelan does suggest that the Maori culture is going through a period of reconstruction because of urbanisation. Traditional blood ties that created whanau are being replaced with whanau being created from groups that share similar interests. Participation in traditional cultural

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[2] Whanau is the Maori word meaning extended family, family group, a familiar term of address to a number of people - in the modern context the term is sometimes used to include friends who may not have any kinship ties to other members. Hapu is the Maori word meaning kinship group, clan, tribe, subtribe - section of a large kinship group. Iwi is the Maori word meaning extended kinship group, tribe, nation, people, nationality, race - often refers to a large group of people descended from a common ancestor (Moorfield, 2011).

practices has decreased because of Maori not being close to their ancestral homes and the commitments of work not allowing the time to attend tangi, hui or other cultural occasions. The consequences of urbanisation as described by Keelan, along with mass marketing, mass consumerism, mass entertainment and the other affects of technology previously discussed, may be contributing to a postmodern 'global identity' emerging in Maori children. This concept is important for this research as Maori children have been specifically recruited, with the effect of technology on their cultural identities an identified area of interest. The importance of a secure cultural identity for Maori has been explored by Marie, Fergusson, and Boden (2008) in their research from the Christchurch Health and Development Study. They found that having a sole cultural identity of being Maori (in comparison to having Maori and another cultural identification) offered protection against mental disorders. The importance of a secure Maori cultural identity in relation to mental health has been discussed in the past by Maori health academic, Mason Durie (1999). A secure cultural identity is dependent on "access to the cultural, social and economic resources of *te ao* Maori (the Maori world)" (p. 8.). Support internationally of there being a link between cultural identity and mental health was found recently in a survey by Usborne and Taylor (2010), who reported a positive association between clarity of cultural identity, self-esteem and markers of psychological wellbeing in Canadian undergraduate students.

The West Coast of the South Island has its own unique mix of cultures, but remains predominantly Pakeha. In 2006 the population of Maori on the West Coast was 9.7%, Pacific Island people 0.9%, and Asian 1.1% with the balance identifying as European or Pakeha New Zealanders (Nathan, 2009). The presence of Maori on the West Coast has been muted until recent times, due to having no Marae on the West Coast, having limited financial control over

the Pounamu[3] from the Arahura river in Hokitika, and the leasehold contracts of Maori lands (Nathan, 2009). This has now changed, with a Marae built in 2005 for the Te Runanga o Maakawhio at Bruce Bay in South Westland; the commencement of a Marae being built in Hokitika in 2010 for the other iwi of Poutini Ngai Tahu, Te Runanga o Ngati Waewae; the expiry of leasehold contracts of lands, allowing conditions to be renegotiated allowing greater financial returns; and possession of Pounamu from the Arahura river being vested to a West Coast Maori landowners corporation, Mawhera Incorporation in 1997 (Nathan, 2009). A new Maori heritage centre was opened by Te Runanga o Ngati Wae Wae in Hokitika in 2009, primarily focussing on pounamu. The centre was the first of its kind on the West Coast. These physical and economic signals of Maori presence on the West Coast contribute to the overall social environment children are growing up in. The first registered Kohanga Reo (a Maori early childhood provider where Maori is the first language used) in Westland recently opened in May 2012 (Lyell, 2012), and there have been limited opportunities at primary and secondary schools for development of Maori language and Tikanga (Maori culture and traditions). The cultural values of Maori may not be as evident on the West Coast as elsewhere in New Zealand because of these historical factors, but this is changing. Knowledge of some of the history of Maori on the West Coast was important as preparation for interviewing the Maori children in the research. This knowledge was important in terms of respecting the Treaty of Waitangi, as well as the possibility that because of their cultural background different power relations and socio-historical factors may be affecting the discourses available to these children.

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[3] Pounamu is the Maori word for nephrite or jade, a precious rock (Beck & Mason, 2011).

In another New Zealand text, *Exploring Society*, the authors were sceptical that there was strong evidence of postmodernity in New Zealand, as it cannot be described as post-industrial or virtual in terms of its economy. Lifestyles are not extraordinarily diverse, and there are not radically different understandings between traditional cultures (McLennan, McManus & Spoonley, 2010). Nonetheless, these authors did devote a chapter to new technologies and the effects on New Zealand society, documenting New Zealanders' early adoption of technologies such as EFTPOS and the first internet connections in the 1980s. Embracing technology is continued in the present by the conscious branding of New Zealand by the Government as a 'knowledge economy' involving biotechnology, information and communication technologies (ICT), and creative industries. This is a move from mass commodity production to profits from an information based society. Another aspect of technology in New Zealand that is discussed is the commonplace presence of surveillance networks throughout the country, and the Government's participation in international monitoring of electronic traffic.

The West Coast of New Zealand reflects some of what McLennan, McManus and Spoonley (2010) described. The largest industry on the West Coast is tourism, with services (health/education), agriculture and mining also large employers. This is a move away from a predominantly commodity production economy, although it is not a highly visible change to postmodern industries involving information technologies. The focus of the 'knowledge economy' is also visible through the presence of government funded ICT development services in all the main towns on the West Coast, which provide training for adults, businesses and children in a wide range of ICT applications (ICT West Coast, 2010). Rural schools such as in Haast are pilot programmes for internet conferencing for education

purposes. The presence of surveillance cameras and government monitoring of electronic traffic may not be as visible on the West Coast as in larger urban centres in New Zealand. Media coverage that would portray the use of monitoring or surveillance activities such as intercepting cellphone calls or tracking phone calls are very uncommon. However, even though less obvious, there are examples of electronic surveillance and panopticon principles on the West Coast. The Westland District Council has a rotating webcam in central Hokitika, that live streams onto the internet 24 hours a day (Westland District Council, n.d.). Greymouth and Punakaiki also have webcams, but they are situated for tourism purposes, recording the weather and scenery (New Zealand Tourism Guide, n.d). The tragic explosion at the Pike River coal mine in November 2010 also showed CCTV footage of the explosion repeatedly on national television (Television New Zealand, 2010b). There are also CCTV cameras in some public areas in the West Coast towns such as the Hokitika skate park. The presence of these webcams and CCTV cameras create subtle panopticon influences that are part of West Coast children's normal environment as the cameras are obvious forms of surveillance.

Global debates involving technology and children
As well as the specific aspects of New Zealand and the West Coast society, there are other factors about technology that are important to acknowledge as part of the socio-cultural context children are living in. In the 1990s and first decade of the new millennium, commentary has tended to be either critical of the effects of technology on childhood, or enthusiastic of the opportunities it provides (Selwyn, 2003), a separation described as technophobia or technophilia (Kellner, 1997). Green and Hannon (2007) described both stances as being based on myths and misconceptions, with no evidence to support what they describe as 'moral panic' about the danger of computer and internet use. There is also no evidence to support the opposite view that all children are natural 'cyberkids' and that use of

technology can only be beneficial. These discourses about the effect of technologies are a response of different generations' fears about cultural change and are a result of viewing the child as lacking in agency in their own lives (Plowman, McPake, & Stephen, 2010).

In the recent literature there appears to be a shift from these opposing viewpoints, to one that acknowledges there is a lot more technology in the family home. Rather than focussing on positive or negative effects of technology, it addresses how it is incorporated into the day- to-day lives of children. Some examples of this are the way children are not spending more time using technology; rather they are using multiple technologies at once (Plowman, McPake, & Stephen, 2010). Another example of the way technology has become part of children's ordinary day was the way indirect learning and scaffolding to new learning via technology use was described by Ito and Bittani (2010). Ito and Bittani also suggest access to social networking and telecommunication for social inclusion is important for children and young people growing up in the present era. Jackson et al. (2007) similarly described how the process of knowledge acquisition is being redefined, as children can now ask questions, debate or discuss ideas on the internet, drawing on the experiences of others rather than gaining knowledge in an encyclopaedic fashion. They suggested that educational and social use of media is becoming intertwined. Instead of traditional forms of play, such as marbles, knucklebones or playing with nature, children are playing in their own homes using the internet and mobile phones, which in turn develops social and technical competencies.

Other observations about the emerging new culture of young people were made in another chapter about work and new media by Ito (2010). Ito observed that there is an increasing

culture of non-paid work occurring amongst young people who spend a lot of time gaming, creating websites, making movies for YouTube or MySpace, making animated movies and teaching others to use technology. She felt this unpaid work is a shift from the capitalism of the consumer societies, and could be replacing volunteerism and community service in more traditional senses. These observations appear relevant to the age group of this research because of the way children learn to use technology off others, often slightly older teenagers, and the changes Ito has observed may be filtering down because of this interaction between technology users.

Despite the emergence of literature that has been discussed above giving what could be called a more positive 'spin' on technology use, there are still strong studies and views that document the negative effects on children's social worlds because of the amount of technology in their lives. For instance, Joe Frost (2010) compiled a history of children's play and the research about the declining health and wellbeing of American children. He described the present American society as being distanced from nature, filled with indoor activities which often involve technology. Along with play being so sedentary, schools are preoccupied with standardised testing and excessive safety standards. Parents tend to be over-anxious, over-managing and over-parenting, protecting their children from perceived dangers in the outside world. In Frost's text, technology is acknowledged as having positive benefits, but because of its sedentary nature and distance from the natural world, is portrayed as a major contributing factor in the declining health and wellbeing of children.

As can be seen from the above literature there are different discourses about technology and children that are held by adults. These discourses were important to name from a Foucauldian perspective as power relations and subject positions are created from discourse and discursive

practices (Willig, 2008). Children were likely to be exposed to these discourses in their day to day life, contributing to the formation of their own discourses and discursive practices.

Children's use of technologies

There has been a large amount of literature researching what children actually do with technology, which has also assisted in developing an understanding of what may be contributing to the current discourses held by children about technology. While computer games are initially the most popular computer activity for both genders, a European survey of 1111 children aged 7-14 years found that as girls got older they preferred using the computer for more 'serious' reasons such as e-mailing or participating in online communities (Fromme, 2003). Boy's favourite games (33%) were action or fighting, whereas girls were platform (earning points/rewards on completion of tasks, leading to the next platform or level). Another more recent study on gender differences confirmed that boys prefer fantasy/violence, sporting, and action based adventure computer games, whereas girls generally prefer education oriented, action adventure, or entertainment type games. Additionally, boys played with computer games significantly more than girls, with girls tending to use computers to communicate with their friends (Cherney & London, 2006). Similarly a New Zealand survey of 11-19 year old girls found that 68.5% used the internet every day, generally with only occasional or no supervision. Over half the girls spent more than six hours a week on the internet. Consistent with international findings, the predominant use was for e-mailing, with (in order of popularity) surfing the net for interest, education, instant messaging and chat rooms being the other main categories of use (Netsafe, n.d.). Different statistics were found in a study of 8-14 year olds in Hamilton and Christchurch, New Zealand in 2002. Playing games was the most popular activity on the internet, with homework, surfing/browsing, e-mailing,

and downloading, then chat rooms (Lealand & Zanker, 2003). Children in England spent most of their screentime on computer games, not the education based software their parents had purchased (Kerawalla & Crook, 2002).

The time children are spending in technology related occupations has been documented around the world. Preceding computer use, internet access and mobile phones, research tended to focus on television viewing. Research then broadened to encompass the time spent on sedentary 'screen time' activities, computer and console games such as play station and x-box, internet use, DVD, television and cinema going (Beentjies cited in Fromme, 2003; Cherney & London, 2006; Hancox & Poulton, 2006; Koezuka et al., 2006; US Department of Education, cited in Shields & Behrman, 2000). Mobile phone use has become a separate, burgeoning area of research (Crabtree, 2003; Geser, 2006; Ling, 2004; NetSafe, 2005). Recent research now addresses the fact that children are using technologies simultaneously (Ito et al., 2010; Rideout, Foehr, & Roberts, 2010).

Worldwide statistics of screen time per day vary but generally all appear higher than the two hours per day for over two year olds, and no screen time at all for the under two age group, that is advocated by the American Academy of Paediatrics (Shields & Behrman, 2000). The Kaiser Family Foundation studies of 2000 children in 1999, 2004 and 2009 claim that American children in 2009 were spending 7 hours and 38 minutes a day using media, and cramming 10 hours and 45 minutes worth of use into this by multi-tasking during media use. Multi-tasking can be using the internet while instant messaging or using a mobile phone, using a laptop while watching TV, playing a portable computer console game or games on a mobile phone while watching TV, or talking on the phone while using a computer/the

internet. These figures were an hour and 17 minutes more than the Foundation's previous study in 2004 (Rideout, Foehr, & Roberts, 2010). American children aged 8-18 years and young people are multi-tasking 29% of the time they are using technology. Multi-tasking was most common when listening to music, watching television or using a computer (Rideout, Foehr & Roberts, 2010).

High amounts of daily screentime was also found by an earlier American study of media use and family routines, which reported that children 2-18 years of age spent an average 35 hours per week in screentime activity (Gentile & Walsh, 2002). In Europe screentime was averaged as similar to the American study above, with 6-16 year olds averaging 290 minutes (4 hours 50 minutes) per day of television, computer and electronic game use (Beentjies, cited in Fromme, 2003). To investigate if screentime use had in fact increased in recent times, a meta-analysis of 90 studies published between 1954-2004 in English language journals of screentime and media use in under 18 year olds was carried out by Marshall, Gorley and Biddle (2006). They concluded that total time involved in media usage has not changed over the last 50 years, remaining at an average 35-40 hours per week (5-6 hours per day). What had changed were the content, advertising and amount of televisions/computers/videos per capita.

Research specifically targeting the age group of this research (10-12 years) was difficult to locate but two recent studies specifically discuss this age group. In the United Kingdom, calculations from a quantitative report on social networking usage by the Office of Communications showed 27% of 8–12 year olds had social networking profiles (Livingstone & Brake, 2010). Similarly, in America, The Kaiser Family Foundation report found that 11-

14 year olds dramatically increased their use of technology, mainly television and gaming, by three hours per day from 5hrs 29 minutes per day to 8 hours 40 minutes per day (Rideout, Foehr, & Roberts, 2010).

Statistics of total screentime use by New Zealand children have not been located, but some information can be gleaned from the studies that were identified. The New Zealand Broadcasting Council (n.d.) found that the amount of time children aged between 5-14 years old spent watching television had not changed between 1999 and 2008, staying at approximately two and a half hours per day. Hancox and Poulton (2006) also obtained similar statistics when surveying 3-15 year old children in Christchurch, with the average television viewing being 2.33 hours per week day. Other relevant New Zealand statistics are about use of technology rather than time spent. A new longitudinal study of youth throughout New Zealand, starting at ages 10, 12, and 14, began in 2006. Of the 2,175 participants, 92% of females and 87% of males used a mobile phone to text and 73% and 72% of males and females respectively used the internet (Kleeb, 2007). How New Zealand compares to other countries can also be gleaned from a recent global study, presented as a press release, of 18,000 children and young people. Conducted by MTV, Nickelodeon and Microsoft Advertising (2007), it discussed the behaviour of children 8-14 and young people 14-24 in 16 different countries. The researchers claimed that 77% of New Zealand 8-14 year olds prefer television over using a computer, compared to 56% worldwide. Additionally, the activities New Zealand children enjoyed doing most were watching TV (87% vs 85% globally), socialising with friends (81% vs 68% globally), listening to music (70% vs 78% globally) and playing console games (76% vs 67% globally). Internationally the study found that there was a difference in use and attitude to digital technology if the country had a stronger outdoor culture. However, the research findings announced in this press release could not be located

on any of the three corporation's websites. This makes it difficult to assess the validity of these statistics, and how much 'spin' is occurring when releasing these figures. McGuigan (2005) urged caution when critiquing research about new technologies, as it is often funded by business or governments with their own agendas.

As the research reported in this thesis is focussing on ideas related to power, control and subject positioning within discourses, some attention has been given to mobile phone research because it has been suggested that mobile phones are a way of parents controlling children's movements (Horst, 2010). Mobile phones have become increasingly significant in the world of technologically mediated sociability (Crabtree, Nathan & Roberts, 2003; Schroder, 2009) and are becoming a central accessory in increasingly younger children lives (Geser, 2006). Mobile phones can create ongoing surveillance through their ability to record and distribute images (Koskela, 2006; McLennan, McManus & Spoonley, 2010), and are a way of children exerting power over others through text bullying, mass message sending, or not responding to texts/phone calls (Kleeb, 2007; Netsafe, 2005).

Use of a mobile phone has spread faster than any other gadget or device in the world, even compared to the computer or internet (Geser, 2006). Europe has a high uptake of mobile phones with 90% of British young people (Crabtree, Nathan & Roberts, 2003), 95% of Swiss 17-21 year olds (Geser, 2006), and 86% of Norwegian over 8 year olds, and 100% 16-19 year olds having a mobile (Ling, 2004). In New Zealand, a survey funded by Victoria University found that 87% males and 92% females under 19 years old used mobile phones to text (Kleeb, 2007). A report of the world wide study by MTV/ Nickelodeon/Microsoft

Advertising (2007) claimed that New Zealand youth are the highest users of mobile phones in the 16 countries involved in the study. Another New Zealand longitudinal study of new media use by 8-13 year olds (Lealand & Zanker, 2008) found that mobile phones featured significantly more in the children's usage than they had in 2005. Similarly, in Zurich the age of first adoption of a mobile phone had moved to a younger range of 10-14 years (Geser, 2006). The socio-cultural aspects and statistics of mobile phone use were useful to acknowledge as mobile phones are becoming a common accessory and tool of communication for children aged 10-12 years old.

Another recent technological development that has involved the mobile phone is the concept of multi-modal connectedness between people and technology. Schroder (2010) listed examples such as SKYPE, Blackberries, and internet enabled mobile phones that are capable of several technological functions at once creating an 'always on' connection between others. Shroder refers to this as technologically mediated sociability whereas the state of being 'always on' has been termed tethering by Sherry Turkle (2008). By being constantly connected to people, webpages, voicemail, or games through the communication devices we carry with us, we become tethered to these things (Turkle, 2008).Turkle has also suggested that we have developed a tethered self that exists between the physical and digital worlds we participate in.

As well as being connected to individuals, another form of technologically mediated sociability has appeared in day-to-day technological play or entertainment. The Television program NZ Idol encouraged viewers to text in to vote for performers while watching the programme, as well as urged to the viewer to visit the website to see extra footage and to chat

to other viewers (Jackson et al., 2007). Another example of this in New Zealand was the television programme Reservoir Hill, where viewer's text in what they would like to happen in upcoming episodes and their text appears in the programme (Television New Zealand, 2010a).

In summary, it appears that New Zealand children are spending at least two and a half hours a day watching technology that has a screen. It is not clear how much simultaneous use of technology is occurring with New Zealand children, but when considering the international trends, our uptake of broadband and the high incidence of console game, ipods/M 3 players and mobile phones that New Zealand children have access to, this is probably occurring regularly in New Zealand homes. Mobile phone ownership appears to be on the rise, with increasingly younger children owning or having access to a mobile phone. These factors create a new sociocultural ecology, with new issues relating to power, control, and technologically mediated sociability.

Outcomes of using technology

Heather Horst's (2010) recent study on family life and new media found that even the most media-immersed parents had deep feelings of ambivalence towards the prominence of media in their children's lives. Having a 'lay theory' of the effects of technologies was common, with parents thinking that technology was responsible for antisocial, violent, unproductive, and desensitised behaviour (Horst, 2010). The period of greatest concern has been suggested as between the ages of ten and fourteen. Before ten years of age children are generally closely supervised, and after fourteen years of age they are considered experienced enough to use media safely (Hanley, 2002). In view of the cognitive, moral and identity development

occurring at this age, exposure to inappropriate media content appears a valid concern. There is research suggesting that adults underestimate children's ability to manage risks associated with technology, and that children can in fact self regulate, discerning and being critical of what they are viewing (Jackson, et al., 2007; Livingstone & Helsper, 2010). In a New Zealand study involving 54 10-13 year old children Bell (2011) proposed that the children were actively using technology as a way of slowing down their busy lives. Bell described this use of technology as a form of resistance to faster living.

As discussed previously, literature has tended to be positive or negative when discussing outcomes of technology use. The new literature emerging appears to distance itself from either stance and seeks to document what is happening from a more ethnographic perspective (Bell, 2011; Ito, et al., 2010; Livingstone & Brake, 2010). The following section will briefly review research supporting the two opposing viewpoints.

Research demonstrating negative outcomes

Research drawing conclusions about the negative consequences of technology initially appeared with the prevalence of televisions in the home, but now refers to most forms of technology use by children. Violence in television programmes viewed by children has been associated with aggressive behaviour, desensitisation and fear (Morrisett, 2007; Murray, 2007). In respect to other technology and violent content, Browne and Hamilton-Giachritsis (2005) reviewed several meta analyses of research carried out on children and media violence. They found that there was a short term association between younger children watching media violence on video or computer games and the children's aggressive play and behaviour. Persky and Blascovich (2007) also concluded that violent immersive virtual environments created greater post-game feelings of aggression in the young adult user

compared to traditional violent platform games. In contrast, artistic and creative feelings aroused from a computer game were not transferred to post-game mental state. Multi-user online games have also been linked to higher expectation of others' aggressive intentions (Eastin & Griffiths, 2009).

Other negative reporting about technology use by children and young people involves mobile phone use to text or cyber bully. This is recognized as an international issue for children and young people (Erdur-Baker, 2010; Kleeb, 2007; Martini, 2010, Netsafe, 2005; Roxborough & Stephenson, 2007). YouTube has also been used for displaying violence. There have been New Zealand examples of young people filming violent assaults on others and then posting them onto the YouTube website (Jackson et al., 2007; McLennan, McManus, & Spoonley, 2010).

Another concern is that game playing can become addictive and some children may find it difficult to terminate a game, needing adult support for this. Reasons for this were explored by Rau, Peng and Yang, (2006) and Chumbley and Griffiths (2006). Both of these studies link affective states to motivation to play. Excitement, increased arousal, and experiencing a state of flow, were described as reasons for longer playing times. Poor school performance has also been documented, with this being linked to length of time spent watching television or using technology (Gentile & Walsh, 2002; Plowman, McPake & Stephen, 2010; Sharif & Sargent, 2007).

In a series of projects in North Carolina, America, sexual behaviour and media consumption of young people has been researched. Early sexual activity by 12-14 year olds has been

associated to a higher intake of music videos and media portraying sexual content (Pardun, L'Engle & Brown, 2005), and Kaestle, Halpern and Brown's (2007) survey of 1,000 12-15 year olds about sexually violent mainstream television found that there was lower agreement with the statement 'forcing a partner to have sex is never OK' by males if they watched more music videos and pro-wrestling television. The influence of sexual 'scripts' and 12-15 year olds imitating what they see on television was the subject of another study (L'Engle, Brown, & Kenneavy, 2006). They found there was a 13% variation in response to questions about intentions to have sex in the future depending on the type of sexual content media the young people had been exposed to. Tolman, Kim, Schooler, and Sorsoli (2007) also linked sexual scripts involving women portrayed as sex 'objects' within television programming with 11-17 year old girls having a lack of sexual agency and having more sexual experience.

As well as having effects on behaviour, technology has been negatively linked with the physical health, particularly obesity, of children. New Zealand research by Latner, Rosewall and Simmonds (2007), and Hancox and Poulton (2006) found weekday television viewing time was the single best predictor of increased weight or body mass index (BMI). This was the same conclusion as two Australian studies (Hesketh, Ball, Crawford, Campbell, & Salmon, 2007; Zutphen, Bell, Kremer, & Swinburn, 2007). Aggressive television marketing of junk food to children was cited as one of the reasons for children's weight gain if they are higher viewers, not just the sedentary nature of watching television. For instance Halford, Boyland, Hughes, Oliveria, and Dovey (2007) found that 93 British 5-7 year olds ate more food per se after watching food advertisements; they did not just have an increase in the advertised foods. Despite child programmers Nickelodeon (one of the largest children's entertainment company) claiming to have changed their marketing practices in relation to un-nutritional food, eight out of ten of their programmed advertisements were for food of poor

nutritional quality with half of the 65 advertising messages a child receives in a day being for food (Batada & Wootan, 2007).

The concern about children being exposed to mass marketing is continued elsewhere in the literature. Seiter's (2004) study suggested that children are very accessible for marketing purposes and readily being exposed to the culture of celebrity and other current popular trends because of their high internet use. Lealand and Zanker (2003) described children as hungry for as much interactivity as they can cram into their lives. They went on to describe children as the last great untapped marketing audience. These concerns were also echoed in Boden (2006), who discussed the effects of marketing on children's behaviour and fashion, and Selwyn (2003) who identified the corporate and political agendas of marketing technology to children so aggressively.

Research demonstrating positive outcomes

Thakkar, Garrison and Christakis (2006) reviewed 12 studies about the affects of television content on young children (under six years). From this they concluded that there is some evidence that television content can positively affect young children's knowledge, racial attitudes and imaginations. There was minimal evidence linking aggressive behaviour with violent television content, and inconclusive evidence about changes in self-regulatory behaviour. There is evidence that preschoolers watching well designed education and information based television learn pre-academic skills that have lasting associations with academic achievement (Huston, Bickham, Lee & Wright, 2007).

The social benefits of using the internet are becoming a commonly touted positive outcome of technology use. Livingstone and Brake (2010) reviewed the most recent research about social networking and children, finding that for most children, social networking provides positive benefits in terms of communication and relationships. Ito et al., (2010) also repeatedly referred to social networking throughout their text, as assisting with children and young people's learning as they can connect with others for information, for social inclusion and used it as a new community space for them to 'hang out' in. Lange and Ito (2010) expanded on these themes. Social networking was described as a transformative occupation that is owned by young people. This is occurring because of the restrictions placed on young people's access to outside public spaces and venues. The collaboration involved for some multi user online games and other online projects is also removing age/race/gender/class barriers.

The positive social aspect of technology use has also been observed within families. A survey in America found 48% of parents who played computer games with their children thought this activity brought their families closer (Entertainment Software Association, n.d). As noted previously, this Association quite possibly has its own agenda in publishing these statistics, however technology having a positive social role within families is supported from more academic and international sources. Aarsand (2007) found parents and grandparents in Italy, America and Sweden used technology as a way of creating opportunities to play and interact with the children in the house. Lealand and Zanker (2008) also identified that parents in New Zealand actively played computer games or used the internet with their children, with their children conversing about this in pleasurable ways. They suggest this is a re-versioning of 'a family that plays together stays together'.

Jackson et al.'s (2007) literature review of children's media use and responses concluded that children can be discerning and critical viewer's, and they don't simply copy what they see on the television. Children develop self-regulating abilities in terms of managing risks and opportunities on the internet which is also described as a positive result by Livingstone and Helsper (2010).

Ito et al., (2010) provide many more examples of positive outcomes for children and young people from using technology. Gaming activities are useful for building up technological skills, and can develop into creative media production occupations (Ito & Bittanti, 2010). Youth are moving from being media consumers to media producers with the advent of YouTube, Flicker, Photobucket websites, and the relative ease of access to digital production tools on everyday computers (Lange & Ito, 2010). The amount of time and non-paid work some children and young people carry out on projects involving technology can be seen as a work preparation activity, giving them team work experience, development of technical skills, and the involvement in a non-capitalist communal culture (Ito, 2010).

Education and technology

The other enormous area of research about use of technology by children is within the education domain. It is beyond the scope of this literature review to summarise this literature. To provide some insight into contemporary issues involving technology use within education the text *Beyond technology: Children's learning in the age of digital culture* by prominent educationalist and expert on children and technology use, David Buckingham (2007) was consulted. He has found it difficult to locate definitive evidence of the positive value of using computers in learning environments, as often the research has been anecdotal, with no

longitudinal research, little observation of actual classroom practices and conducted by technology enthusiasts. The positive outcomes of using technology that Buckingham has gleaned from research is that students can pace their learning to meet their own needs; students perceive they are gaining useful technical skills for later in life; technology can be motivating for some students which increases their knowledge gain; and there has been demonstrable educational development for children with learning difficulties when using technology to assist them. Computer games are seen as a way of engaging children, especially boys who are 'disenchanted' with education. Using new technologies such as 'edutainment' games in the classroom are seen by some as a way of encouraging similar learning at home.

Despite these benefits of using technology to assist learning, technology is not well used by many teachers in the world. This appears to be because of several reasons. Financially, schools struggle to budget for the updating, servicing and replacement required to keep their technologies current. Teachers find the frustration of technology failures such that it is not worth trying to use technology in the classroom. Often teachers do not feel they have the training to implement technology within their teaching without spending a lot of time upskilling themselves. Software funded by governments often is boring or repetitive, with the more creative or challenging programmes not available to use. Buckingham (2007) went on to discuss political and educational policies that also effect using technology within the classroom. Children report being bored and frustrated with the technology they are allowed to use at school compared to what they are able to do at home. Using technology within the school system may also accentuate inequalities between students because of the digital divide. Buckingham also criticised how technology is viewed as a tool for delivering information rather than appreciating the fact that it is used by children as a cultural form.

From reviewing the above literature about the outcomes of using technology for children, there appeared to be some evidence of positive and negative effects of technology use on children's development and behaviour. The literature also reflected how technology has become inserted into the every day life of many western children: as play and entertainment; as a social network; as a family activity; and as a tool for education. The insertion of technology into everyday activities was important to consider as an environmental context for children growing up in the present era.

Qualitative research involving children

The literature in this section was reviewed to become informed about carrying out qualitative research with children and to locate examples of using discourse analysis with data gathered from children. There is a plethora of qualitative research about children and technology in a variety of disciplines, ranging from education, psychology, media studies, social science and health to philosophy (for example: Aarsand, 2007; Erdur-Baker, 2010; Hancox & Poulton, 2006; Hyun & Davis, 2005; Kaestle, Halpern & Brown, 2007; L'Engle, Brown & Kenneavy, 2006; Machin & Suleiman, 2006, Subrahmanyam, Garcia, Harsono, Li, & Lipana, 2009). Listening to the children themselves and how they talk about their technology use appears to be a less researched area. At the beginning of the millennium, most studies of children/young people and their technology use had gathered data through self-reports and reports by parents, usually in telephone surveys, creating concerns about validity, reliability and accuracy (Subrahmanyam, Kraut, Greenfield, & Gross, 2000). It appears this was still a concern in 2007. Jackson et al.'s (2007) comprehensive literature review for the New Zealand Broadcasting Standards Authority found that most of the international research involving children and technology was carried out by surveys of various sorts. Jackson et al explain that user surveys assume what a child writes on a

questionnaire is a reliable reflection of what they actually do. Making assumptions of reliability may be mistaken for reasons such as deliberate misinformation, pressure from peers, and answering what is perceived an adult wants. Lealand and Zanker (2008) also discussed the dominance of studies of children and the media from 'significant other's' perceptions, actively excluding the children themselves.

The recently published text 'Hanging out, messing around and geeking out' (2010) by Ito et al is an exception to this. This text summarises the findings of 23 qualitative ethnographic studies involving American 12-18 year olds carried out between the years 2006-2008. The young people involved in these studies were active participants, and the various roles technology played in their lives were explored through their own words and creative projects.

The New Zealand studies by Lealand and Zanker (2002, 2005, & 2008) also observed and used children as direct participants. These involved children in two cities, one in the North Island and one in the South Island. The children aged between eight and thirteen were involved in focus groups, completed questionnaires and used art as part of their participation. Lealand and Zanker's studies showed that broadcasting media was a large part of New Zealand children's technology use, mobile technologies were becoming increasingly popular over the time period of the studies, family bonds were being strengthened through parental-child joint use (such as using Trade Me, or playing multi-player computer games together) as well as children using technology as a way of developing independence and a sense of freedom. Ownership of various technologies was also a way of establishing a pecking order in primary schools.

Recently authors have advocated the importance of qualitative research with children involving multiple disciplines (Ito et.al., 2010; Jackson, et al., 2007; Yelland, 2007) including education, philosophy, psychology, sociology, and anthropology to help respond to the demands of the postmodern era. Jackson et al. (2007) further suggested methods of analysis need to actively involve the child and be able to reflect the complexity of the media environment children are living in. They recommended using innovative approaches such as observation in natural environments, creative modalities such as drawing, using computer game formats for questionnaires, and using media journals.

Discourse analysis as a qualitative methodology has been used in research involving children but not prolifically. Two studies using a Foucauldian discourse analysis of young children's or teenagers' actual language were located. However, neither of these involved children's use of technology. The first was carried out from a psychological and social work perspective by Roen, Scourfield, and McDermott (2008), who identified four dominant discourses and subject positions used by 69 teenagers when discussing suicide. The other study was carried out in Ireland from an educational perspective. It discussed the dominant discourses in early childhood education settings, surrounding outdoor play for young children (Kernan & Devine, 2010).

Another study carried out from an educational perspective was identified which involved younger primary aged children (5-6 years old) and their conversation while using computers (Hyun & Davis, 2005). This was described as a discourse analysis, but was not critical discourse analysis and did not use Foucault in its methodology. While the actual findings were not particularly relevant to this research, there were some interesting observations that echoed those in the literature involving older children's use of technology. These similar

observations were: the powerful nature of peer interaction in learning to use technology; the importance of letting the children explore and 'tinker' to learn how to use the technology; and the presence of a 'third' culture emerging, where ethnic differences, and second language barriers to learning appeared to disappear.

As illustrated, there are many examples of qualitative research carried out with children involving use of technology. However, there was little literature located using discourse analysis with children, and even less using discourse analysis and children using technology.

Summary

This literature review has revealed a complex array of issues from a variety of subject positions surrounding children, their technology use, and the postmodern era. There appeared to be to two main discourses in the literature: ones of technophobia or technophilia about technology and its effects on children.

Contributing to technophobia are strong medical and developmental discourses concerned about the negative affects of technology on children's physical health, neurological development, social behaviour, psychological wellbeing, and identity constructions. Discourses about the way technology has enabled mass marketing, consumerism and global multi-media linkage of entertainment often support a pessimistic view of the effects on childhood. The discourse that the world is a more dangerous for children also contributes to technophobia. Keeping children safe is cited as a reason why children spend more time inside, leading to unhealthy amounts of technology use. There is also a fear of what the children may be exposed to via technology, particularly for children aged under 14 years old. The high profile of organisations such as Netsafe Internet Safety Group in New Zealand

contributes to fears about children's technology use. The continual provision of statistics and information about the risks and negative outcomes of the internet, mobile phone use and computer gaming to the media supports this fear. The exposure to violence, sexual material, and other adult oriented content affecting children's behaviour in negative ways is also a strong discourse both in academic literature and public media. Another discourse contributing to technophobia is that children are spending excessive amounts of time in their day and nights using technology.

In opposition to this dominant technophobic discourse is the technophiliac discourse that technology is the way of the future and children can only benefit from it being in their lives. Contributing to this dominant discourse are the presence and promotion of Government funded strategies to enable access to technology, emphasising the essential nature of technology to everyday life. Goals set by the Ministry of Education towards incorporation of technology into classrooms and to address the digital divide amongst students also imply technology is essential for children. The concept of a 'knowledge economy' promoted by the Government is another way technophilia is supported, as central to a knowledge economy is technology capability and how essential that is to the economy. The prevalence of terms such as 'digital generation' to describe children of the present day gives the impression that technology is indeed central and essential in the lives of all children born in this era. Discourses involving social networking and the positive effects of this such as making friends, being part of like minded cyber communities, and learning from peers are present in the literature. The educational benefits of using technology are also a common positive discourse that appears to have been generated from education policy, gender specific educational strategies (as a strategy particularly useful for boy's education), in learning disability programmes, and in health promotion arenas as a way of connecting with and

disseminating information to young people. As well as the subtle influences already described, the global adoption of technology in the entertainment, retail, marketing and information sectors make a technophobic stance increasingly difficult to maintain in everyday life.

The other important discourses highlighted from this literature review are how children are perceived by adults. The current academic perceptions of children are that they are independent social agents, able to influence their own lives and development. This discourse appears to be created from the huge amount of published material dedicated to children and their day-to-day lives (technology being one of these) seeking to understand the mysterious world of children, the advocacy of qualitative research that actively involves child participants rather than surveying or observing them, and the emphasis on ethical considerations when carrying out research with children. The other prevalent discourse appears to be the social constructionist belief that childhood is created by the environment and context children live in. This discourse appears to be created through sociological texts via the language used and structure of the texts. The importance placed on culture, family structure, socio-economic status, geographic location and educational exposure when considering childhood emphasises the significance of context. The current dominant discourses about children and childhood are important to acknowledge as they will be influencing me as a researcher and the audience reading this research.

There will be other societal disciplines not mentioned or identified in this literature review that are perpetuating the current discourses about technology and children. Notably absent are identifiable discourses that children use in relation to technology. The dominant discourse of technophobia and technophilia may be irrelevant to children themselves that

have grown up surrounded by technology as an ordinary everyday tool. The exercise of identifying discourses from the presented literature has introduced both the researcher and reader to critical discourse analysis, and assists with understanding the methods and process of data analysis in this research.

Chapter Three - Methodology

Postmodern discourse analysis was the methodology used to carry out this research. My research question, which enquired into the current discourses used by 10-12 year old children when talking about contemporary technologies such as mobile phones, the internet, console games and computers, was formed deliberately to fit a discourse analysis methodology. Discourse analysis was chosen because it brings discursive frameworks into the analysis. It does not just depend on information gathered from the participants. Being able to relate the identified discourses to historical, global, social, psychological, and other discursive frameworks provides richness and depth to the research (Parker, 2005). This was an important factor for this research as there were several discursive frameworks that were significant to the conditions of existence and rules of formation of the discourses identified by the children in the research.

Discourse analysis has been suggested as a particularly appropriate methodology for research with children as it views all participants with equal subject status and is concerned with cultural 'taken-for-granted' discourses that may affect children's subjectivities (Alldred & Burman, 2005). Discourse analysis has also been recommended as a suitable methodology for research into childhood and the media by Sparrman and Aasand (2009) because of the combination of the sociology of childhood with the interdisciplinary theories of discourse analysis. This combination of theoretical perspectives can link notions of children, childhood and media and how these are present in policy practices and reflected by the children themselves (Sparrman & Aarsand, 2009). There are many ways of analysing discourses, depending on the professional discipline of the analyst and the methodology that is informing their understanding of discourse and text (Parker, 1999). A more in depth discussion will now

be provided of the ontological and epistemological understandings that provide the background for choosing postmodern discourse analysis as the methodology for this research.

Discourse analysis as a methodology is epistemologically derived from subjectivism. Subjectivism understands knowledge and meaning as being imposed on the object by the subject. The knowledge and meaning imposed on the object comes from the subject in the form of experiences, beliefs and collective understandings (Crotty, 1998). Postmodernism is a theoretical perspective that attempts to explain this subjective view of the world (Crotty, 1998). Postmodernism is a term used to describe the development of many aspects of humanity, such as philosophy, social science, architecture, the arts, literature, and fashion (Crotty, 1998). It has been strongly influenced by French philosophers Michael Foucault (1926-1984), Jean Baudrillard (1929-2007), Jean-Francis Lyotard (1924-1998), and Jacques Derrida (1930-2004). These philosophers have diverse views and theories but it is generally accepted that postmodern thought involves some commonalities (Cheek, 1999). These commonalities are: the disputation of the concept of the whole of society working together in an orderly progressive way; the rejection of grand theories or meta-narratives that offer a totalizing explanation of history and social structures; and the emphasis on multiple perspectives or pluralities rather than essential truths in understanding social reality (Cheek, 1999).

Postmodern theory claims we have left a modern world behind and we are now entering a new era and the world needs to be viewed and interpreted accordingly (Best & Kellner, 2001). An example of postmodernity can be found in the advent of global mass media, mass marketing, mass capitalism, mass commodification, and mass entertainment. These

postmodern phenomena have provided a catalyst for the erosion of modern ways of thinking, where distinct groups were considered to have knowledge and abilities to address world problems. Traditional divisions and distinctions in society are being erased, contributing to ambiguity and temporary states being the norm (Crotty, 1998). As described in the literature review, children are participating in mass media such as social networking sites, they are targets of mass marketing, and entertainment is created on a global scale for children. This postmodern world of ever changing norms and unclear social boundaries are the natural environment for children. Best and Kellner (2001) refer to this phenomena as one of technocapitalism, a term to describe the complex interdependence of globalization, capitalism, science and technology. They also discuss the large mergers of the information and entertainment corporations as creating an 'infotainment' society where new technologies are much more than a means of information, rather, they are sources of entertainment, play, communication, and are restructuring labour and leisure.

The particular postmodern theorist that informs my methodology is Michel Foucault (1926-1984). Foucault did not align himself to any particular philosophy, but he is an important figure in both postmodern and poststructural thought (Crotty, 1998). Foucauldian discourse analysis looks at how the organisation of language in a culture provides places for a phenomenon to make sense, at the surfaces of emergence for representations and practices of the self. These representations form discourses and explain why these have emerged; why they have been taken up within the culture is then studied (Parker, 2002).

This discourse analysis is grounded in the theory of Foucault, and will be influenced by my Occupational Therapy perspective of childhood and play. The particular ideas of Foucault

used to assist with the analysis of the discourses identified in this research are his concepts of discourse, the subject, and power. As well as these concepts, conditions of existence and the genealogy of ideas are also integral components to a Foucauldian discourse analysis. All of these ideas will now be briefly described and their relation to the research outlined.

Discourse

Discourse allows us to attempt to understand the modern experience, and uncovers how phenomena we take for granted came into being (Parker, 2002). There has been much written about discourse in the social science literature, with Foucault a common source for informing the understanding of the role discourse plays in our society. Foucault described discourses as making available ways-of-seeing and ways-of being in the world, that in turn reflect social realities and power relations (Willig, 2001). Discourse has also been defined as "a constitution of meaning that is specific to a particular group, culture or historical period, and is always changing" (Gavey, 1989, p. 464); or in a more concise manner, "a system of statements which construct an object" (Parker, 2002, p. 145). Discourses can bring phenomena into sight, and give value to ways of talking about reality (Parker, 2002). Discourses can also provide meaning to one's body, unconscious and conscious mind, and emotional life (Weedon, 1987). There can be multiple discourses, that offer competing meanings of the world, and some will be dominant where they are perceived as common sense, giving them a natural authority (Gavey, 1989). Discourses can provide a social bond, including some people while excluding others (Parker, 2005). Discourses construct objects and subject positions of the people involved, and are strongly connected with social structures and the relationships of power within them (Willig, 2001). These in turn provide the basis for conscious knowledge, forming a discursive framework that makes up a particular culture's way of living and thinking, the way it orders reality (Cheek, 1999).

Foucault (1972) examined discourse in detail in his work *The Archaeology of Knowledge and the Discourse on Language* and he explained the connection between discourse and discursive practices or frameworks by stating:

> ..that in analysing discourses themselves, one sees the loosening of the embrace, apparently so tight, of words and things, and the emergence of a group of rules proper to discursive practice. These rules define not the dumb existence of a reality, nor the canonical use of a vocabulary, but the ordering of objects. (p. 49)

Foucault (1972) went on to describe discourses as "practices that systematically form the objects of which they speak" (p.49). The knowledge gained by understanding the object of discourse ("connaissance") allows another form of knowledge ("savoir") to occur, where the subject undergoes a modification because of the things one knows (Foucault, 2000c). By identifying the discourses and discursive practices used by the children in this research, the knowledge, subjectivities and power relations assumed by the children can be revealed.

The subject

In 1982 Foucault stated that the goal of his last 20 years of work had been to create a history of the different ways human beings have been made subjects (Foucault, 2000c). He described this as being focussed on the human subject and how the relations of power affected the human experience of subjectivity. Foucault (2000c) used the term "subject" in two ways: one where an individual becomes a subject to someone else through control and dependence, and the other where the individual is made a subject by his or her own conscience or self knowledge. In this research, the former term has generally been applied within the analysis, focussing on the production of the subject as an effect of discursive and power relations (McHoul & Grace, 1993).

Foucault viewed the discursive and power relations in the fifteenth and sixteenth century Reformation as Western society undergoing a crisis of subjectivity against religious and moral powers of that era (Foucault, 2000c). He described the ensuing modern state and way it was affecting the subject as "..a very sophisticated structure in which individuals can be integrated, under one condition: that this individuality be shaped into a new form, and submitted into a set of very specific patterns" (Foucault, 2000c, p. 334). Foucault went on to explain how modern Western states are utilising tactics that are both individualising and totalising (Foucault, 2000c) to control their populations. Individuality is encouraged but into a new form or specific pattern which then becomes a totalising procedure. This has resulted in a society that is increasingly controlled, more rational and where economics have more influence on power relations. The subject positions the children in this research adopted were revealed through the identified discourses. These subject positions illuminated the power relations the children were involved in. This then allowed an analysis of the power relations and the strategies creating them.

Power

Foucault spent much of his lifetime describing power relations, and the importance these have to our personal experience or realities. As discussed above, this was part of his main objective of creating a history of how human beings were made subjects (Foucault, 2000c). Foucault's theories of disciplinary power, the carceral system, and governmentality were applied in this research.

Disciplinary power

In his earlier work, *Discipline and Punish: The Birth of the Prison* (1979), Foucault described how disciplines shape human behaviour in often subtly coercive ways or in a series of minor

changes that become a general method or way of behaving. These disciplines are usually a result of a particular event such as a disease epidemic, invention of a significant object such as a rifle, a war, or the rise in capitalism. These subtle disciplines become a technique of institutions such as schools, hospitals, and military establishments that then spread to other areas of the society, creating power relations between the state and its subjects. These power relations involve entire populations as well as individuals and become a network or matrix that is anonymous and subtle (Foucault, 1979). In this way "discipline `makes' individuals; it is the specific technique of a power that regards individuals both as objects and as instruments of its exercise" (Foucault, 1979, p. 170). Foucault believed that disciplinary power was not necessarily repressive or a negative force, it could be productive, inducing pleasure, forming knowledge and creating discourse (Foucault, 1980b). Disciplinary power and the resulting discourses then give rise to a 'society of normalisation' where natural rules or norms are created (Foucault, 1980c).

The carceral system

An integral part of disciplinary power creating a society of normalisation in modern Western societies is what Foucault termed the 'carceral system'. Foucault (1979) wrote in *Discipline and Punish: The birth of the prison* what he meant by this:

> With this new economy of power, the carceral system, which is its basic instrument, permitted the emergence of a new form of `law': a mixture of legality and nature, prescription and constitution, the norm. Borne along by the omnipresence of the mechanisms of discipline, basing itself on all the carceral apparatuses, it has become one of the major functions of our society…. The carceral network, in its compact or disseminated forms, with its systems of insertion, distribution, surveillance,

observation, has been the greatest support, in modern society, of the normalizing power. (Foucault, 1979, p. 304)

The carceral system has become a means of discipline and punishment in society that uses techniques of power that have evolved from the penal system. The carceral system disciplines and punishes in ways that direct the constitution of social subjects instead of the previous practices of public displays of torture or execution (Felluga, 2011). Disciplining and punishing through the carceral system occurs by the judgment of a population by professions such as teaching, medicine, and social work defining what is normative (Foucault, 1979).

A large part of the carceral system is the disciplinary power of the panopticon which contributes to the creation of normalising power. The concept of the panopticon is described in detail by Foucault (1979) in *Discipline and Punish: The Birth of the Prison*. The Panopticon is a metaphor for the subjection of populations and societies to constant surveillance by experts, which could occur at any time. This surveillance is provided via institutions such as schools, hospitals, public health services, social service agencies, the police service, and local government bureaucracies. This in turn causes individuals to self-police their own behaviour in case they are being surveyed (Cheek, 1999). Foucault (1979) likened the panopticon to a "laboratory of power" (p. 204), penetrating people's behaviour and creating knowledge for new power relations to form. These power relations "carefully fabricate" individuals and as Foucault explained "We are neither in the amphitheatre, nor on the stage, but in the panoptic machine, invested by its effects of power, which we bring to ourselves since we are part of its mechanism" (Foucault, 1979, p. 217). The carceral system has created normalising disciplinary power within Western societies that appears to have

originated by the changing ways of governing populations. Foucault termed this changing way of government "governmentality".

Governmentality

Governmentality was a term Foucault used to describe the way governing powers operate in the present era (Foucault, 2000a). Prior to the eighteenth century the state was controlled by sovereign rule and obedience to law. This changed to the state becoming controlled through an art of government which used tactics rather than laws, and was concerned with the population, economy and security rather than the wealth and retention of the sovereign (Foucault, 2000a). The tactics or techniques of the government were exercised through the development of an administrative state where bureaucracies were created that addressed demographics, public health and hygiene, housing conditions, life expectancy and fertility. This was to administer, control and direct the accumulation of the population to obtain productive service from it. These bureaucracies developed the state's knowledge, allowing new forms of tactics to emerge (Foucault, 2000a). Foucault also described governmentality as being a 'conduct of conducts' where the conduct of individuals or groups was directed by the government through political or economic subjection. Conduct could also be directed through tactics that structure the possible fields of action available to an individual or group (Foucault, 2000c). The above explanations of power have been applied to this research by analysing the children's words and the actual technological activities they were engaging in. Power relations from other discursive frameworks were also understood by researching the conditions of existence and genealogy of ideas that created the historical context the children were living in.

Conditions of existence

Analysis of the conditions of existence shows what factors influence the formation of the object of a discourse, and what the rules of the object's existence were. The object of discourse can be defined "...by relating them to the body of rules that enable them to form as objects of a discourse and thus constitute the conditions of their historical appearance" (Foucault, 1972, p. 48). As explained by Foucault (1972), the conditions of existence allowing a discourse to occur surface in history and the rules allowing this 'surface of emergence' can then be analysed. These rules are not the same for different societies, for different time periods, and for different forms of discourse (Foucault, 1972). By identifying the rules of formation and conditions of existence of a discourse, a Foucauldian discourse analysis treats discourse as a limited domain, not as an indication of global higher meanings or of a grand metadiscourse (McHoul & Grace, 1993).

Conditions of existence that enabled the identified discourses in this research to occur were identified as part of the discourse analysis. This involved research into political, economic, philosophical and technical domains of knowledge, as these areas all contributed to the rules of formation of the discursive practices. Parallel to this process, an understanding of the historical context was also necessary to carry out the discourse analysis.

Genealogy of ideas

An important component to a Foucauldian discourse analysis is the concept of genealogy, the 'history of ideas'. This is an acknowledgement that the meanings and concepts we take for granted have a disrupted, complex and long history, one that we are generally unaware of, and have been shaped by different understandings of knowledge through the different ages of

mankind (Parker, 2002). Foucault (1972) described this in *The Archeology of Knowledge and the Discourse on Language:*

> ..the history of ideas sets out to cross the boundaries of existing disciplines, to deal with them from the outside, and to reinterpret them. Rather than a marginal domain, then, it constitutes a style of analysis, a putting into perspective. (Foucault, 1972, p. 137)

A historical context that explores the way discourses change over time and how they have affected subject positions is an important aspect of a Foucauldian understanding of discourse (Willig, 2001). By carrying out an analysis that considers discourse as a historical object in itself, not just as knowledge or a discipline, spaces are opened up for debate and ideas can be proposed. Discourse can be a viewed as a 'transformable unit of history' that creates a history of ideas (McHoul & Grace, 1993).

To help understand the history of ideas that the discourses identified in this research may be creating, several historical factors were important consider. These factors were identified in the literature review and included recent perspectives on childhood and technology use, aspects of social history of New Zealand, including Hokitika and the West Coast, and some of the global economic and philosophical changes that may have affected children living in New Zealand.

Ethics of the self

Foucault's latter work before he died was dedicated to exploring concepts he termed ethics of the self or techniques of the self. These concepts concerned individuals' relationships with themselves, others and their moral conduct - "how the individual is supposed to constitute

himself as a moral subject of his own actions" (Foucault, 1984, p. 352). Foucault (1984) was interested in the historical ontology of ethics of the self and how they have changed over time. Foucault suggested what a subject does to behave ethically is the ethical substance of that era. Ethical substance is a "part of ourselves or our behaviour which is relevant for ethical judgement" (Foucault, 1984, p.352). The concept of ethical substance has been applied to this research as technological play appeared to be producing behaviour that was relevant for ethical judgment. Constructed this way, technological play became a technique contributing to the constitution of the children as moral subjects.

The above Foucauldian concepts have provided the methodological background for this discourse analysis. As well as having a methodology that was appropriate for the research question, it was important to have a methodology that was culturally relevant to the New Zealand context. In particular, recognition of the different processes necessary when involving Maori in health research needed to influence the choice of methodology (Pomare, et al., 1995, cited in Ratima, 2003). Maori understand the world in holistic terms, connecting health, history, culture, spirituality, social factors, economics and politics, with time, realms and situations (Ratima, 2003). Discourse analysis appeared to have enough breadth and depth to acknowledge these beliefs, with the components of identifying conditions of existence and genealogy of ideas providing a way for these beliefs to emerge. As Maori in this research were to be participants of a generalised population study, with a proportionate sample size, (therefore a minority of the participants) the mainstream methodology of discourse analysis appeared appropriate (Health Research Council of New Zealand, 2008).

Research design

In the design of this research I have been aware of the special considerations and needs of children when participating in research. Children's behaviour reflects the positions they have assumed in relation to adults and other children (Freeman & Mathison, 2009) therefore I have attempted to reduce the impacts of institutional positioning (such as teacher/child, or health professional/child). I have achieved this by: having a pre-interview visit and discussion to develop a relationship and rapport with the child; carrying the interviews out in the child's own home where he or she would feel familiar and confident; allowing support people/other family members to be present during the interviews to also give the child confidence; not taking many notes during the interviews which may have created an artificial, observed environment; allowing the children to have control in the situation as they were showing me what and how they played the games; and being aware of how I was dressed and appeared so the children did not feel like I was a clinician or scientist. These strategies were assumed to minimise the power relations created by being an adult while still respecting the children as competent, independent agents of their own lives (Freeman & Mathison, 2009).

As well as subject positioning created by family, educational or medical institutions that may occur when interviewing children (Freeman & Mathison, 2009), there are other factors necessary to be aware of and consider. The content of children's communication may be affected by their developmental ability to understand the research purpose and questions. An awareness of the truthfulness of children's communications is important to maintain, at times they may be exaggerating or being evasive. Truthfulness may also be affected by power relations between the adults and children, with the children not feeling they were able to disagree or say things that they may perceive to be unacceptable (Greene & Hill, 2005). These factors affecting interviewing with children were addressed by using a discourse

analysis methodology as the presence of power relations, truthfulness, and developmental issues provides indicators of the discursive frameworks children may be living within.

As well as communication issues, temporal and environmental factors are important to consider. It can take longer to develop rapport and trust with children and there may be a need for multiple interviews to create enough rich data (Irwin & Johnson, 2005). Using environmental props that relate to the research assists discussion to develop naturally and is a very effective tool when interviewing children. As well as props, there may be a potential need for toys and play space to assist with rapport building and eliciting conversation (Irwin & Johnson, 2005). These temporal and environmental factors are particularly relevant to this research design. The children being interviewed were using their own technologies in their own homes, which made good use of environmental props and play space to help elicit discussion. Allowance for the longer time needed to talk with children was also part of the design, with at least two visits planned for each child.

 Lastly, there are difficulties carrying out research in children's own homes. Dealing with the chaos and complexities of family life such as interruptions by other children, telephones, or visitors need to be expected. It was anticipated that confidentiality would be less easy to maintain if the interview was carried out in a communal living area or if other family members were nearby (McDonald & Greggans, 2008). To address these issues, follow up visits were planned if an interview was disrupted too much, and if a child required an increased feeling of confidentiality, siblings or other family members were to be asked if they minded leaving the room for the interview.

Summary

The methodology chosen, discourse analysis, is a postmodern theoretical perspective which is derived from an epistemology of subjectivism. The form of discourse analysis applied was informed by the work of philosopher Michel Foucault. From reviewing relevant literature, postmodern discourse analysis using Foucauldian concepts was considered an appropriate methodology for use with children and to the Aotearoa/New Zealand context. The specific Foucauldian concepts used were those of discourse, the subject, power, conditions of existence and the genealogy of ideas. Methodological considerations have also been made in the research design to reflect children's special needs when participating in research. More detail of how these methodological considerations were practically applied, ethical concerns, and ensuring rigour of the methodology are elaborated in the next chapter on the research methods.

Chapter Four - Methods

The methods described in this chapter were designed to be congruent with the postmodern methodology of discourse analysis and with the concepts of Michael Foucault's that have informed this methodology. The methods have also been developed through consideration of the role of children in qualitative research, the suggestions of how to carry out qualitative research in a way that meets the complexity of the postmodern era, and the recommendations on carrying out qualitative research about children's technology use.

In qualitative research children are acknowledged as having the ability to be participatory, with the child considered to have agency and capacity to reflect on, and shape his or her own experiences (Greene & Hogan, 2005). This was the approach taken in this research, with the children being active participants and the status of their accounts viewed with the same respect as an adult's. As discussed in the literature review and methodology chapters, to respond to the demands of the postmodern era qualitative research with children needs to involve multiple disciplines (Greene & Hogan, 2005; Yelland, 2007). Multiple disciplinary research is also advocated as necessary to fill a gap in research about children's use of technologies (Ito et.al, 2010; Jackson et al., 2007; Livingstone & Brake, 2010; Livingstone & Helsper, 2010). Jackson et.al. (2007) further suggested methods of analysis need to be innovative, actively involve the child and be able to reflect the complexity of the media environment children are living in. This research has responded to these recommendations in several ways. As an occupational therapist I have contributed to the creation of multi-disciplinary research involving children and their use of technologies. Using semi-structured occupationally based interviews at the child's home reflected my occupational therapy discipline as it was an intuitive and familiar way of gathering data. This could be considered

an innovative method that actively involved the child participant, and as the occupations the children demonstrated were technologically based and in their own homes, they reflected the media environment the children were living in. The way the interviews were carried out was congruent with a postmodern methodology as they positioned the children as equal participants, recognised their knowledge and perspectives as important as anybody else, and each interview was different according to the child's realities. The specific methods and why they were selected to carry out the research will now be outlined with reference to supporting literature.

Sampling strategy

Selection criteria were in place when recruiting participants, which provided a sampling frame to meet the research question and conceptual framework of the research (Miles & Huberman, 1994). There were several specific criteria:

(1) The children had to be aged between 10-12 years old. This age was chosen because of the neurological, cognitive and moral development occurring during this time, which allowed the children to understand more complex ideas and establish their own opinions and views. The assumption was also made that this age child generally would be able to access a much larger range of technological play, and had grown up with technology always present in his or her life.

(2) The children had to be able to converse in English, at least at a conversational level, so they understood the purpose of the research as well as questions put to them, and so the meaning of their discussion was interpreted correctly. This was also to ensure genuine informed consent was gained from the children.

(3) The children had to have daily access to at least two modalities of technology: internet, mobile phone, computer games, console games or any other technological devices they may regularly use. This ensured that the participants had exposure to enough technologies to create a range of discussion topics.

(4) An equal number of boys and girls were recruited in an attempt to provide gender specific information as well as a balance of childhood perspectives.

(5) At least two children were to be of Maori descent, one girl and one boy, to reflect the national percentage of Maori (14.9% according to Te Puni Kokiri, 2010). This ensured Maori were represented in the research. Recognition of Maori involvement in this research is discussed in more detail later in this chapter.

(6) I did not know the children or their families in a social or personal capacity. This was to reduce any influence on the children's discussion, which may have occurred if the children knew me as a friend, the parent of one of their friends or as a friend of their parents.

Recruiting the participants

Recruitment strategies for the study were through advertising at the local library, at the WestREAP community centre, at the local schools and early childhood centres, through the local iwi, and by word of mouth, with an aim of securing up to 10 children. Word of mouth was how six of the children were recruited. Word of mouth occurred through having supportive social networks established through work, playcentre and school. Friends and colleagues were aware of my research and directly asked parents of children they thought would be suitable for the research and then put me in contact with these parents. Word of mouth also occurred through the children I interviewed or their parents suggesting other

children that might be suitable participants. After some recruitment time had elapsed, I also directly approached parents who I or my partner knew, from work, school or playcentre that had children in the age range of the research. This was to purposely recruit children to provide a cross section of age, socioeconomic background, and to meet the gender and Maori representation requirement of the sampling strategy. One parent I approached directly declined to participate, with the other four parents and their children agreeing immediately.

Advertising within the local schools and in public places was unsuccessful. I did not know when the school placed the advertisement in their newsletters, and only knew for certain that two of the four schools actually did put it in their newsletter. I did not follow up this line of recruitment as advertising in the school newsletters was an action of goodwill by the school principal and if they chose not to I felt I needed to use other methods to recruit participants. It was unclear why I did not recruit participants through formal advertising but as it was the very end of the school year and this period of time is generally very busy for children and parents, they may not have noticed the advertisements or did not have the energy to engage in any other activities at that time.

Practically, 10 children appeared to be a number that was realistic to recruit and interview within the timeframe of a Masters thesis and also gave equal representation of both genders. With this number of participants, enough information and rich data was produced to provide examples of believable real life, have some generalizability about the phenomena (Miles & Huberman, 1994), and provided a sufficient depth of understanding of the phenomena (Jones, 2002).

If a parent expressed an interest in their child being part of the study through verbal or email contact, I delivered them a participant information sheet (Appendix A) and the brochure about the study written for the children (Appendix B). These outlined the aims of the research, any benefits and risks of participating, time involved for the children, and measures to protect confidentiality. I followed this up with a phone call or they then contacted me to confirm whether their child wished to participate. An initial meeting took place to discuss participating in the study further − as described in the data collection section, and so the family could meet me properly.

The first five boys (with one being of Maori descent) and five girls (with one being of Maori descent) that met the criteria became the participants. The first five participants were 10 or 11 years old and came from financially secure, two parent families, with no chronic illness or unemployment in the family. After the first five interviews I purposely sought some older children (12 years old) who had differing social backgrounds, and a Maori girl. This purposeful selection was to add depth, richness and complexity to the study (Miles & Huberman, 1994) and to meet my sampling strategy requirements.

Recognition of Maori

The intention was to ensure that two children in the study were of Maori descent, so incorporation of the principles of partnership, participation and protection in the Treaty of Waitangi was essential to consider in the design, recruitment, implementation, and analysis of the research. Firstly, partnership was attained through consultation from Tangata Whenua of the West Coast, initially a Maori colleague, who gave advice on the research design.

Secondly, participation was ensured by active recruitment of Maori participants. This was carried out as the social implications from the research may have been of interest to Maori. To actively recruit Maori participants a flyer advertising the research was placed at the venue of the local Te Reo preschool group, personal contact was made with Maori parents I and my Maori colleagues knew, and flyers were distributed to the local iwi Te Runanga o Maakawhio. This was to ensure Maori children's voices, within the context of their family structures, were represented. Interviewing the children at home with whanau present if they wished, appeared to assist with recruitment of Maori children. Possible benefits to Maori from participating in the research were made clear. These were: an opportunity to learn how Maori children were identifying with technology and if this was changing their constructions of cultural identity; an insight into influences affecting children; and greater parental understanding of the interest children have in technology.

Thirdly, protection was provided in several ways. An acknowledgment of the researcher being Pakeha, and working from a Western research perspective that has different values, different concepts of time, subjectivity, knowledge, language and structures of power was required. This meant being aware of the tone of letters, how I dressed, how I explained the research, the importance of meeting face to face with Maori participants and being sensitive to the unique knowledge another culture has to offer (Smith, 2008). Literature for Pakeha researchers involving Maori in research was identified and utilised. This was particularly necessary when working with Maori families in their own homes, as the configuration of Maori families, and interconnectedness of cultural ties may have impacted on relating to children in the house effectively and appropriately (Ratima, 2003). For example, there may have been more adults to discuss the research with, more family present when interviewing the child, and the privacy/confidentiality issues that may have arisen with other participants

were not as applicable as it may not have been appropriate to interview the children on their own.

Acknowledgement of the post colonial implications of being a Pakeha researcher from the dominant culture in New Zealand was also necessary. The historical and present day issues for Maori on the West Coast, particularly the Westland region, were researched to ensure I had some understanding of being Maori on the West Coast. Historical factors may affect the development of a trusting relationship between indigenous participants and non-indigenous researchers (Ball & Janyst, 2008). Additional time to establish trust with the children who identified as Maori was planned for, and with one of the participants this was necessary. This extra time involved discussing the research with her grandmother and mother, and following up after the interview to ensure the family and particularly the child had been comfortable with the process.

Gathering of data

Before any interviewing was carried out, a short visit to the prospective participant's home was made. This was to explain the purpose of the study to the child involved, obtain informed consent which included the child signing the assent form (Appendix C), their parent signing the consent form (Appendix D), and to make a time for a longer visit to carry out the interview. This short visit also enabled the child to meet me and me to meet them, so I was prepared for their individual circumstances. I briefly discussed what technologies they did use regularly to confirm they used at least two modalities.

The children involved in the study were active participants, viewed as strong resources assisting the adult researcher (Alderson, 2004). To gather data for the study, unstructured occupationally based interviews were carried out. The interviews involved spending 1-2 hours with the child while he or she showed me the occupations of technological play routinely engaged in at home. Nine of the interviews were carried out in the family/living area of the child's home, the tenth carried out in the child's bedroom with the door open. Generally the children's parents, siblings and other children in the house left the room when we were talking, but at times some of these people did join in with the conversation. This participation was recorded in the transcripts but in most of the interviews was not used as data. The one instance where a friend was present for the entire interview and some of her comments were used as data, consent from her parent was obtained.

Before commencing the interview process, reiteration of what the child was consenting too and ensuring the child was still willing to participate occurred. This clarified that they fully understood the implications of the first home visit and signing the assent form (Danby & Farrell, 2005). The interview time was spent discussing with the child what technologies he or she used and asking him or her to demonstrate these. A list of topics to discuss was planned and are listed in Appendix E but as the interviews were unstructured not all of the interviews covered all of the topics. This entire interaction was digitally recorded and used as data. As well as the interview providing data, an observation checklist was developed to capture concrete information such as what websites the children accessed/belonged to, what computer games they played, what sort of mobile phone they had and what sort of billing plan they belonged to (Appendix F). This checklist was filled out immediately after the interview. To establish the socio-cultural discourses the children were exposed to, text from

websites, computer games and advertising material that the children commonly identified was also used as data. Notes were also made directly after the interviews about the websites, technologies being used, and other non-verbal observations that provided information about the discursive practices children were employing. These notes provided contextual and interpretative information to guide the data analysis and were not used as data. The interview questions and style were emergent as the study progressed, as topics of interest were raised by the children that were useful to discuss with the subsequent participants.

Data analysis

Although discourse analysis as a methodology does not have a prescribed process two influential social scientists, Jonathan Potter and Margaret Wetherall provided some initial guidance about carrying out the analytic process. In their text *Discourse and Social Psychology: Beyond Attitudes and Behaviour* (1987), they described steps that are dependent on the researcher's intuition and the presentation of the text. The equally important concept of reflexivity is also a critical component of discourse analysis as it is very much an interpretative methodology, and a grounded reflexivity of the researcher and the reader are integral to the success of an analysis (Parker, 2002). Subsequently several guides to carrying out a Foucauldian discourse analysis have been published, each with their own interpretations (for examples refer to Kendall & Wickham, 1999; Parker, 1992; Willig, 2001). While being mindful of the importance of intuition and interpretation to the process of carrying out a discourse analysis, some guidance was taken from Parker (2002, 2005).

Parker (2002, 2005) was chosen as he is a prolific and respected author in the arena of discourse analysis, an accessible author for a novice researcher such as myself, and his ideas

were informed by Foucault's work. It initially seemed necessary to have some guidance as there were many layers to a Foucauldian discourse analysis, which were challenging to absorb for a first time researcher from a health profession rather than philosophy background. However once I had begun the data analysis I began to refer directly to Foucault's work, and used Parker's guidance as well as other literature I had read (such as Cheek, 1999; Danaher, Schirato, & Webb, 2000; Felluga, 2011; Huijer, 1999; McHoul & Grace, 1993; Nixon & Power, 2007; Van Dijk, 2001; Weedon, 1987; Willig, 2008) to assist with the process of carrying out a discourse analysis through a Foucauldian lens.

To help identify the discourses, Parker's (2002) text *Critical Discursive Psychology* provided advice on how to examine data for dominant discourses. Analogies, metaphors and descriptions used to create a discourse of a reality can be grouped together as they reflect a culturally shared understanding about the topic (Parker 2002). The ten transcribed interviews were read and listened to several times. While the children were showing me their technological play the way they spoke about the play provided common understandings, expressions and uses of technology, revealing the identified discourses. Common games, websites, and social networking websites the children used were also used as data because a discourse can be revealed in any form that is able to be reflected on and interpreted such as an advertisement, a signal, or a fashion (Parker, 2002). After much consideration through writing, reading and discussion with my supervisors, the dominant discourses were identified and named. This was a difficult process and initial ideas were refined and developed as my understanding of Foucault and discourse analysis deepened. By naming the discourses I was objectifying a phenomenon, giving it a reality and enabling it to be analysed (Parker, 2002).

This objectification was what Foucault (1972) considered as a role of discourses, discourses are practices that "form the objects of which they speak" (p. 49).

Once the discourses were identified, the subject positioning and subsequent power relations (as explained in chapter three) within each discourse were analysed. To create a natural play environment I attempted to position myself as a naïve inquirer in the interviews where the children were educating me about their technological play. This appeared to assist the children in engaging in the play in an ordinary manner, demonstrating genuine subjectivities. Foucault (2000c) focussed on how the human experience of power relations affected their subjectivities. Identifying the subject positioning taken up by the children within the discourses and relating these to the power relations occurring was an interpretative process and will reflect my own background and discursive practices.

Finally the conditions of existence and genealogy of ideas that contributed to the creation of the discourse were examined. It was important to understand how the discourses had arisen through time (Parker, 2002) as this constitutes a Foucauldian style of analysis, where historical ideas can be put into a new perspective and can cross professional boundaries (Foucault, 1972). These historical ideas can relate to global, social, psychological, and other discursive frameworks providing richness and depth to the research (Parker, 2005). A more detailed explanation of the analysis and criteria occurs in Chapter Five where the discourses are identified and deconstructed.

Rigour

In qualitative research rigour and therefore credibility is attained through self conscious research design, including the data collection, interpretation and communication of information (Mays & Pope, 2000). A clear explanation of data collection processes and acknowledgement of my occupational therapy approach to this data collection has been provided within this methods chapter. This has been a self conscious research design, recognising my interpretation and communication of the data will be from an occupational therapy perspective. Along with this there needs to be acknowledgement and explanation of how the components of qualitative research are connected and of the beliefs and understandings informing the study's design – the theoretical perspective and epistemology (Crotty, 1998). Part of this explanation is of the author, participant, and researcher's different positioning within the research, and the impact these positions have on the research (Grbich, 2007). For example, informing the reader of the professional biases/background and theoretical positioning of the researcher is an important aspect of rigour. This is necessary as a researcher's motives are never a naïve choice and will shape a particular inquiry (Caelli, Ray, & Mill, 2003). During this research process I became aware that I was bringing my own interpretation of reality and subscription to certain discourses about children, technology and research quality. These were related to my age (38 years), anglo-Christian upbringing that was without a television, the fact I am a mother and stepmother, and my conventional training as a health professional. To help identify these, I kept an informal journal while writing my thesis. I realised I found research that had more quantifiable findings (such as large sample size, cause and effect research, and in an academic-sounding journal carried out by highly qualified academics) more believable. This indicated to me that I had a strong subscription to the discourse that knowledge means authority and power, and positivism reflects knowledge. I also found myself initially being drawn to research that reflected

'technophobic' discourses about technology use and the damaging effects for children. This made me aware that I subscribed to the strong discourse that too much technology is bad for children. In conflict with these positions, I also realised I held the belief in other discourses involving learning, that using technology was part of the present era and children need to learn it, and children with limited access to technology were disadvantaged. I assumed this subject position when I was parenting my own children, allowing my children to learn to use technology from young ages, but limiting their access and time spent using it.

My occupational therapy training also has had an influence. Reading the literature about the way children can engage with technology in transformative ways resonated with my belief in the power of activities to provide developmental or therapeutic change and challenged the technophobic position I was holding. By recognising these discourses and the ease of assuming different and conflicting subject positions about the same issue, I was more aware of the same thing occurring within my interviews, and the importance of justifying my discussion and conclusions clearly. I also was conscious that by using a postmodern methodology I needed to be aware of multiple forms of knowledge and realities, and open my mind to this concept.

The different positioning of people involved in a research project has been a direct influence of postmodernism on qualitative research methodologies (Grbich, 2007). In particular, the postmodern concepts of truth being fluid depending on individual interpretation, and that there are multiple realities that can be constructed depending on the individual, have been influential. Within discourse analysis, postmodern methods of reflexivity and intuition are an

integral part of the analysis. Reflexivity is an important aspect of rigour, as it conveys the subject positioning of the researcher and how researchers may have constructed meanings of the research (Willig, 1999). Acknowledgement and explanation of reflexivity and intuition are essential for knowledge development as readers can be assured the findings of the study are not flawed (Caelli, Ray, & Mill, 2003), and its conclusions are sound and merit respect (Crotty, 1998).

In terms of adult-child relationships, the institutional role given to adults in a research context is also important to explore. The discourses that create these roles are so strong they will unavoidably contribute to the analysis of text and positioning of the children during the interviews. Differentiating the researcher role from other adult/child roles is important to try and decrease this effect, by becoming as least-adult as possible (Freeman & Mathison, 2009). I made a conscious effort to be as 'least-adult' as possible during the interviews by expressing interest and enthusiasm for what the children were showing me; allowing them to choose what they showed me; asking informed questions about the games and activities so the children felt I understood what they were talking about; interviewing them in their own spaces rather than an adult area of the house such as the dining room; and by dressing informally in casual clothes such as jeans and a hooded top.

As well as incorporating the components of rigour relevant to any qualitative research, specific issues relating to rigour using a discourse analysis methodology were addressed by using guidelines provided by Nixon and Power (2007). The guidelines involved appropriateness of the research for discourse analysis, clarifying the 'species' of discourse

analysis, epistemological and ontological positioning, transparency in methods and theory of analysis, clarity of text/talk being used in the analysis, and strategies that guided the analysis.

To ensure the research question was appropriate for a discourse analysis, consultation was carried out with my research supervisors as well as using the feedback from the experts who reviewed the initial research proposal. This resulted in the formation of the final research question: 'What are the current discourses used by 10-12 year old children when talking about contemporary technologies such as mobile phones, the internet, console games and computers?'

To provide transparency and congruency within the research design the definitions of discourse informing the research have been clearly explained within chapter three, the methodology chapter. Foucauldian discourse analysis has been specified as the type of discourse analysis being used. The epistemological and ontological positioning of this research has also been described in the methodology chapter. How this relates to the subject of technology use and children was also explained. To provide transparent methods and theory to the analysis, how the discourses were identified has been described with reference to the criteria established by Parker (2002) and Foucault (1972, 2000c). Other theoretical knowledge that was used in the analysis has been acknowledged and referenced throughout the data analysis chapters. Text from the interviews, common websites, or from other observations have been explicitly quoted, illustrated or described within the discourse analysis chapters. The concept of reflexivity was present throughout the analysis. Strategies of keeping a reflective journal throughout the research project; receiving ongoing feedback about the research from the research supervisors; consultation from experts about subjects

such a technical capabilities on the West Coast and Maori perspectives; and frequently reviewing the transcripts have been used to maintain reflexivity within the analysis. Following these guidelines ensured internal consistency and rigour within the research design. These guidelines also helped to shape the data analysis and discussion, constantly providing points of reference, grounding the process so it was trustworthy, fruitful and congruent to the epistemological and ontological basis of the research (Nixon & Power, 2007).

The limitations of research that a postmodern approach creates as described by Grbich (2007), were that deconstructing discourses may lead to a collapse of knowledge, and rejecting objectivity may make it difficult to come to a solid conclusion. This is turn can make policy decisions difficult to make and mean that limited theoretical explanations can be provided. These limitations are acknowledged in the way this research is presented. The findings of the research have been presented as ten children's constructions of their technology use rather than claiming any solid conclusions about the effects of children's use of technologies.

Ethical considerations

There are ethical considerations specifically related to qualitative research with children. These involve gaining informed consent, choosing participants, identifying risks associated with participating in the study, the researcher's relationships with the children (Miles & Huberman, 1994) and not discriminating in participant selection (Alderson, 2005). These ethical considerations were addressed in several ways.

Informed consent is necessary from both a parent/guardian, and the child in research involving children of the age of the participants in this research (Greig, Taylor, & MacKay, 2007). Informed consent involves careful explanation of the purpose of the research, what happens to the information provided, that participants have a right to withdraw at any time, what participants' role in the research is, and that the children participating become anonymous through the use of a chosen pseudonym in any written publication (Greig, Taylor, & MacKay, 2007). This informed consent from the parent or guardian and assent to participate by the child was obtained in the first home visit, with the relevant forms (Appendices C & D) completed by the appropriate person. At several points during the interview stage of the study the child involved was asked if he or she was still happy to participate, and if he or she was happy for the information they were providing to be included the study. This ensured continued assent and that the children's rights were not being breached. There was an acknowledged risk of this occurring because of the power relationships between adult and child such that children may not want to say no or that they no longer want to participate (Danby & Farrell, 2005). The selection criteria of being able to converse in English, and the voluntary recruitment strategy ensured the children were able to choose whether they wanted to be in the study and were able to give informed consent themselves (Appendix C).

To ensure the children and their parent were aware of any risks that might have arisen from agreeing to participate in the research, the risks were outlined in the information about the study and discussed in the pre-interview visit. The information was provided and included an outline of discourse analysis, the researcher's background and reasons for interest in the research area, what the risks and benefits of participating in the research may be, how

confidential information was to be stored, and confirmation that ethical approval had been obtained from the Auckland University of Technology (AUT) Ethics Committee. A discussion occurred with each child and his or her parents/guardian about any information disclosed to the researcher that the child did not want the parents to know about. This was to respect the child's privacy and confidentiality, but the child and family needed to be aware of the researcher's ethical requirement to pass on any information disclosed that might potentially cause harm to the child or others (Allen, 2005). In the event, no such information was disclosed.

To be methodologically congruent with discourse analysis, the power relations created by a researcher/child relationship were addressed in the research design. This is an ethical consideration for carrying out research with children (Freeman & Mathison, 2009; Greene & Hill, 2005) but was also part of the methodology as it involved being reflexive and intuitive to the power relations occurring with each child and their family. There were several ways in which I tried to alter the power relation between myself and the child participants. Carrying out the research at the children's homes, with their own possessions and where they were showing me what they used, created a more equal power relation between the children and myself. The children appeared to feel in control of the interview in that they were educating me about their world and had more knowledge of the subject than I. I also purposely didn't take notes during the interview, and discussed and demonstrated the digital recording device with the child before placing it as unobtrusively as possible. These deliberate strategies were to decrease the adult/child and scientist/subject power relations by trying not to appear that I was observing or judging the child. It was also to familiarise the children with the technology I was using so they were comfortable and not distracted with it being in front of them. Having

an introductory visit to develop a relationship with the child before actually carrying out the interview was also to decrease adult-child power relations that can occur with a stranger and adult. As well as these strategies, the children were able to choose their own pseudonym in the research and knew they would get a summary of the findings once the study was finished. This appeared to provide a feeling of ownership for the children, as many of them had put thought into their pseudonym so it reflected something about themselves such as 'Spartan117' which reflected the type of characters in the online games this participant played, and 'Heisler' which was that participant's favourite train engine. Some of the children expressed interest in what I was finding with the other participants, which also appeared to indicate an engagement with the research. All of these strategies were to position a research partnership with the children where they felt informed, empowered and an active part of the process (Freeman & Mathison, 2009). It also helped to simplify the analysis as the power relations occurring between the children and the researcher appeared to diminish, making it easier to hear the children's voice.

A final ethical consideration made in the research methods was to not discriminate against children with differing abilities, socioeconomic status, and ethnicity (Alderson, 2005). This was achieved by having an inclusive selection criteria with no particular cognitive or physical skill level required (except the ability to communicate intelligibly in English), and social or ethnic backgrounds (the exception being Maori) not prescribed. To ensure discrimination was not occurring because of socioeconomic status, four children were purposely recruited because they came from less advantageous social backgrounds such as one parent families, low income households, or families with someone who has a significant disability. As the

research was carried out in the small town that I also live in, I was aware of families from different social backgrounds that I could approach for recruitment purposes.

To ensure impartiality and reduce perceived bias, no funding for the study was obtained from technology manufacturers, corporate businesses retailing technologies, or marketing corporations/publishers. Money or gifts for the children were not provided as an incentive to encourage participation, but after the interview process was completed the children were offered a small gift (Greig, Taylor, & MacKay, 2007). This was to ensure there was no element of coercion in the children's decision to participate in the research as they did not know they would receive anything until the interview was completed.

The above methods provided a clear strategy for recruitment, data gathering, data analysis, and ensuring rigour of the research. While carrying out the research, ethical considerations to ensure the children's rights and safety and my obligations to incorporate the principles of partnership, participation, and protection under the Treaty of Waitangi were paramount, and I adhered to them to the best of my ability. Once the data had been collected, the work carrying out a Foucauldian discourse analysis began. This will now be described in chapter five, the data analysis.

Chapter Five – Genealogy of Ideas

The historical context or genealogy of ideas that have combined to form the unique conditions of existence that have allowed the discourses identified in this research to occur are discussed in this chapter. The conditions of existence show what factors influence the formation of a discourse and subsequent discursive practices, and what the rules of its existence were (Foucault, 1972). As explained by Foucault, the rules of formation or existence have not been the same in different eras, societies, or for different forms of discourse. This means the discourses deployed by the children during the interviews are contextual and limited.

There appeared to be several historically unique conditions of existence that have contributed to the discourses of virtual reality as another dimension of reality, panoptic play, and technological play as risky, emerging as dominant discourses in this research. These conditions of existence have involved economic, political, and technical changes in New Zealand over approximately the last 25 years. There have also appeared to be other philosophical factors creating conditions of existence, such as new ways of viewing childhood in Western societies. Along with these conditions of existence, the processes of governmentality and the carceral system within society also seem to have contributed to the rules of formation of the discourses.

As discussed earlier, a significant condition of existence that has contributed to the huge uptake of technology in New Zealand homes is the political environment created by the

strategic push in the early years of the millennium for New Zealand to become a knowledge economy (Ministry of Economic Development, 2006). One of the primary aims of forming a knowledge economy is becoming a technologically savvy nation as referred to in this governmental publication on the knowledge economy:

> According to New Growth economics a country's capacity to take advantage of the knowledge economy depends on how quickly it can become a "learning economy". Learning means not only using new technologies to access global knowledge, it also means using them to communicate with other people about innovation. (Ministry of Economic Development, 2006).

Creating a knowledge economy is also a commonly extolled aim of many of the Organisation for Economic and Cultural Development (OECD) countries such as UK, Scotland, Canada, Australia and Europe (Peters, 2001). The OECD and the World Bank have both emphasised education and training as integral to participating in a new global knowledge economy (Peters, 2001). New Zealand's vision of what a knowledge economy entails is similar to other OECD or Western societies. This is evidenced by New Zealand adopting the way the United Kingdom measures its progress in developing a knowledge economy (Department of Labour, 2009). By having a global understanding of what a knowledge economy is, a global subscription to a Western capitalistic lifestyle is encouraged (Castells, 1999) as Western countries are valuing and striving towards similar goals. Policies rolled out from the 2001 'Knowledge Wave' conference held in Auckland involved e-commerce training to businesses, developing business to encourage participation in the global economy through the internet, venture capital funds for technological businesses, and targeting the education sector to increase technological and internet use in the classroom (Ministry of Economic Development, 2006).

The political conditions of existence described above appear to allow the New Zealand government to use technology as a tactic of governmentality to create a population that will flourish in a 'knowledge economy'. As outlined in the methodology chapter, Foucault (2000a) described governmentality as being a 'conduct of conducts' where the conduct of individuals or groups was directed by the government through political or economic subjection. The New Zealand state funded initiatives and policies related to technology have enabled governmentality to occur. Examples of this are the subsidised access to the internet through the national broadband telecommunication roll outs (Nelson, 2009b) which in 2011 included the Rural Broadband Initiative delivering ultra fast broadband to 95% of rural schools (Ministry of Economic Development, n.d.b). The creation of subsidised regional ICT training centres for adults and children (ICT West Coast, n.d) and the provision of free computers and training to low income families (Computers in Homes, n.d) also encourage the development of a knowledge economy. These initiatives allow the insertion of technology into everyday life for most New Zealanders, including the children in this research, and in doing so directs their conduct.

As well as political conditions of existence affecting the children's technological play, there have been constantly changing technical capabilities of technology and the resultant influence on everyday life. The internet was the obvious example of this, with social networking and reality websites such as YouTube being recent developments. Social networking websites and online games that involve interacting with other 'live' characters have provided a new form of social play that never used to be possible (0'Keeffe, 2010). YouTube has enabled stories and images to 'go global'. Along with public displays of personal life, recording and distributing mundane, routine and ordinary images of one's life are becoming a normal

practice for children around the world, in the form of blogs and video diaries (Miller, 2010; Subrahmanyam, Garcia, Harsono, Li, & Lipana, 2009). The technological capability of cell-phones and computers have altered what ordinary users can achieve on these media, such as the ease of uploading photos to the internet, accessibility of broadband, and storage of data. Another way technological capabilities have created a new condition of existence has been through the way technology is used in situations of surveillance. Some parents are using technology to achieve surveillance of their children in innocuous ways such as using baby monitors, the more obvious webcams in childcare facilities and schools, and even in global positioning systems being placed in their children's backpacks or cell-phones (Guldberg, 2009; Marx & Steeves, 2010; Rooney, 2010). Surveillance is expected in public places, including Hokitika, New Zealand, with CCTV cameras and webcams recording and storing information 24 hours a day for law enforcement and security reasons (Westland District Council, n.d.).

Changing technological capabilities appear to have assisted the disciplinary power of the carceral system in society. As discussed in chapter three, the carceral effect is a combination of many different forms of discipline replicating the environment created by the penal system, particularly the disciplinary affects of surveillance and observation (Foucault, 1979). The increased capability and use of surveillance and monitoring aspects of technology appear to assist the carceral system in the children's lives, making the functions of a carceral system important to consider as a rule of formation for the identified discourses.

An essential element to the success of political and technical change that is related to technology use in New Zealand has been the economic policies over the last decade. These policies have created a condition of existence where technological devices such as computers, game consoles, digital televisions, DVD players, and mobile phones have become more affordable, resulting in most New Zealand homes owning these objects (Kleeb, 2007; Martini, 2010; Ministry of Economic Development, 2007; Statistics New Zealand, n.d). This consumerism has occurred by the way imported products have become cheaper and thus more attainable to the general population. The economic policies that have caused this to occur have included the Copyright Act 1994 (Ministry of Economic Development, 2007), which removed the prohibition on parallel importing[4] and the regional and bilateral free trade agreements in New Zealand's international trade policy (Ministry of Economic Development, n.d.a). Other economic policies such as subsidising access to the internet through the national broadband telecommunication roll outs (Nelson, 2009b), and the local loop unbundling of telecommunication providers enforced in 2004 (Commerce Commission, n.d.) have made access to the internet much more affordable. This has enabled the children in this research to participate in technological play using the internet. The increased availability of technology and the internet to the children appeared to have encouraged the uptake of technology in their lives and new discourses to occur because of this uptake.

As well as economic elements, consumption of technology and its related products have been encouraged by the entertainment industry marketing directly to children. A principal stakeholder in this industry, and most significant to the promotion of virtual reality to

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[4] A parallel import is a non-counterfeit product imported from another country without the permission of the intellectual property owner (Wikipedia, n.d.).

children, is the gaming industry. In less than a decade, more than one billion video game consoles have been sold worldwide (Wesley & Baczak, 2010). Two hundred thousand of these consoles were sold in New Zealand in 2009 (Brand, 2010). Video games are now one of the leading forms of media consumption, with sales rivalling the most successful Hollywood blockbusters (Wesley & Baczak, 2010). Essential to the international success of the entertainment industry is globalisation. Globalisation can be understood as a multi-faceted process, one of "deterritorialization, social interconnectedness, and acceleration" affecting economic, political, and cultural areas of societies (Stanford Encyclopedia of Philosophy, 2010). Globalisation has allowed the marketing of virtual games to a world wide audience (Brand, 2010).

Foucault referred to analysing power relations in an ascending way, starting from small mechanisms of power in society which become transformed into more general mechanisms and then to forms of global domination (Foucault, 1980c). The small mechanisms of power created from technological play, such as virtual experiences of capitalism, appear to become transformed into larger general mechanisms of power related to capitalism, consumerism, and children being a target for marketers. These general mechanisms then contribute to the power relations formed on a global scale, with the entertainment and gaming industries having power over the games and programming available to western countries. In this respect the entertainment and gaming industries have created a form of governmentality where they are administering, controlling, and directing a population of global consumers, through the availability and content of their products. In this way the entertainment and gaming industries appear to be managing the "conduct of conducts, and the management of possibilities" (Foucault, 2000c, p. 341) of technological play on a global scale. This is occurring through

the multi-national domination of the main companies (in 2009 these were Time Warner, Disney, General Electric, Viacom, Newscorp and CBS) controlling most of the world's children's media (Freepress, n.d). The themes, game format, genre and other influential factors of the games or programming are marketed globally, managing the possibilities of this industry.

The globalisation of consumerism and entertainment culture has also allowed the emergence of globally focussed marketing strategies becoming an accepted norm in children's social worlds (Sigismondi, 2009). Global marketing allowed the children in this research to play console, computer and online games with other children from completely different cultures, in exactly the same way. Console games such as X-box Kinect™ Animals, Medal of Honour™, Playstation™ Pursuit Force™, Playstation™ Singstar®, Wii Sports™ are popular games internationally (GamePolitics.com, 2011) and were played by the children in this research. The most popular websites used by the children were Moshi Monsters™, Club Penguin™ and the Miniclip websites, all of which are internationally popular. The presence and popularity of such technology-based games provides a new context for childhood play; a global form of play. Worldwide, children playing these games were exposed to the same underlying themes, knowledge and how to behave within the games. These tended to be from a Western perspective and often involved virtual games that had recurring capitalistic themes of owning possessions or property and making money. Subsequently children are adopting new ways of being in a global world (Nayak, 2009). These new ways of being appears to be incorporated into cultural identities by children, with different countries having different ways of using technology that depend on cultural norms and access to technologies (Baron, 2010; Schroder, 2010).

The effect of globalisation of technological play also appears to have assisted in a final condition of existence, the way Western societies view childhood. Wells (2009) explains the Western view of childhood is originating from the state (Western governments) to create a global universal childhood that fits into a capitalistic lifestyle. Wells went on to explain the Western perspective of childhood originated from a stance of liberal ethics and reflects an ontological view of what it means to be a human, or a child in this case, which is deeply connected to capitalism. According to Wells, this ontological understanding views children as choosing individuals, free, autonomous and rational. As well as this ontological understanding, Wells suggested the need to protect children has become strongly established in Western societies, stemming from a belief that childhood is a time of innocence and dependence, where children need saving or protecting. This belief originated from charities addressing child poverty in the nineteenth century and gradually moved to becoming a governmental and an international responsibility. Wells also referred to the international strategies targeting children's lives that are creating power relations through governmentality for the populations involved. Reference to governmentality in relation to forming a global childhood is supported elsewhere. Maria Bouverne-De Bie (2009) from Belgium discussed similar notions in her review of children's rights literature. The Western perspective of a child as being an autonomous individual in need of protection, without consideration of children's individual life contexts, is predominant in the children's rights body of literature. Bouverne-De Bie viewed governmentality occurring through the state controlling parenting, through practices of educationalisation and professionalisation of child services, which has come about by the increased visibility of children in society because of the children's rights movements.

The Western perspective of childhood appears to be important to consider in relation to children's technological play because this play is often marketed on a global scale, generally from Western sources. The way childhood is viewed as autonomous, choosing and rational appears to be a condition of existence that as I show in the following chapter allowed the children in this research to use technology as freely and independently as they did, contributing to the rules of formation of the identified discourses. Paradoxically the Western perspective of needing to protect children also appears to be creating rules of formation that have allowed the technophobic discourse, as described in chapter two, the literature review, to develop. As well as the Western perspective of childhood being a condition of existence, the aspects of international governmentality creating a universal childhood that is capitalistically motivated, form further conditions of existence and rules of formation for the discourses in this research.

Summary

The conditions of existence and rules of formation described in this chapter have provided a historical context in which the children in the research were living in. In the last 12 years there have been significant economic changes in New Zealand resulting in greatly increased affordability and access to technologies. Politically, governmental policies have encouraged the uptake of technology by the New Zealand population. On a global scale the invention and marketing of new technological capabilities has allowed new technology uses. The Western perspective on childhood where capitalism, autonomy, and protection are valued was also another historical context important to consider. These contextual factors were complex and appeared inter-twined, providing a unique combination for the identified discourses to emerge. The following chapters describe and discuss these identified discourses.

Chapter Six - The Discourses

This chapter provides a Foucauldian discourse analysis of the textual material gathered to answer the original question of this research: 'What are the current discourses used by 10-12 year old children when talking about contemporary technologies such as mobile phones, the internet, console games and computers?' The data analysis revealed three dominant discourses apparent when the children demonstrated and talked about their technological play: virtual reality as another dimension of reality; panoptic play; and technological play as risky. That analysis led to the conclusion that technological play has become a tactic of disciplinary power, creating power relations that are unique to this era, one that is contributing to a new ethical substance occurring for the participating children.

The focus on technological play was justified by the way the children gave little reference to using technology for research, education or 'work' purposes, generally only referring to play activities. This lack of reference appeared to indicate that they valued and gave meaning to interacting with technology mainly through their play activities. The fact that when given a choice, children in middle childhood choose technological play such as gaming, socialising, surfing the internet, and watching movies and television over educational or goal directed technological use is well documented (Cherney & London, 2006; Fromme, 2003; Kerawalla & Crook, 2002; Lealand & Zanker, 2003; Rideout, Foehr, & Roberts, 2010). For the purposes of this research I have used the term 'technological play' as a general term to refer to gaming, using social networking websites, using cellphones to socialise, using digital photography in a playful manner, using an iPod or MP3 player, and watching movies or television. These play activities were chosen as they represent the range of media that most children have ready

access to. Together they provided a technological context for a variety of types of play, catering for most of the children's personalities, style of play and parental rules. The decision to focus on play was also because of my interest in occupation and child development. It needs to be acknowledged that this interest and focus on play stems from a discourse in which play is idealised and seen as being essential for children's development (Smith, 2010). It is from this perspective that the occupation of play is seen as an important, if not the most important, part of children's development (Royeen, 1997). The changes in the children's play because of technology were one of the reasons for embarking on this research. With these considerations, the following findings are reported below, supported by excerpts from the transcripts.

Virtual reality as another dimension of reality

This discourse was evident in the way the children referred to and incorporated the phenomenon of virtual reality into their lives. Virtual reality is defined by the Oxford dictionary as:

> The computer-generated simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors. (Oxford Dictionaries, 2010b).

Engaging in virtual reality was an important component of most of the children's computer and internet based activities, but the most significant for children in this research appeared to be virtual gaming. All of the children interviewed played online, console or computer based virtual games. This is consistent with a recent Interactive Gaming and Entertainment Association national survey (Brand, 2010) finding that 100% of 1202 New Zealand homes

that had children living in them owned technology used for gaming. Internationally, virtual gaming is an accepted and growing form of childhood play (Burrill, 2008; Fromme, 2003; Frost, 2010; Rideout, Foher, & Roberts, 2010). Virtual gaming involved the children having experiences that provided many versions of what was virtual or imaginary, what was real and what was a combination of the two. For example, experiences were in the form of a character they had created such as a Moshi Monster™; controlling a virtual character within a game such as a pet, a knight, or a solider; playing an actual activity such as a sport with a remote controller or karaoke style singing games; participating in an imaginary activity such as magic or treasure quest; or participating in reality based activities such as a war game based on an actual historical war or car racing on a track replicating the actual real life track.

The way that virtual reality can be seen as a unique historical event is through the way it has created a new dimension to life. This has been referred to recently in the literature as a 'Thirdspace' (King & Leonard, 2010), the 'Digital Imaginary' (Burrill, 2008) or as one having a 'Media Life' (Deuze, 2011). These ideas appear to be an extension of Jean Baudrillard's earlier concepts of simulacra and simulation and how postmodern societies are now organized around these phenomena (Kellner, 2009). Baudrillard (1994) described simulation as threatening the difference between true and false, or the real and imaginary, making it objectively difficult to tell the difference. This has occurred through the simulation of reality by television, cyberspace, and virtual reality (Kellner, 2009). Simulation is creating a real without an origin or reality; it is hyperreal (Baudrillard, 1994). Hyperreality in a media and consumer oriented postmodern society creates people who are caught up in a play of images, spectacles, and simulacra, having less connection with a reality that was once based on production and class conflict (Kellner, 2009).

Through a Foucauldian lens, the insertion of virtual reality experiences into children's everyday play could be explained as a unique historical event that has changed the form of disciplinary power in children's lives. As virtual reality has become a large part of children's technology-based play, it provides a new site for power tactics to be enacted. The children referred to virtual reality often in the interviews, with it appearing to be another dimension to their life. For example, when Spartan117 talked to me about the Iraq war, he clearly differentiated between the virtual reality of his console game and his understanding of the actual war:

> *Oh like look what all these people do like there's war in Iraq and you hear on the news that people have died, fighting in Iraq.*
>
> ***Yeah that's right. It probably is a bit like this [Call of Duty] isn't it? Dangerous.***
>
> *But in this you kill more people like, more people die.*
>
> ***Enemies?***
>
> *Yeah well, and I um, and I um know Iraq quite, no one's died really. Like they shoot, but they don't kill any of the, men.*
>
> ***The Iraqi enemies you mean?***
>
> *Yeah.*
>
> ***Why don't you think they kill them?***
>
> *Well I hear nothing about people like they are, the Iraq people die or anything.*
>
> *(Spartan117, age 11, p.14)*

Spartan117 appeared to have constructed a view of what reality was like in Iraq that was not based on his console game. Because his game was virtual reality he appeared to assume it was made up: the Iraq war was not really like the game. Spartan117 made reference to virtual reality games being different from actual reality elsewhere, reflecting an understanding of virtual reality being another dimension in life.

And do you think, what it would be really like to fight? Like this, sort of similar?

No um, oh. Um you kind of in this, you have a um, if you got shot in real life in the head, you'd die once. You'd just die. (Spartan117, age 11, p.8)

Spartan117 appeared to be forming an understanding of virtual reality as being different from reality. Through playing virtual reality games he appears to have learnt about this way of thinking, that virtual reality is made up or fictional. Hunter also appeared to have this view of virtual reality, appearing to think his console game based on urban gangs was completely fictional.

Yeah, yeah so do you think these are like real life or do you think they're totally made up?

They're totally made up. (Hunter, age 10, p. 9)

Here Hunter was discussing Pursuit Force™ a Playstation™ game based on criminal gangs and organised crime. As an adult I was aware that the game appeared to be based on real life gangs such as the mafia, whereas Hunter was not.

Virtual gaming appeared to provide a way of children understanding the world - what could or might be 'real', what wasn't and what was purely virtual reality. With virtual reality as a new dimension, new relationships with power and the self appeared to be occurring for children in this research. This was seen in the ways the children chose to behave and represent themselves in virtual ways, the types of virtual experiences they chose to engage in, and how they engaged with the virtual experience. When the children talked about how they represented themselves virtually, they assumed a subjectivity of having power and control over the character they developed.

Do you think he's a bit like you or are you pretending to be totally different?

He is like me.

> *So why did you want to be like that?*
>
> *Because I like cats.*
>
> *(Tony Hawke, age 11, p. 4 & 13) age 11*
>
> [Discussing his Moshi Monster™ character which looked like a cat]

As shown by Tony Hawke, while the choices of characters and qualities were limited to those allowed them by the game designers, the children were able to choose how they portrayed themselves online, in the way they dressed and in how they created and treated their character. They could also choose how they communicated with others and whether to work with others collaboratively on a mission. For example Lucy, when explaining how Cityville, a Facebook game, operates, said:

> *And um like Cityville is just where like you can build things and then people on other sides like your friends they can help you with their buildings and they can plant their buildings on to your town and help your town enlarge and then you get more people. So like this is my town at the moment… And this person wants to help with this house, help me, help J with it. So then I'll go accept and she'll make more money and I'll make more money off her. (Lucy, age 12, p.16)*

Here Lucy is describing a discursive practice emerging from this type of virtual reality game, one that involved mutual benefits of gaining virtual wealth. Lucy has the power to accept or decline offers of help and whether she wanted to offer help to others. This appears to be a disciplinary power from a capitalistic source, disciplining Lucy into working with others in a particular way to be materially successful. She is rewarded by making money, gaining a bigger town, and with her friends being able to view this success. Lucy's play appears to be part of a 'machinery of power' that Foucault described in *Discipline and Punish* (1979). Foucault referred to this machinery of power as affecting individuals "not only so that they may do what one wishes, but so that they may operate as one wishes, with the techniques, the

speed and the efficiency that one determines" (p.138). The connection of Lucy's virtual game with her Facebook social networking website is creating a 'machine' in which capitalism, where profit and wealth are controlled by private owners rather than the state (Oxford Dictionaries, 2010a), is subtly enmeshed.

Another way relationships of power and self appeared to be occurring was through virtual reality games that involved controlling a character. The children appeared to feel powerful and successful when controlling a virtual character, particularly when they achieved a difficult manoeuvre, killed a difficult enemy or won a competition.

> *Now where did that spider go? Attack him first. Hey how did he take him? He saw my sword. Attack him. Yes hitting sixes. Oh, a problem, smash, yes. Got him, jolly good. (Spartan117, age 11, p.27)*

> [Narrating his character's actions on Runescape™, an online game]

The positive feelings created through being powerful and achieving in virtual reality games were a reward and an incentive, in this way disciplining the player to continue with the game. Foucault (1979) described the function of disciplinary power as being a way of making individuals. To do this an individual is regarded as an object as well as being instrumental to the exertion of power. Spartan117 is the consumer target for the virtual reality game, but for it to have any power relations, Spartan117 needed to engage and play the game. In this way he has become an object of the disciplinary power of the game, but is also instrumental in how the power relations occur as he chooses how he plays the game. The disciplinary power created by the game is 'making' Spartan117 as he is disciplined into playing this type of virtual reality game and into behaving in ways the game dictates.

Foucault also described how power can be a productive network, "which traverses and produces things, it induces pleasure, forms knowledge, produces discourse" (Foucault, 1980c,

p.119). The way Hunter talked about the PSP game Pursuit Force™ reflected a productive power of this virtual reality gangster game:

> *Um I'm, oh yeah well you've got all sorts of missions. My whole aim of the game right now is to complete the whole thing, to clock it. (Hunter, age 10, p.4)*

Hunter went on to say how he kept returning to the game, trying to complete the missions:

> *Soon as I completed that I just wanted to do that one. Like Capeles. As soon as I complete one on Warlords I'll do the rest of the warlords until I just keep trying and trying and trying until I give up on warlords and then I'll try and do something else and something, I just slowly complete it. (Hunter, age 10, p.8)*

The productive, pleasure inducing, and generation of knowledge aspects of power appeared to be important factors in the disciplinary techniques within virtual reality games. The children had often been involved in the same online game for some period of time, they were focussed and motivated to 'clock' (complete) a console game, and skill and knowledge of games was an admired trait in others. These aspects of virtual reality games appear to form a 'productive network' (Foucault, 1980c, p. 119) of power that is accepted and maintained through this aspect of the children's technological play.

As well as new power relations occurring, there appeared to be common themes within virtual reality games that were creating new norms of play for the children. Many of the children played games that involved violence. The way the children talked about virtual violence indicated that they did not think it mattered because it wasn't real:

> *And it's not that bad it's just like you just blast someone's head off and then. But I know it's not real so it doesn't really matter. (Lucy, age 12, p.37)*

Carrying out violent behaviour appeared to have become acceptable for Lucy because it was in the virtual reality dimension. A real person did not die because of her actions. Virtual reality appears to have shaped her behaviour and thus disciplined Lucy into behaving this way through the games she engaged with.

Foucault explained that the disciplines are the bearers of a discourse which speaks of a natural rule, a norm (Foucault, 1980b). Lucy appears to be expressing a norm created by the disciplinary power of virtual reality games involving violence - that it was acceptable to carry out violence because it wasn't real. Evidence that this is a norm appeared in other children's interviews with comments such as "Because like you don't do much, all you ever do is get in a car, go round, you can shoot people. That's fun" (Freddo); "I don't know, I just like torturing, like stuff online. Not actual real things" (Freddo); "But my friend E, he loves snipering, he loves assassinate, assassinating people" (Spartan117); "Yeah and if I drop this I get money for killing them" (Zoe). The way that the virtual reality games had disciplined the children into creating a new norm appears to indicate the games had power to influence the children's conduct or behaviour when participating in virtual reality based games. It is an example of living in a society of normalisation that Foucault (1980b) explained has become a global function of our times.

The disciplinary power of virtual reality also appeared present in capitalist themed games. Often the games the children played had capitalistic goals of earning or winning virtual money, buying possessions, or building bigger and better houses/towns/cities. This was regardless of genre, or whether they were online, computer or console games. For example, Zoe appeared very engaged in an online horse racing game, motivated to increase her stable of horses and win money.

> *No you race your horses to win money. I really, really need that to get more horses. (Zoe, age 10, p.46)*

Virtual reality appeared to discipline Zoe into participating in a capitalistic way of behaving, to acquire more money or capital, which was contrary to her actual life as illustrated when she talked about managing money to pay for her cellphone use.

> ***And so you're on a prepaid plan or are you on a plan?***
> *I don't know. Probably not.*
> ***So does your mum and dad pay for it? Pay the monthly. [bill for cell-phone use]***
> *I don't know. I'm not sure (Zoe, age 10, p.27)*

Zoe did not actually appear to have an interest in money related to her actual life, but in virtual reality it was a motivating and normal interest for her. This appears to indicate the disciplinary power of the virtual games; Zoe appeared to have become what Foucault (1979) termed a 'docile body' where she behaved how others have predetermined, without realising this was occurring - a subjected and practiced body. Using capitalist themed virtual reality games appears to be part of the political anatomy of modern societies' power relations. Foucault described the political anatomy of power as being made up of:

> A multiplicity of often minor processes, of different origin and scattered location, which overlap, repeat, or imitate one another, support one another, distinguish themselves from one another according to their domain of application, converge and gradually produce the blueprint of a general method. (Foucault, 1979, p. 138)

Using virtual reality games appear to be a minor process in Zoe's life, that supports other capitalistic processes that may also be occurring. Together these minor events converge to produce a general method of discipline that can shape and 'make' Zoe into who she becomes.

A final example of a theme indicating a new norm occurring, was the children's participation in caring for virtual pets (for example horses, dogs, 'puffles'[5]). The notion of virtual caring was significant in many game genres the children played, and was for various purposes. For example: for Moshi Monsters™ to keep their monster healthy and alive; Club Penguin™ to continue to own a pet puffle; Howrse to grow a foal to train and race it; and the Nintendo™ DS dog game to raise a puppy and compete with it. The caring consisted of feeding, grooming, exercising, healing wounds and various other character specific activities. Caring was often linked to earning money, as money was required to buy food or possessions for the pet or character. Caring involved time; the children had to log into and play the game regularly to ensure their characters grew, and remained healthy or alive. It would also take some time to carry out the caring activities in the game as described by Emma.

> *Um, because they'll take them off you if you don't, like, feed them and if they're not very well and they'll take them off you because you don't feed them and stuff. But if you like, feed them and work hard, like clean them and feed them and stuff like that then they, they stay with you. But you have to keep going on it or else yeah. (Emma, age 12, p.23)*

[Explaining owning a 'puffle' pet on Club Penguin™ online game]

Emma appeared to be disciplined into caring for her pet puffle by the threat of it being taken off her. Caring for online characters appears to be another way virtual reality has created a minor process where "one may operate as one wishes, with the techniques, the speed and the efficiency that one determines" (Foucault, 1979, p. 138), contributing to an overall political anatomy of power. In this example the practice of caring appears to overlap with capitalistic practices, and also has the additional component of needing to return to that particular website. These minor processes are converging within the one virtual reality game, producing

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[5] Puffles are a made up pet in the Club Penguin ™ online game

an overall disciplinary effect on Emma, one that shapes her play and behaviour within virtual reality games.

As well as providing virtual experiences through gaming, the dimension of virtual reality also appeared to be developing technical skills. The development of these technological skills appeared primarily through playing virtual games, participating in social networking sites, use of digital photography, and communicating via cellphones or instant messaging. The way these play activities utilised technological skills such as uploading photographs, editing profile pages, and navigation of the actual game sites suggests to me that the children were being disciplined to use technology in a way conducive to the development of a knowledge and information society. For example, Maria spent some time editing her personal profile page on the Howrse online game, thereby developing basic computer editing skills.

A disciplinary power was created by other members of the game viewing Maria's page and commenting on it, rewarding and encouraging Maria to continue to develop these skills:

> *Um I'm not sending a message to anyone because I'm changing my presentation.*
>
> **Oh I see.**
>
> *And then I know heaps of stuff like that.*
>
> **Right so you can um, so when they see RMY [Maria's online name], this will come up.**
>
> *Yeah and they look up pictures and I put them all over here and that will be like my personal page.*
>
> **Oh okay.**
>
> *That people can visit um, congratulate me for like, doing that sort of stuff.*
>
> **Yeah. So do you spend a bit of time doing that?**

Yeah. (Maria, age 10, p.30)

Emma spent time showing me the Club Penguin website which involved much navigation around the website, requiring understanding of basic technical and operating rules to do this. While she was doing this, she was simultaneously networking with other Club Penguin members.

> *I've got a friends, a guy has asked me to be his friend. Yeah.*
>
> **Oh did you know who it was?**
>
> *His name was Boy George or something and you go in there. And then there's a mission so you just load them and I've done that one and that one.*
>
> **Oh I see case of the missing coins, case of the missing puffles. Right so and it tells you what to do, click… oh I see yeah.**
>
> *And you go scroll down and stuff, there's heaps [of missions] (Emma, age 12, p.10)*

This activity appeared to be disciplining Emma by teaching her technical skills and social behaviour (social networking) that would fit into a technology based knowledge society.

A final example of technological skills being developed through the children's play was in the way Spartan117 and Tony Hawke utilised digital photography in their play through the use of a webcam and camera:

> **Oh okay. Have you ever put anything on there [YouTube]?**
>
> *Um, no.*
>
> **No would you want to?**
>
> *Yes when I get really good um on xbox put a camera and.*
>
> *(Spartan117, age 11, p.33)*

Whereas Tony Hawke was developing specific photographic editing skills:

> *I play around with it [camera]. I don't take photos.*
>
> **Did you know how to put, upload the photos and all that sort of stuff.**

Yep. (Tony Hawke, age 11, p.18)

Technical manipulation of images and interaction with the internet are also skills that would fit into a technology based knowledge society, and as a form of play were subtly disciplining the two boys into gaining these skills.

The way that technological play has become a significant part of the children's everyday life could be seen as an example of governmentality where the government has arranged things in such a way to achieve a certain end result (Foucault, 1997). This has been carried out by having governmental policies enforcing and encouraging the uptake of technology, particularly the internet, throughout New Zealand. The children were gaining skills from their involvement in technological play that fits into a knowledge economy, meeting the government's overall aims for the population (Ministry of Economic Development, 2006).

Despite virtual reality being a prominent new dimension in the children's life, they did not directly name it in the interviews. It appeared to have become a normal part of their life, that is, it was a common, everyday activity that they engaged in, providing opportunities for productive power relations to occur and a new site for tactics of disciplinary power to emerge. Virtual reality also appeared to involve behaviour that involved ethical decision making, such as obeying parental rules about ratings of games or movies; whether to assist others to progress in games; whether to care for a pet appropriately or to let it die; and how the children controlled their virtual characters. Ethical decisions such as these appear to indicate that virtual reality has become a part of the ethical substance in the children's lives. As explained in chapter three, the term ethical substance means "part of ourselves or our behaviour which is relevant for ethical judgement" (Foucault, 1984, p.352). Virtual reality

provided opportunities for the children to make ethical decisions relevant for ethical judgement, thus becoming ethical substance and contributing to the constitution of their moral self.

Virtual reality appeared to have become a new dimension in the children's ordinary life and a site of new power relations. Another form of power relations often present in the virtual reality dimension of the children's play were ones that involved panoptic behaviour. This panoptic behaviour indicated the emergence of a second discourse and set of discursive practices involving technological play.

Panoptic play

The Panopticon is a metaphor for the subjection of populations and societies to constant surveillance, which could occur at any time, causing the population to alter their behaviour accordingly (Cheek, 1999). The panopticon gaze and the carceral system in which it belongs have become a disciplinary mechanism in our present society (Foucault, 1979) and technology appears to have become a primary tool in the surveillance of children (Marx & Steeves, 2010). The discourse 'panoptic play' appeared to reflect how the children have adapted to living in a society where surveillance and monitoring of their lives has been normalised. The discourse manifested itself in the way the children referred to the surveillance and monitoring they were subjected to and which they participated in during technological play. The children appeared to be adopting a position where being watched and being a watcher was a normalised part of their technological play. It appeared that the panoptic nature of technological play has allowed a resistance to the power relations created by the panopticon effect. These power relations are created by the presence of an inspecting

gaze constraining and subjecting the behaviour of its subject (Foucault, 1980a). The panoptic abilities of technology appear to have become merely an aspect of play rather than having power because of having a presence of an inspecting gaze.

The panoptic nature of technological play was seen in the surveillance of the children's activities by their parents. They did this by reading the children's emails, belonging to the child's social networking website, checking internet search histories, checking cellphone use, having 'cybernanny'[6] software on family computers, and in the public placement of family computers. When Lucy discussed her cellphone use, it was a normal occurrence for her parents to check her text messages:

> *Yeah but I don't do anything really on there except for um text. But my parents check my texts anyway. (Lucy, age 12, p.28)*

The possibility of Lucy's parents checking her cellphone texts was something Lucy considered when using her cellphone. This panoptic effect did not appear to have a repressive disciplinary power; it was something that was part of this technological play. An absence of repressive power was shown when Lucy talked about her Mother reading her Facebook page:

> *She [Mum] always checks out my page and like she always looks at my comments on people's photos. But I show her my emails and stuff on Facebook anyway. (Lucy, age 12, p.11)*

Lucy voluntarily shows her Mother her personal information, assuming a willing subject within this panoptic situation. This appears to be a strategy that Lucy has adopted because of the constant panoptic presence in this type of play and is also an example of how Lucy has internalised the panoptic gaze of her Mother, overseeing and altering her own behaviour.

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[6] Cybernanny software allows controlled access to a computer and websites on the internet (eHow, n.d)

How Lucy had altered her behaviour was demonstrated in this comment about her Father:

> *And then, like I accidently click on something[an inappropriate website] I'm like oh my god Dad's going to see that and I have to tell him that I accidentally clicked on it before he checks his email so that he understands. Because sometimes he actually thinks that I click on it. (Lucy, age 12, p.24)*

Lucy knew her Father would know she had clicked on to a forbidden website because of the panoptic abilities of their computer and altered her behaviour accordingly.

As well as being willing subjects in panoptic technological play, the children appeared to be using the panoptic nature of their technological play to assume a position of power. This occurred when they played online virtual games with others. They all knew that the games were constantly monitored and that they could report other players for inappropriate behaviour. Maria described how Owllen, a monkey character, monitors the Howrse online game:

> *Um, Owllen's the monkey he's like um, the reporter so if you like do something bad he types it up…. And also there's like one warning and then if you get your second warning. .. If you have the third warning you don't have a game on Howrse anymore.*
>
> *(Maria, age 10, p.37)*

Maria did not appear to feel that Owllen was a repressive panoptic presence, as she appeared to have formed a personal connection with the character and being monitored was an accepted component of the game.

> *And it's got someone who actually owns it like you know. Like Owllen who I know and all that. (Maria, age 10, p.35)*

The panoptic presence of Owllen appears to have produced an environment where children could individually participate from equal subject positions but where everyone was monitored, with the rules and outcomes the same for everyone. This is an example of how society has constructed power relations that both individualise and are totalizing at the same

time. Foucault (2000c) described individualising power as something that applies itself to everyday life, and categorises individuals making them subjects. He proposes that modern society is characterised by a complex combination of the state using individualising tactics of power along with totalizing forms of power that serve the interest of the entire population. The way that Maria has developed an individual relationship with Owllen on the online game Howrse is a form of individualizing power. It also is a totalising form of power, as the power Owllen has is applied to a global population of children playing this online game, making them subjects in the same way. The panoptic function of Owllen has created a new power relation for Maria, one that individually gives her power within the game, at the same time subjecting her to a totalising procedure that is creating power relations for the population of Howrse users.

Another way the panoptic nature of technology was inserted into the children's ordinary play was through tethering. As discussed in chapter two, tethering is a term used to describe being 'always on' and connected to others via technology. The children's tethering was through owning cell-phones and through instant messaging when using the internet. It appeared to be panoptic as the children appeared to be under as form of connective surveillance, available throughout their day for others to contact. For example, Lucy took her cell-phone to school and was contactable by her friends while in class:

> *...I'll be in maths and then suddenly my phone will be like....And then you'll be like oh that's not my phone because I turned off my phone and then you'll feel it vibrating and you're like oh my god it's my phone. (Lucy, age 12, p.28)*

If Lucy responded to her cell-phone message she would be allowing the caller to have some form of connective surveillance of her activities – providing the caller with knowledge because of the panoptic ability of cell-phones. This could be seen as demonstrating the

multiplicity of power relations created by a form of surveillance. Those who were under surveillance also have the opportunity to place others under surveillance. Foucault (1979) explained this as a network of power relations operating from top to bottom, and laterally, deriving from the individuals involved. These power relations were observed when Zoe was using Facebook and a friend tried to interrupt her game and chat to her:

> *Yeah see that's my cousin G and that's her mum, she's my aunty. I hate it when my friends do that. They always just randomly pop up and talk to me but I don't want to talk to them. See what I do now is go options and I go, go offline. So now they think I'm offline so they can't talk to me. (Zoe, age 10, p.45)*

The online/offline function of instant messaging systems enables others to see when one is online. I suggest that this form of tethering provides opportunities to have a panoptic power relation with others. However Zoe did not take a position of being under surveillance by others. Instead she switched off the instant messaging ability when online. Foucault (1980b) discussed resistance to the Panopticon in an interview in the *Power/Knowledge* text. He stated that resistances have to be analysed in tactical and strategic terms, with counter offensive actions occurring to resistance. In the examples above, the girls have resisted a power relation of tethering created by its panoptic elements, forming a new subjectivity of power, where they can choose whether they want to be under this type of connective surveillance by others.

This was not always the case. Samantha appeared to have normalised tethering to others, as she would check a text message in the night, even if she had been asleep.

> ***Yeah and does anybody text you in the middle of the night? Sometimes your friends and do they wake you up or do you get it in the morning?***
>
> *They wake me up.*
>
> ***Yeah what do you think about that?***

It's okay. I look at it and then I go back to sleep.

Would, would you text someone in the night? [Samantha nods head] You have done when you've been up late? Yeah. (Samantha, age 12, p.4)

By text messaging late at night Samantha is participating in a power relation created by herself and her friends. They are placing each other under a lateral form of surveillance by connecting with each other at all times.

Play as panoptic also appeared in the form of the frequent public recording of the children's lives through digital photography. Digital photography enabled an accepted norm of surveillance of the children to occur. Photographs taken with a cell-phone during everyday play was common. An example of this was when Lucy discussed using her cellphone and camera with her friends:

> **What do you take photos of?**
>
> *Oh you and your friends or yourself. Or like, on my camera I've got some photos of my dogs and my cats. And I've got photos of like Christmas and.*
>
> *(Lucy, age 12, p.30)*

Lucy and her friends appeared to be using photography as a form of play. The panoptic power created by permanently recording other people's everyday life does not appear to hold a position of power for Lucy; it was a normalised part of her technological play. This normalisation of play using digital photography was also apparent in the way Lucy regularly uploaded photographs of herself and her friends onto a social networking website.

> *You just click on notifications you can see like people comment on photos…So you can click on them so just say he commented on C's photo, click on that…I'll just give you an example. I don't know what he said but, okay so that's me and C…*
>
> **Oh did you take that yesterday?**
>
> *Yeah, no we took this the other day but he commented on it like that.*
>
> **Yeah so you put on um photos every, quite often do you?**

Um yeah (Lucy, age 12, p.3)

Lucy was used to others seeing photographs of herself on the internet and for these watchers to make comments on the photograph. This panoptic property of the social networking website did not appear to have created a negative disciplinary power relation as Lucy continued to place photographs on the website. When directly questioned about this, Lucy answered in a way that indicated she did not feel others had a panoptic presence.

> ***Yeah you're pretty open about it. Um and how do you feel about that like all your friends, your different types of friends, being able to see, what you're talking about to the other friends?***
>
> *It's fine but for my friends I can block them from seeing some stuff.[]*
>
> ***So do you do that? Do you do that through the account do you?***
>
> *Um no you actually I think you click on the photo I'm not sure.*
>
> *(Lucy, age 12, p.11)*

Despite knowing that it is possible to block others from viewing her personal information Lucy didn't appear to have ever done this. This suggests other people viewing her photographs did not have a disciplinary power over Lucy; being visible in this way was a normal part of this play.

Another way photography was used as a form of panoptic play was the way the children were photographed while playing ordinary console games such as x-box™ Kinect Animals or Playstation™ Singstar®. The console games would take a photograph of the child while playing the game, and then the photographs were stored on the console.

> *See and it takes photos of you and at the end you get to see the photos. It's actually taking photos of what I'm doing, not what my character is doing. (Zoe, age10, p. 17)*
>
> [Discussing x-box™ Kinect Animals]

Zoe went on to describe how she and her friend would change their behaviour when they knew they were going to be photographed while playing this game:

> *See me and L we were playing together and every time the camera would come we would sleep, because every time the camera would come we'd lie on the ground and pretend we were sleeping. (Zoe, age 10, p.19)*

Being photographed while playing this game appeared to be part of the fun of the game, and the girls were using this panoptic function in a playful manner. The ability for console games to photograph the players and permanently record the photograph has become a normal aspect of playing this type of interactive virtual reality game.

The way digital photography has been inserted into ordinary play through the use of cell-phones and cameras appears to have assisted the normalisation of photography as a form of play. This could be seen as another example of living in a society of normalisation in "which the individual is carefully fabricated, according to a whole technique of forces and bodies of the panoptic machine" (Foucault, 1979, p. 217). Panoptic play involving photography had become a normal practice for the children. This type of technological play had become one of the techniques of the panoptic machine, fabricating the children into individuals who accept panoptic behaviour as a normalised part of their society.

A final way in which the children referred to the panoptic nature in their technological play was in the way they talked about reality-based entertainment. All of the children interviewed went on the YouTube website as a form of entertainment. They appeared to have accepted this as a play activity and that other people's lives or hobbies were of interest. When questioned about why he liked YouTube Spartan117 stated:

Why do you think it's good?

Because you get to see like, really cool stuff. What other people do. And they make funny movies of Lego and stuff. (Spartan117, age 11, p.33)

By assuming a position of a watcher Spartan117 was using the panoptic nature of YouTube as a form of play. Surveillance of other people's lives was entertaining, without an assumption of exercising power over those being watched. The children also sought out opportunities to be watched by others, appearing to enjoy the panoptic nature of YouTube. Heisler wanted to place a video of his completed model train on YouTube:

But people just, put them on YouTube so that, people can, judge them and show people what they think of it… But hopefully I'll find people are nice to me. (Heisler, age 12, p.20)

Heisler voluntarily wanted to put his private hobby life into the public domain to be rewarded or possibly punished by others. This could be seen as empowerment through exhibitionism, a concept proposed by Koskela (2004) that is occurring through reality based entertainment, mobile phone photography and the use of webcams. Koskela explained this as people seeking " to play an active role in the production of images, thus, reclaiming the copyright of their own lives" (p. 199). This deliberate exhibitionism has developed as a reaction to the increasing surveillance in western society and has created a new form of power relation, one of empowerment (Koskela, 2004). The panoptic ability of YouTube appears part of its attraction, becoming part of the entertainment of playing in this way, rather than a source of control over others.

The way the children behaved towards the panoptic elements in their technological play appears to demonstrate new power relations forming for them. Power relations forming from everyday activities assist in making individuals subjects (Foucault, 2000c). Foucault explained this subjection as an individual being controlled by others or by their own self-

knowledge or conscience. Rather than feeling oppressed or controlled by being under surveillance during their play, the children appeared to take an opposing subjectivity of empowerment by resisting the surveillance or by embracing the exhibitionist nature of it. Resistance to being made a subject has occurred more commonly since the development of new forms of political power created by the Western states (Foucault, 2000c). As well as developing new subjectivities from their panoptic play, this form of play appeared to provide another form of ethical substance for the children. The ethical decisions involved in deciding to place photos on social networking websites; whether to photograph others with cellphones; when to pretend they were 'offline'; or if they should text someone in the middle of the night indicate behaviours that appear to be ways of "how the individual is supposed to constitute himself as a moral subject of his own actions" (Foucault, 1984, p. 352).

The discourses of 'virtual reality as a new dimension' and 'panoptic play' revealed new discursive practices emerging within the children's actual execution of their technological play. As well as these discursive practices, during this technological play there was a third discourse constantly referred to by the children, a discourse of being constantly aware of the risks and dangers involved with using technology.

Technological play as risky

Technology as a source of danger and risk appeared as a third dominant discourse for the children in this research which, as discussed in chapter two, also appeared in the literature review as part of the technophobic discourse of adults. As the children showed and discussed with me the technological games and other play activities they were involved in, they referred to various risks of participating in these activities. By talking in this way the children

appeared to be introducing a construction of this play as being risky and which therefore generated fear. The identified risks and dangers varied between the children but a common concern all the children voiced was being text and cyber bullied.

> *Have you seen how many people get e-bullied by people that they don't even know?*
> *(Heisler, age 12, p.8)*
>
> [Explaining why he doesn't want to belong to Facebook]

Cyberbullying was described by the children as: others being mean (Freddo, Tony Hawke); swearing (Spartan117, Tony Hawke); the continual texting of intimidating messages (Emma); hurting your feelings (Maria); or being rude (Lucy). The incidence and fear of being cyber bullied for this age group is prominent in the literature (for example Erdur-Baker, 2009; Livingstone & Brake, 2010; Raskauskas, 2007; Trolley & Hanel, 2010) and was also identified by Martini (2010) as an issue of concern when he surveyed children living on the West Coast of New Zealand.

The children appeared to assume a powerless subject position when managing cyberbullying in that they spoke as if it was a common occurrence that they had little control over. Technology has created the opportunity for a new power relation between the children and others who they may or may not know. This appears to be an example of how in some discourses power can be exercised over others. Foucault (2000c) described power relationships forming where one exercises power over others, opening up a field of responses and reactions. Power relations are rooted in the "whole network of the social" (p. 345); society would not exist without power relations.

Cyberbullying appears to be a way of exerting power over others unique to modern society using technology and engaging in technological play. While the children appeared to assume a vulnerable position of being bullied, they were beginning to respond and react in other ways to avoid this exercise of power. For example, Lucy purposefully changed her behaviour, avoiding some online games because of the fear of cyberbullying:

> **Do you play those games at all?**
>
> *Like Runescape? No. Because that can be right, quite rude sometimes. Like people can say anything to you. (Lucy, age 12, p.23)*

In another example, Emma changed her opinion on what an appropriate age for owning a cellphone was after she had experienced being cyberbullied:

> **So do you think 12's a good age [to own a cellphone] or do you think it would have been better at 11?**
>
> *Um 12. Text bullying isn't very good but when you're older maybe you can stick up for yourself more. (Emma, age 12, p.33)*

Both Lucy and Emma had changed their behaviour or opinion because of the vulnerable power relation created by being cyberbullied. Foucault (2000c) described this as a perpetual linking between power relationships and strategies of struggle created by these relationships. The girls developed an avoidance strategy to counteract the dominating power of the cyberbully. By making themselves not visible to potential cyberbullies the girls changed the power relationship from one of vulnerability to one of control.

As well as bullying, the children in the research were aware of other risks or danger involved with their technological play. At age 10 Maria and her friend were aware that there were potential financial risks using the internet:

> *And they take credit off your computer and they.(B)*

They try and transfer it as a scam. (Maria and friend, age 10, p.38)

Maria went on to describe how she had changed her behaviour to manage this risk:

Ah yeah. Um like, um, making sure that I'm on a safe site like reading all the um, rules and all that. Like I've read it all on Howrse and that's all safe. Because you don't have to put your email address in. You just have a user name and password. They can't get into your bank balance, your account. (Maria, age 10, p.39)

Maria adopted behaviours that have made herself knowledgeable, determining which websites protect her and what information she does not need to provide. She has developed strategies to keep herself safe from financial risks or dangers. This has occurred as a response to the power relations created by anonymous fraudsters on the internet, changing Maria's subject position of being at risk to one of having control.

There were other power relations identified by the children that created risk and danger from their technological play. Lucy insightfully spoke of others her age looking at pornography ('gross' things) on the internet:

Yeah like um, I know some people at my school they're quite gross like they always go to [unintelligible] they're always coming up with like real gross things and I think that when they grow older because of their bringing up they'd do their whole life is not going to be so good unless they choose to change it…. So, when they get older and they get disturbed and then they'll need to go to a mental hospital or something because they looked up stuff when they were younger, on the internet. (Lucy, age 12, p.31)

Lucy alludes to a potential power of the internet to change people in negative ways because of the uncensored nature of the World Wide Web. However, she assumed a position that managed this risk by deliberately not looking at the material, which thus gave her a position of power within this relationship.

The awareness of risks and dangers revealed by the children in the above examples appear to echo some of the adult fears about safety and emotional harm for children when using technology. As argued in chapter two, these are part of the strong technophobic discourse in Western society. The adults in this research (as depicted by their children) appeared to assume a subject position of authority and of moral guardianship over their children's technology use, with the children readily accepting this power relation of being vulnerable and needing protection.

> *Yeah and do you think parents should check um what kids have been doing or do you think you should be trusted?*
>
> *Ah yeah I think parents should check to make sure it's appropriate for our age. (Freddo, age 10, p.8)*
>
> [Discussing internet use]

As shown in Freddo's excerpt, the children saw parents as responsible for monitoring their children's use of the internet. The children referred to adults to resolve their problems on internet sites or bullying relatively quickly:

> *I would, just block his number like you said and give it [phone] to my mum and then keep it for a week, she can keep it for a week and then just stop it. (Emma, age 12, p.33)*
>
> [Explaining how she would manage text bullying]

Here Emma sees her mother as keeping her safe, protecting her and defending her from the bullies. The boundaries established by their parents that managed the risks of using technologies were generally referred to in an accepting manner, such as what ratings for games or movies the children were allowed to play or watch:

> *Yeah PGs, sometimes M but we're not allowed R18s because mum thinks they'd be too inappropriate. (Freddo, age 10, p.21)*

Other parental boundaries involved cellphone ownership, if they were allowed to belong to Facebook, how long they were allowed to use a technology, and using the internet unsupervised. By assuming a submissive position of power in terms of their technology use, the children appeared to have been disciplined into accepting the technophobic discourse of dangers and risks of technology.

However, there were times the children appeared to resist this power relation, and did not perceive themselves as powerless subjects in relation to adults or to the technological activity they were involved with. The children discussed the risks and dangers they identified in a way that made it appear that these risks or dangers would not stop them using technology, or prevent them trying things. Instead the risks and dangers were something that needed to be managed.

> *Yes. We're not allowed ones [internet websites] that are really rude or gross but I wouldn't choose them anyway. (Emma, age 12, p.38)*
>
> [Explaining rules of internet at home]

Other small comments within the interviews also conveyed the feeling of being in control and having a self disciplinary power over technology: "wouldn't go there"(Lucy), "its gross so I don't want to look at it"(Emma), "Mum doesn't need to tell me" (Hunter) or just knowing how to keep safe "because I get bigger brains" (Freddo). The children also described specific actions that indicated an assumption of power when managing internet based social interactions. They did this by blocking friend requests on Facebook, and knowing they could report people for inappropriate behaviour on websites.

Yeah and people like I do know but they're like really rude and they put up like rude photos and I know them but they put on rude photos. I'll not add them and I'll block them because they can post photos to your wall and stuff. (Lucy, age 12, p.5)

[Describing how she manages unwanted friends on Facebook]

The resistance to the technophobic discourse of technology being dangerous for children, appeared to be a discursive practice emerging from this technophobic discourse. The new power relations that were formed by these discursive practices appear to have occurred because the children had to manage risk, particularly related to their internet use. As discourse always functions in relation to power relations (McHoul & Grace, 1993) these power relations have produced behaviours of independence and self-management of risks and dangers when on the internet.

The discursive practices of independence and self management of risks and dangers when using technology also appeared to reveal technological play as a form of ethical substance for the children. The choices the children made, such as what they should view on the internet; what information to provide on websites; how they interacted with other characters on games; and how they used technology socially; indicated a degree of ethical decision making within their technological play. This was another way technological play may be becoming a form of ethical substance for the children, contributing to the constitution of themselves as moral subjects.

Summary

The three identified discourses; virtual reality as a new dimension; panoptic play; and technological play as risky, appear to have provided the children with subject positions that

have created new power relations. Virtual reality appears to provide opportunities to assume positions of limited control and power over oneself, and is a tactic that is part of a political anatomy of power exercised by Western states. Themes within virtual reality demonstrated the ways disciplinary power through gaming contributes to cultural norms forming for the children. Panoptic play appeared to be an example of an everyday activity creating new power relations and subject positions for the children. The children have done this by turning panoptic behaviour into a form of play and exhibitionism, and a form of entertainment. They also were resisting the subjecting nature of the panopticon by avoiding or disengaging with certain types of play. Lastly, the children appeared to be creating a new discourse around technological risk, one that resists the strong technophobic discourse held by adults. The technological risk that was present in the children's play appeared to be creating power relations that the children were managing by assuming subjectivities of autonomy and control over the situations. All three discourses appeared to demonstrate that technological play was ethical substance for the children's lives, providing opportunities for behaviour that needed ethical decision making. In this way technological play was contributing to the moral constitution of the children.

The three outlined discourses show new norms occurring for the children in this research. These norms appear to have been created by the historical context formed by the conditions of existence outlined in chapter five and from disciplinary power originating from sources of governmentality and the carceral network. The following final chapter will now discuss these findings in more depth.

Chapter Seven – Discussion

This chapter provides a synopsis of the findings presented in chapters five and six. It then considers these findings within the relevant international literature. The contribution this research makes to the body of knowledge is then discussed, with limitations of the research outlined. The implications for occupational therapists and other practitioners who work with children are described. Finally, future directions of research are proposed.

Findings from the discourse analysis
The original question this research sought to answer was:

'What are the current discourses used by 10-12 year old children when talking about contemporary technologies such as mobile phones, the internet, console games and computers?'

By interviewing 10 children living in Hokitika, New Zealand, and carrying out a Foucauldian discourse analysis of the data, three dominant discourses were identified: virtual reality as a new dimension of reality; panoptic play; and technological play as risky.

Virtual reality appeared to have become a new dimension in the children's reality and was incorporated into their day to day life. Experiences such as earning and spending large amounts of virtual money, controlling the life of a character, and being involved in violence were commonplace. The children appeared to be forming an understanding of the difference between virtual reality and actual reality, which involved the creation of a third dimension separate from their actual lives. Virtual reality appeared to provide positive, productive

disciplinary experiences creating new subjectivities and power relations available to the children.

Panoptic play appeared from the way the children accepted their everyday lives being public. They generally were happy to have their photographs on social networking websites, enjoyed photographing each other with cell-phones whilst carrying out ordinary activities, and being photographed while playing console games was an ordinary accepted experience. The children were also accepting of carrying out social relationships with others under the observation of their peers and adults. Most of the children watched video clips on YouTube, finding this form of public display entertaining. The idea of being on YouTube was attractive to some. Tethering to others through cellphone texting and instant messaging was also an aspect of the panoptic play discourse. Tethering has been inserted into the children's play, technological or not, because the children were able to be in contact and contactable by others during any activity in their day. The panoptic play discourse appeared to reflect a combination of disciplinary powers originating from a carceral system where the children were constantly under surveillance, monitored and available to others.

The last discourse, technological play as risky, appeared in most of the children's interviews and was something the children were all aware of. The children identified physical, emotional, psychological, and financial risks of using technology as a form of play, and were particularly concerned about cyberbullying. They accepted that adult supervision was necessary for them, but were developing independence in managing the risks by their choice of play, technical skills in blocking or editing online information, and knowledge of internet

safety. The children appeared to be being disciplined into fearing technology from the adult technophobic discourse. Resistance to this technophobic discourse was occurring and the way the children were becoming independent with managing risks and danger in their technological play appeared to be creating a new discourse, one of independence and self-management of risks and dangers when on the internet.

All three discourses revealed behaviours or decision making that indicated that technological play had become a form of ethical substance for the children's lives. The children had to make ethical decisions within their virtual reality and panoptic play, as well as when managing the risks when using technology. What an individual does to behave ethically is the ethical substance of that era and is how the individual constitutes themselves as a moral subject of their own actions (Foucault, 1984).

The three discourses appear to have been made possible by a combination of conditions of existence unique to the era of the children in this research. These conditions of existence have been economic, political, technical and philosophical, both within New Zealand and the West Coast region, as well as globally. Economic changes in New Zealand and global trade and production policies have made technology affordable and thus more accessible to most New Zealand children. Politically, New Zealand policies involved heavy investment in telecommunication and technical education, and were prioritised to develop a population that could flourish in a knowledge economy. Constant technical developments have changed the capabilities of technology available to the ordinary technology user. Lastly, the neo-liberal philosophical view of childhood taken by New Zealand and many other Western countries

has appeared to allow the children in this research to assume positions of autonomy and independence within their technological play. This autonomy has enabled the capitalistic goals of creating a global entertainment industry to develop as children can be directly interacted and marketed to through their technological play.

Foucault (1979) suggested disciplinary power appeared when something of significance changed within a society, changing discursive practices and discourses within the society. The most significant change that appeared to have occurred affecting the children in this study was the accessibility to technology the children had and its rapid capability changes. This access and capability of technology appears to have changed the discourses and discursive practices of society related to technology use as described in the recent literature (Deuze, 2011; Plowman, McPake & Stephen, 2010; Rideout, Foehr & Roberts, 2010). By changing the discourses the children have taken up, technology appears to have become a new site of disciplinary power, one which the children in this research were relating to everyday through their play.

 It appeared that the children had been disciplined into adopting the identified discourses through the particular historical conditions of existence of this era. The subsequent rules of formation appeared to have been shaped by disciplinary power from governmentality and as an expression of a carceral system (Foucault, 1972). The technological play the children were involved in became a site for the exertion of these techniques of power and appeared to be a tactic that disciplined the children to "operate as one wishes… producing subjected and practised bodies, `docile' bodies" (Foucault, 1979, p. 138).

Governmentality appeared in New Zealand through the government controlling and directing access to the internet in order to achieve its goal of creating a knowledge economy. All the children who were interviewed had access to the internet, and the skills they learnt through their technological play were technical skills required to live in a knowledge economy. Governmentality also appeared as a way of creating global westernised children that understood and valued a capitalistic based society. The multi-national media and entertainment industry markets to a global childhood audience, and thereby I suggest, controlling and directing children into adopting a global form of technological play generally based on western capitalistic values.

The carceral system appeared to be another way of disciplining the children through their technological play. The carceral system uses tactics of surveillance and observation, and what Foucault (1979) termed 'judges of normality'. This form of discipline appeared to be influencing the children's social behaviour because of their exposure to surveillance and observation through social media websites, online gaming, and parental controls. The judges of normality in the children's technological play appeared to be the children's parents, virtual monitors on the online games, and the other participants of the technological play. The panoptic nature of online games, social networking websites and ease of digital photography allowed judgement of the children's behaviour by others. The outcome of this has been that having a panoptic presence within technological play has become normalised and part of the play itself.

The children's tethering to others throughout their day also appeared part of a carceral system. The children were contactable and available for monitoring at any time of their day if

they chose to be. Tethering has been subtly inserted into many technological play activities, such as social networking within online games, instant messaging functions when online, and the normalisation of being contactable by others through cellphone ownership. This tethering appears to be creating a social environment similar to how Foucault (1979) described the prison Mettray operated. Foucault used this prison as an example of a perfect carceral system, as the inmates as well as the monitors and foreman remained in almost constant surveillance of each other. The knowledge and power created by this intimate relationship were used together as a disciplinary power to create normalised behaviour. The constant tethering to others by technology appeared to be replicating this effect, with knowledge of the children's everyday activities a possibility, creating a power relation and changing some of the children's behaviour. However, as a result of this type of disciplining experience, the children appeared to be resisting the power relation created by the panoptic nature of their play; instead they were using the panoptic abilities as part of the play itself. By doing this the children were establishing control of the power relations and subjectivities by choosing to become a watcher, to be watched, or deliberately removing themselves from the panoptic relationship by switching the technologies off.

Placement within international literature

This research complements and builds on the international literature which documents computer gaming, online social networking, instant messaging, and mobile phone use as activities this age group particularly enjoyed (Cherney & London, 2006; Fromme, 2003; Kerawalla & Crook 2002; Lealand & Zanker, 2003, 2008). The premise that technological play has created new discursive practices is supported by several authors in the way they describe the technological behaviour of children. For example, Jackson et al. (2007) and Frost (2010) described technological play replacing traditional play, with Jackson suggesting that it

is creating new forms of social and technical competencies. Technological play has become a new family play activity (Aasand, 2007; Entertainment Software Association, n.d.; Lealand & Zanker, 2008) and is creating new communities (Ito, 2010) and ways of developing social relationships (Lange & Ito, 2010).

The development of new power relationships and subjectivities forming (such as being watched or monitored, being a watcher, being available to others at any time) from the use of technology was also evident, particularly in the literature involving cell-phone use. The way children are tethered to their parents appeared as a form of control to Horst (2010), and the power of cell-phones as a means of surveillance by children was described by Koskela (2005) and McLennan, McManus and Spoonley (2010). This power was also alluded to in the way technology can be easily used for bullying purposes, mass message sending or by not responding to calls or texts (Kleeb, 2007; Netsafe 2005). Shroeder (2010) discussed the idea of multi-modal connectedness which appears to be a new subject position created by frequent use of technology. Koskela (2005) also described a new subject position of empowerment being adopted with the embracing of exhibitionism through websites such as YouTube. Another way technology was used to create a subject position of power was where technological activity was used as a form of resistance to children's increasingly busy lives (Bell, 2011).

Although not using the term governmentality, which was discussed as part of the discussion in chapter five, there was also literature that supported the idea of technological play being a site for govermentality to occur. Arthur (2005), Buckingham (2007), Marsh (2005), and Pecora (2007) all described global marketing to children through technology for capitalistic gain by corporate bodies with Selwyn (2003) highlighting the importance of political and

economic agendas behind the promotion of technology to children. The effects of governmentality in forming a knowledge economy is illustrated in the examples provided by Ito and Bittani (2010) with their description of indirect and scaffolded learning children gain from participating in technological play. Another documented example of governmentality occurring through technological play is from the war game industry. The collaboration between the US military, video game manufacturers and the entertainment industry in producing war games can be interpreted as having a political agenda in the creation of future soldiers (Huntemann & Payne, 2010). This collaboration also produces a western sanitised 'unbloodied' version of war (King & Leonard, 2010) that also appears politically motivated to depict the United States of America from a Western perspective. Technological play appeared to be a site for governmentality to occur in the ways described above as the children in this research were consumers of globally popular online and console games, exposing themselves to totalising ideas of capitalism, skill development and attitudes to war, that appeared to be subtly disciplining their behaviour.

A final area of literature that aligns with the findings of this research was the concept that a historically unique culture is being created through the global use of technology. Buckingham (2007) and Ito et al. (2010) both supported the idea that technology is mediating the development of a new culture of children and young people, which was evident in this research through the identification of the three dominant discourses reflecting new discursive practices of technological play. A new culture was reflected by the use of the terms 'global' and 'hybrid' identities in Boden (2006) and Peterson's (2005) description of new types of identity formation particular to the current historical era. Also contributing to the formation of identity and social communities is the way this historical era has removed barriers formed by language, race, gender or class through the use of globally accessible technologies (Lange

& Ito, 2010). Literature describing the way that children were becoming able to judge risk and manage dangers when using the internet (Jackson, et al, 2007; Livingstone & Helsper, 2010) also supports the concept of a new culture emerging for children around their technology use, one that is independent of adults. The discourse of 'technological play as risky' in this research reflected this, with the children developing a new subject position involving danger and risk, one that was independent of the adults around them.

The emergence of historically situated discursive practices and a new culture of normalised behaviour for children also suggest that a new ethical substance, what we do to behave ethically, (Foucault, 1984) may be forming for this era. This was seen in this research by the way the children were using technological play to make moral choices such as whether to look at a website or not; to obey parental guidelines; to help others within a virtual reality game; or to respond to a friend instant messaging them online. The suggestion that technological play is becoming a form of ethical substance can be observed in research involving moral and ethical development and technology use. One qualitative study interviewing fourteen 15-25 year old online gamers about the affect of virtual gaming on ethical development (Gilbert, 2010), found that young people did use ethical reasoning in gaming, and advised that morals and ethical reasoning of younger players may be more influenced by gaming. Vikaros, and Degand, (2010) also argued that video games and virtual worlds are well-suited to support the kind of user-directed social narrative play that helps to mediate moral development. These assertions have been supported by the findings that virtual reality experiences can provide insight into oneself (Lanier, 2007; Turkle, 2002) and that they can provide feelings of omnipotence but becomes narcissistic due to the one sided nature of the experience (Cote & Levine, 2002).

Other literature also supports the idea that new ethical substance could be occurring for children because of their technological play. Both technophobic and technophiliac literature could be used to as evidence of this occurrence. The changes that have been documented in behaviour resulting from exposure via technology to: sexual content (Pardun, L'Engle & Brown, 2005; Kaestle, Halpern and Brown, 2007; Tolman et al., 2007); violence (Morrisett, 2007; Murray, 2007; Browne and Hamilton-Giachritsis, 2005; Persky and Blascovich, 2007); and bullying (Erdur-Baker, 2009; Kleeb, 2007; Martini, 2010, Netsafe, 2005; Roxborough & Stevenson, 2007) suggest that technology is assisting these behaviours in becoming ordinary, accepted experiences. As moral decisions are necessary for decisions involving sexual behaviour and bullying, these aspects of technology use suggest that they are behaviours that are relevant for ethical judgement, becoming ethical substance (Foucault, 1984).

Changes in behaviour could also be observed in more positive ways where children and young people were developing self-regulating and risk management strategies when using the internet (Livingstone & Helsper, 2010). The way young people volunteered their time to teach or work with others on mutual projects creating a non-capitalistic communal culture (Ito, 2010) is another example of moral behaviour. How social networking has enabled age/class/gender/cultural barriers to be removed, creating a space that is owned by young people (Lange & Ito, 2010) is also an aspect that may be affecting moral and ethical behaviours. These behavioural changes appear indicative of ethical substance that is unique to children's use of the internet, to their technological play, and what is expected behaviour on socially based websites.

Contributions of this research

This research adds to both the human science and discourse analysis body of literature. It provides an insight to the changing sociocultural environment that children in the research were growing up in and how they adapt and accommodate this into their everyday activities. It also responds to the recommendations by social scientists for inter-disciplinary, qualitative research into children's perspective about their technology use (Ito et.al, 2010; Jackson, 2007; Lealand & Zanker, 2008; Yelland, 2007). As it involved children in the 10-12 year old 'tween' period, it provides information about this little researched developmental stage. The identified discourses highlight some of the ways that technology was affecting the children in the research, and created an awareness of how the subtle insertion of technology into the children's lives was making changes to the cultural norms of their lives.

As well as making contributions to the body of knowledge about a 'society of normalisation' occurring for children living in the present era, the actual discourse analysis contributes to the reader's knowledge about power relations within society, and how these may be affecting children. The analysis provides examples of discourse from the voices of children, a minority sector of society, showing that discourse analysis is a methodology suited to revealing the power relations in socially unequal populations (van Dijk, 2001). As well as giving the voice to children, this research provides a postmodern discourse analysis that is particular to the voice of children living in Hokitika, New Zealand. As Hokitika is a small unique community it provides information for the community that has originated from children who live there, making it relevant and believable.

Finally, this research contributes to the human sciences, particularly occupational therapy and occupational science. The cultural norms and views of reality reflected by the identified

discourses indicate that for the children who participated, technology has affected the childhood occupation of play. Play is an important discourse in occupational therapy and in occupational science, as it is viewed as crucial to children's development, including their occupational development (Royeen, 1997). An example of the occupational development discourse can be found in an edited book titled *The Essence of Play: A Child's Occupation* (Chandler, 1997). In this text Royeen positions play as necessary to prepare children for the adult roles they will need to assume, with it being an experience that civilises while nurturing the human spirit. Play is also understood to be an occupation that provides children with the experience of flow (Csikzentmihayli, 1990) because of the pleasure, joy and inner drive that it involves. Experiencing flow makes play an important developmental process in which to build and generalise skills to other occupations and activities such as work (Royeen, 1997). The positive disciplinary power of the technological games played by the children in this research appeared to create a flow like experience, with the children becoming very engaged in the games, and reporting an inner drive to complete games or continue to play them over long periods of time. Turiel (2008) described how time engaged in activity influences 10-12 year old children's social, moral, cognitive and neurological development significantly. Turkle (2002) and Cross (2005) observed cognitive changes in the way children learn as a result from their technological play. The possibility of experiencing flow while engaged in technological play and the research that supports other developmental changes from sustained activity makes it significant to consider as technological play may have an effect on the children's occupational development.

As well as occupational development considerations, how the presence of technological play may be altering the occupational possibilities of childhood play also appears important to consider. Occupations that are shaped and promoted by dominant discourses become viewed

as normal and ideal (Rudman, 2005) with occupations that are not part of this ideal discourse becoming unnatural and less valued (Rose, 1999, as cited in Rudman, 2005). The time children spend carrying out technological play activities is well documented (Beentjies cited in Fromme, 2003; Cherney & London, 2006; Crabtree, 2003; Geser, 2006; Hancox & Poulton, 2006; Koezuka et al. 2006; Ling, 2004; NetSafe, 2005; USA Department of Education, cited in Shields & Behrman 2000) and although measuring time spent participating in technological play was not an explicit part of this research, all the children in the research spent time on a daily basis participating in technological play. Occupational therapists may need to consider how technological play has become a main occupational possibility or choice for many children, and whether other play occupations are becoming less valued or unnatural.

Limitations of the research

There are limitations to qualitative research and in particular postmodern discourse analysis that are pertinent to this research. This research only reflects 10 children's perspectives based in a single geographical area and who had regular access to the internet, computers and public libraries. As well as the limitations of a small sample size, the research was based in a small rural town in a relatively isolated part of New Zealand, known to have its own unique culture (Nathan, 2009). This can be seen as a limitation or as a reflection of the global effects technology has on children, as the discourses in this research appeared to align with reports from other parts of New Zealand and other Western countries.

Another limitation of this research was that it did not capture a Maori voice. The research attempted to incorporate views from children from Maori descent, but was not designed in a

way that captured this with any depth. This was reflected in the findings, with little in the transcribed interviews that would indicate that a child was from Maori descent (which is possibly significant in itself). A working partnership with Maori would be required to attempt to investigate Maori children's current discourses about technology in relation to their cultural identity.

There were also limitations specific to choosing discourse analysis as a methodology. It is important for a discourse analysis to not remain at a micro-level, for it to be extrapolated to a macro-level that considers the social and political contexts of the text being analysed (Cheek, 1999). Within the scope of conducting this thesis it was difficult to consider all the political, economic, philosophical and historical factors that could have affected the context the children in this research were living in as these areas of knowledge were so far-reaching and specialised. In this respect, the analysis is limited to the researcher's range of understanding and knowledge of these areas.

The other limitation of discourse analysis is that it is subject to the reader's construction of meaning, and the viewing position and understandings the reader brings to the text (Cheek, 1999). This is very relevant to this research as the affects of technology on children is a topical issue for adults, whether viewed from positions of parenthood, grandparenthood, therapist, educator or academic. The positions held by myself as an Occupational Therapist, mother, and being a particular age and culture has been acknowledged throughout the thesis. These positions will have influenced the way I have understood and given meaning to the textual material in this research.

Implications for Occupational Therapy and other practitioners

As discussed earlier in this chapter, the developmental and occupational changes technological play may be influencing are important considerations for practitioners working with children. The discourses identified in this research demonstrate that this 'tween' age group participated in and experienced technological activities that may have implications for their development, particularly their social and moral development. The change in the childhood occupation of play is also a significant consideration for practitioners. The way technology-based play has become a large part of many Western children's everyday lives makes it important to acknowledge when working with a child of this culture. Practitioners may need to incorporate technological play into their practice to be relevant and engaging for children. They also may need to become familiar with popular modalities of technological play to aid with rapport and relationship building with the children they work with.

When working with children, the Foucauldian concepts of power relationships, subjectivities and discipline in relation to technology use are important to consider. Technology could be used with children who may hold subject positions that lack power or control, such as children with disabilities or mental health issues. The internet, cell-phones and console games all provide opportunities for feeling powerful and in control. With new power relations, new subject positions may be formed, potentially equalising any barriers the children may experience and allowing them to behave without the restrictions their actual self may impose. Technology could therefore be used as a tool of empowerment. However an adult practitioner may also contribute to a child's feeling of being under surveillance by using e-mail or cell-phones to contact them. By being contactable during

their ordinary day a child may feel a panoptic presence from their practitioner, particularly if they have to reply when contacted.

The disciplinary power through technological play is also something practitioners should be aware of. Understanding how children have become like they are is significant to assessing their situation. This is important, as adult therapists may judge and view actions of children from a different ethical or moral code as they have grown up in a different historical era. This may affect how the adults assess or relate to children, possibly affecting outcomes for them. Having an awareness of children living by a new moral code does not mean an adult must agree or condone this code, but adds to their depth of understanding about what it means to be a child in the present era.

Future research directions

There are different directions that could be taken from this research. Further exploration into the idea of technological play being ethical substance for children living in the present era, may provide an insight into children's worldviews and behaviour. This could involve using Foucault's concept of technologies of the self to investigate how technology is affecting the ethical development of the self.

> Technologies of the self, which permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being, so as to transform themselves in order to attain a certain state of happiness, purity, wisdom, perfection, or immortality (Foucault, 1988, p. 17).

By using this concept, the way children are creating themselves through power relations of the self to the self through technology use could be analysed.

From an occupational science perspective, another research direction could be analysing the Foucauldian concept of the positive effects of discipline in relation to flow experiences within technological play. This would provide information about the occupation of technological play, and the effects this may be having on the occupational development of children. A final area of research that could be pursued could be investigating the differences between traditional play and technological play in terms of power relations and subjectivities. The social and cultural effects this has on children could then be explored.

Summary

This thesis sought to identify the current discourses taken up by 10 children when discussing their technological play. By identifying three dominant discourses and the subsequent discursive practices and cultural norms formed from the discourses, new subjectivities, power relations and ethical substance were identified as emerging for the children. The children appeared to have been disciplined into taking up some of these discourses from capitalistic and political sources of governmentality and by the carceral system in society. The children also appeared to assume new power relations as a form of resistance to dominant discourses held by others. The technological play the children participated in appeared to provide opportunities for ethical decision making. These findings led to the thesis of this thesis: That technological play has created new opportunities for disciplinary experiences and relationships of power to occur that are creating new discourses for children

to take up. These discourses reveal a new ethical substance for this era of children, allowing new techniques for the children to constitute themselves as moral subjects.

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Appendix A

Participant Information Sheet

Date Information Sheet Produced: 7 October 2010

Project Title

Contemporary technology and 10-12 year old childhood perceptions: a critical discourse analysis

(Children talking about technology: What language reveals about children's worldviews, understandings, and beliefs in relation to everyday technologies).

An Invitation

My name is Mary Silcock, and I am a Masters of Philosophy student at Auckland University of Technology. To complete my Masters I am conducting research with 10-12 year old children. I need volunteers who would like to participate in research that is exploring children's use of technology. Your child's participation and your consent is voluntary. You may withdraw your child from the study at any time prior to the completion of data collection with no adverse consequences.

Background of Researcher

I am an Occupational Therapist who has been working with children for a significant amount of the 15 years I have been practising. I live in Hokitika on the West Coast, and have three small children. I have developed an interest in the effects of technology on children's development over the last few years, particularly in respect to the marked change in their play and educational activities as technology has become more accessible to them.

What is the purpose of this research?

This research is to help us understand about the new world children are living in where technology is such a significant part of their lives. This will contribute to my completion of a Masters of Philosophy. Any important findings from the research may be published in an academic journal or presented at a professional conference.

About the Research

The research methodology involves analysing discourses or written transcripts. In discourse analysis written text can come from transcribed interviews, newspapers, text books or any other form of written language. The language used within the text is carefully analysed for common themes that may reflect society's or a cultural group's current understanding of an issue.

In this research, interviews with children will be recorded, transcribed, and the words the children use will be analysed.

How was I chosen for this invitation?

10-12 year old children that live on the West Coast have been invited to participate. This has involved invitations through the schools, libraries, advertising in the local paper, and through word of mouth. The first five boys and five girls who volunteer will be selected, with one of each gender being of Maori descent.

What will happen in this research?

The researcher will come and visit the children at home, where their parents or guardians are present. She will talk to them about what technology they like to use, how often they use it, and other topics around using technology. The children will be asked to show the researcher the games/websites/mobile phones they have access to and enjoy using. Family/whanau are welcome to be present during the interview. The visit will be audio-taped, and transcribed, so the researcher can analyse the language used and what understandings the children have about technology. This should involve one visit of 1-2 hours.

What are the discomforts and risks?

The children may reveal aspects of their technology use that their parents are unaware of.

How will these discomforts and risks be alleviated?

A discussion will be held prior to the interviews occurring with the parents/guardians and the child involved in the study about what we agree to do if the child reveals information that they do not want their parents to know about. Privacy and confidentiality for the child is important to maintain, but if any information revealed is of potential danger to the child or to others (such as revealing contact details to strangers, accessing self harm/sexual/violence related websites, using parental credit cards without permission, accessing others' Facebook or Trade me accounts without permission), the child needs to agree that the researcher can inform their parents. If a child reveals behaviour that requires professional support, appropriate counselling will be arranged in consultation with their parent or guardian.

What are the benefits?

The benefits for the children and their parents/caregivers are that they may learn more about their use of technology, what this might mean for them, and what this is like compared to other children their age. The benefits of the knowledge created by the research will help other people understand children more and how they understand and use technology in their lives.

How will my privacy be protected?

Participants and their families will not be told who else is in the study, and all information from the interviews and home visits will be treated as strictly confidential. The data and consent forms will be stored separately, on AUT premises once analysis has been completed. Children are able to have a support person with them during the interviews, and you are welcome to be present during your child's interview. When the research is written up into the study, all participants will be given a pseudonym that they can choose. All records and documents relating to the study will be held in a locked cabinet by the researcher, with any identifying information about the participants kept in a separate locked storage container.

What are the costs of participating in this research?

The only cost to the participants will be their time. This will be approximately 30-60 minutes for an initial home visit to explain the study and what is involved, and 1-2 hours for the actual interview.

What opportunity do I have to consider this invitation?

Volunteers need to contact the researcher before 15th September 2010 if they would like to discuss participation in the research

How do I agree to participate in this research?

Parents/guardians of the child volunteer need to consent for them to participate, and the child needs to assent to being involved in the research. This will be through completion of a form at the initial home visit by the researcher.

Will I receive feedback on the results of this research?

All participants will receive a summary of the findings of the study once it has been completed.

Ethical Approval

This research has been approved by the Auckland University of Technology Ethics committee.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Associate Professor Clare Hocking, clare.hocking@aut.ac.nz ph. 09 9219162

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, *madeline.banda@aut.ac.nz* , (09) 921 9999 ext 8044.

Whom do I contact for further information about this research?

Researcher Contact Details: Mary Silcock

C/o WestReap, 72 Tudor St, Hokitika.

Ph 03 7558700

marysilcock3@gmail.com

Project Supervisor Contact Details:

Clare Hocking
Associate Professor

Department of Occupational Science and Therapy
Auckland University of Technology
Private Bag 92 006
Auckland 1142
New Zealand

Email: clare.hocking@aut.ac.nz
phone 64 9 921 9162
fax 64 9 921 9620

Appendix B

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, *Dr Clare Hocking*, clare.hocking@aut.ac.nz, (09) 921 9162.

Concerns regarding the conduct of the research should be notified to the Executive Secretary, AUTEC, Madeline Banda, madeline.banda@aut.ac.nz, 921 9999 ext 8044.

Approved by the Auckland University of Technology Ethics Committee on 27th October 2010, AUTEC Reference number 10/215

Information about the Researcher

Mary Silcock is an Occupational Therapist who has been working with children for a significant amount of the 15 years she has been registered. She lives in Hokitika on the West Coast, and has three small children.

Mary can be contacted at West Reap, 72 Tudor St, Hokitika. Ph 03 7558700, or marysilcock3@gmail.com

Children talking about technology:

What language reveals about children's worldviews, understandings, and beliefs in relation to everyday technologies.

Information for children participating in the research project carried out by Mary Silcock.

What is Research?

Research is a scientific study to understand more about a particular subject.

What will be involved in this research?

This research is studying how children talk about computers, mobile phones, playstations and other technology, to try and understand what children think about these things.

What will I need to do?

You will need to talk to the researcher (Mary) about what technology you use and show her what you do with it. Your conversation will be tape recorded so Mary can remember what you say.

Where will this happen?

This will happen at your home with the people you live with.

Can I change my mind?

Yes. At anytime you can decide you don't want to be in the study. Mary will check with you several times when she sees you that it is still OK with you to be part of it.

What do I do to be part of the study?

You need to talk to your parents or guardian and get their permission for you to participate. They can then contact Mary and she will come and visit you to discuss the research further with you. You and your parents/guardians will need to sign a permission form allowing Mary to carry out the research with you.

What happens then?

Mary will study what you and other children say about technology and write this into a report that you and your parents will get a copy of.

Will other people know what I say?

No. Everything you say will be private between you and Mary. However if you say anything Mary thinks your parents or guardian should know she will tell them. In the written report you will be given a different name that you can choose so no one will know who you are.

Appendix C

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Assent Form

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AUT
UNIVERSITY
TE WĀNANGA ARONUI O TAMAKI MAKAU RAU

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Project title: Contemporary technology and 10-12 year old childhood perceptions: a critical discourse analysis

Project Supervisor: **Associate Professor Clare Hocking**

Researcher: **Mary Silcock**

○   I have read and understood the sheet telling me what will happen in this study and why it is important.

○   I have been able to ask questions and to have them answered.

○   I understand that the interviews will be audio-taped and typed so they can be read.

○   I understand that while the information is being collected, I can stop being part of this study whenever I want and that it is perfectly OK for me to do this.

○   If I stop being part of the study, I understand that all information about me, including the recordings or any part of them that include me, will be destroyed.

○   I understand that what I say in the interview will be private, but if what I am saying may be harmful to me or others the researcher will tell my parents/caregiver.

○   I agree to take part in this research:

Participant's signature...……………………………

Participant's name...………………………………

Participant Contact Details (if appropriate):

……………………………………………………………………………………………..

……………………………………………………………………………………………..

Date:

Approved by the Auckland University of Technology Ethics Committee on 27th October 2010 AUTEC Reference number 10/215

Note: The Participant should retain a copy of this form.

Appendix D

Parent/Guardian Consent Form	**AUT** UNIVERSITY TE WĀNANGA ARONUI O TAMAKI MAKAU RAU

Project title: Contemporary technology and 10-12 year old childhood perceptions: a critical discourse analysis.

Project Supervisor: **Associate Professor Clare Hocking**

Researcher: **Mary Silcock**

○ I have read and understood the information provided about this research project in the Information Sheet dated 13 July 2010.

○ I have had an opportunity to ask questions and to have them answered.

○ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.

○ I understand that I may withdraw my child/children and/or any information that we have provided for this project at any time prior to completion of data collection, without being disadvantaged in any way.

○ If my child/children and/or I withdraw, I understand that all relevant information including tapes and transcripts, or parts thereof, will be destroyed.

○ I understand that my child may disclose information to the researcher in confidence but any potentially harmful information to my child or to others will be revealed to me.

○ I agree to my child/children taking part in this research.

○ I wish to receive a copy of the report from the research (please tick one):

Yes○   No○

Child/children's name/s : ………………………………………………………………………………………

………..

Parent/Guardian's signature: ……………………………………………………………………………………

Parent/Guardian's name: ……………………………………………………………………………………

Parent/Guardian's Contact Details (if appropriate):

…………………………………………………………………………………..

…………………………………………………………………………………..

Date:

Approved by the Auckland University of Technology Ethics Committee on 27th October 2010 AUTEC Reference number 10/215

Note: The Participant should retain a copy of this form.

Appendix E

Examples of Interview topics

What technologies does the child use everyday?

What do they like spending the most time doing? Why do they like it?

Do they belong to any social networking websites?

If they have a mobile phone, how many texts would they use per month?

Who do they mainly text?

What technology would they like to have? Why?

Do they like to play alone or with someone else?

How do they pay for their mobile phone use?

Where do they use the internet?

Do their parents control their internet/mobile/gaming use? Do they think they need to?

What do their parents think about their mobile phone/internet/computer game use?

Do their friends spend the same time using technologies as them?

Do they think technology is a good or bad part of their lives? – expand on this, why do they think this.

Do they think using technology is important for their future and why.

What would they do instead of using technology if it was suddenly taken away.

Appendix F

Pseudonym Name:

OBSERVATION CHECKLIST

Project title: Children talking about technology: What language reveals about children's worldviews, understandings, and beliefs in relation to everyday technologies.

Project Supervisor: **Clare Hocking**
Researcher: **Mary Silcock**

Internet
- ☐ Games
    Websites_____
- ☐ Social Networking
    Websites_____
- ☐ I/M
- ☐ Educational
- ☐ Favourite websites _____
- ☐ Email address
- ☐ Homepage _____
- ☐ How learnt to use_____
- ☐ Supervised

Computer
- ☐ Games
- ☐ Educational
- ☐ Creative
- ☐ Word Processing

Console Games
- ☐ Playstation
- ☐ X-box
- ☐ Wii
- ☐ DS
- ☐ PSP
- ☐ In bedroom
- ☐ In living area
- ☐ Who plays _____
- ☐ What game rating _____

Mobile Phone
- ☐ Model _____
- ☐ Features_____
- ☐ Ownership_____
- ☐ Payment plan _____
- ☐ Who pays _____
- ☐ Main use_____

MP3/iPod
- ☐ Model_____
- ☐ When use _____
- ☐ Where music obtained _____

Movies/TV
- ☐ TV in room
- ☐ DVD player
- ☐ Favourite movies_____
- ☐ Favourite TV _____

What rating watched_____