INVESTIGATING PRIMARY SCHOOL STUDENTS' HOLISTIC HEALTHCARE PRACTICES: ENABLERS AND BARRIERS: A SMALL CASE STUDY WITH YEAR SIX STUDENTS

Thesis submitted by

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DECLARATION ON ETHICS

The research presented and reported in this thesis was conducted within the guidelines for research ethics outlined in the *National Statement on Ethics Conduct in Research Involving Human (*1999*),* the *Joint NHMRC/AVCC Statement and Guidelines on Research Practice* (1997), the *James Cook University Policy on Experimentation Ethics*. *Standard Practices and Guidelines* (2001), and the *James Cook University Statement and Guidelines on Research Practice* (2001). The proposed research methodology received clearance from the James Cook University Experimentation Ethics Review Committee (approval number H2360).

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Trish Thomas **Date**

STATEMENT OF CONTRIBUTION OF OTHERS

Primary supervisor Doctor Maree DinanThompson and secondary supervisor Doctor Sharn Rocco provided supervision for this research from James Cook University Townsville. Supervision included guidance with research design, editorial recommendations and general research assistance. I would like to also acknowledge Associate Professor Hilary Whitehouse for her recommendations regarding the structuring and writing of the thesis and Suzy Grinter for editing assistance.

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ABSTRACT

The development of an Australian national Health and Physical Education (HPE) curriculum is of current interest. The debate over how this curriculum is theoretically structured and embraced by students and teachers is further intensified as educators discuss the changing role of schools to address public health. This small case study investigates the way a holistic healthcare practice program was enacted upon by Year Six students and two teachers in a low socio-economic community in North Queensland, Australia. The study illuminates how the multidimensional environment influences including political, sociocultural, physical and economic, acted as either 'enablers' or 'barriers' to students engaging in holistic healthcare practices in the students' lives in the school, home and community context. Data from this small case study highlights issues of governance of HPE curricula and teacher pedagogy as having influence on student engagement. Student data demonstrates that Year Six students see themselves as healthy, choose to enact positive healthcare practices and involve many family and community members including grandparents in their health practices. Data analysis suggests that accepted and fractured assumptions about health education exist and that through student voice a more complex understanding is represented in their engagement with health programs in primary schools.

Key words: Health and Physical Education curriculum; primary school; pedagogy; holistic health.

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Chapter 1 The Context of the Research

This case study is an investigation of how Year Six students, from a low socio-economic primary school in North Queensland, interacted with an innovative holistic health education program. Two Year Six teachers' implementation of the researcher's self-designed program provided an opportunity to observe and investigate how a range of environmental influences might act as enablers or barriers to children's engagement in holistic healthcare practices. The students' world was considered in relation to their school, home and community environments. Chapter One provides a contextual overview of the background and setting for this research project and a summary of the research problem and design. The researcher's story highlighting the researcher's position in this research, particularly as the author of the program used in this research project, is outlined for the reader's benefit at this close of this chapter.

Research Background

Personal health and wellbeing is a community concern (McMurray, 2007). There are, however, conflicting discourses over appropriate strategies required for addressing modern healthcare issues. These discourses, highlighting local and international voices, government and non-government representatives, provide the backdrop for this research. Tensions, particularly between government and educational organisations regarding the responsibility of governance of children's healthcare practices, are central to these dialogues.

Health and Physical Education (HPE) in Australian schools has been in a state of flux for the past decade. Changes were made to the HPE curriculum in Queensland in 1999, and similarly in other states throughout Australia, in order to capture the

multidimensional conceptual elements underpinning health and wellbeing (McMahon & DinanThompson, 2008). This multidimensional or holistic healthcare approach reflects the biopsychosocial/environmental concepts embedded in World Health Organization (WHO) models for personal and community health and wellbeing (World Health Organization (WHO), 1948, 1986, 1997). In this context, an individual's health needs are considered as a whole and disease is viewed as an imbalance stemming from a range of physical, emotional, spiritual, social and/or environmental issues. Environmental issues such as location, housing, access to services, parklands, etc have been foregrounded by the WHO as significant variables that may impact the quality of an individual's or community's overall health and wellbeing.

During the past decade, however, there appears to have been a narrowing of the conceptualisation and delivery of the HPE curriculum stemming from increased pressure on schools by governments to disseminate and practice primary healthcare education (Leahy & Harrison, 2008; Wattchow & O'Connor, 2003). Government school-based programs for example have resulted from considerable government and public debate about how to attenuate the highly publicised 'unstoppable obesity crisis' (DinanThompson, 2009; Nathan, Develin, Grove, & Zwi, 2005). The impact of government interventionist healthcare programs in schools has been questioned by those both 'inside' (educators) and 'outside' (families, healthcare professionals and community agents) the school gate (Gard & Leahy, 2009).

Government healthcare advocacy is viewed as problematic for several reasons. Government interventionist programs are cited as being simplistic or naïve in their approach (Germov, 2002) and reflecting neo-liberal ideas of citizens having responsibilities for personal health to promote national identity and prosperity

(Wright, Burrows, & Macdonald, 2004). Government healthcare programs, such as Eat Well, Be Active, Smart Choices, Smart Moves, 2 Fruit and 5 Veg, are generally supported by funding incentives and are noted for potentially conflicting with or taking prominence over existing curricula in schools (Leahy & Harrison, 2008). Concerns have also been raised that government healthcare programs may be based on unsound scientific or theoretical assumptions and influenced by the media (Broberger, 2005; Gard & Leahy, 2009; Kirk, 2006). Furthermore there has been limited review regarding the effectiveness of these more narrow types of approaches and the way teachers may implement them in the classroom (Cale & Harris, 2006; DinanThompson, 2009; Leow, Macdonald, & McCuaig, 2009; Swinburn, Caterson, Seidell, & James, 2004).

The breadth of interest in personal health and wellbeing in young people is extensive. There are, however, many conflicting voices and opinions. It appears, at a grassroots level, school administrators, teachers, students, their families and local communities are the key players who interact with, and respond to, varying demands imposed on them by government organisations and school authorities.

Research Purpose

The purpose of this study was to better understand the multidimensional environmental factors impacting students' engagement in holistic healthcare practices. Students' responses to the case study's holistic healthcare program was used to consider how a range of environmental factors (political, sociocultural, physical and economic) acted as either enablers or barriers to the students' engagement in holistic healthcare practices.

Research design

Case study methodology was chosen as an effective method for investigating the way Year Six classes interacted with the holistic health program. Case study allows for the examination of a particular event involving a community of players within a specific geographical location (Stake, 1995). In this case, the event was the implementation of the holistic health program. What was of interest in this particular event was the opportunity to investigate the multidimensional environmental enablers and barriers that may influence a group of students' engagement in holistic healthcare practices. The pluralistic perceptions, values and opinions of the various 'players' included those of school staff, students, families and community health professionals. The location was North Queensland, Australia.

Case study methodology requires the researcher to identify integral experiences, values and perspectives of both the researcher and the participants within the study (Creswell, 2003). Identifying researcher and participants' positions within the study was considered important. The researcher's story, included in this chapter, was purposefully positioned at the opening of this thesis, as this would allow the reader to draw their own conclusion regarding potential bias that may have influenced opinions discussed in this investigation.

Research problem and question. Two prominent issues frequently raised in discourses about HPE in contemporary schools influenced the design elements of this research. These two concerns are: The potential compromised delivery of a holistic HPE curriculum in schools; and, the delivery of HPE curriculum in low socioeconomic (LSE) communities. Providing scope to investigate the multidimensional environmental variables influencing the delivery of HPE in modern

classrooms, particularly in LSE communities, was considered important and thus integral to the research question.

The school site, and LSE classrooms in particular, have been identified as significant target sites for government to reach children with interventionist healthcare education (Gard, 2007; Kirk, 2006). Delivering HPE curriculum in contemporary schools has been described as a 'messy business' reflecting a host of competing and contrasting variables such as HPE pedagogy, teacher and student world views, government expectations, media influences, school resources and school organisation issues (Leahy & Harrison, 2008). Family and community players were also identified in the literature as contributing to this HPE curriculum delivery mix (Ronalds & Allen-Craig, 2008; Stokes-Guinan, London, Mallonee, Westrich, & McLaughlin, 2011). The overarching research question, 'What environmental (physical, political, sociocultural and economic) enablers or barriers are highlighted when two Year Six classes interact with an innovative holistic healthcare program?' guided the analysis of the broad range of variables influencing students' engagement in holistic healthcare practices. The school site selected for this case study allowed for this examination to take place in a low socio-economic community.

The case school is described by the Queensland Government Department of Housing (Qld DoH) (2008) as being located in a suburban area surrounded by a mix of cattle properties, agriculture and aquaculture. A range of commercial, medical, sporting and community services are available in the area. At the time of the study the school had a population of 503 students; 89 of those students were Aboriginal or Torres Strait Islander. Promoting government healthcare programs such as 'Eat Well and Be Active' was considered an important healthcare priority for this community (Qld DoH, 2008).

Recent school-based child health research studies have predominantly focused on children's diet/exercise healthcare practices (Leahy & Harrison, 2008; Swinburn, Egger, & Raza, 1999). The modern HPE curriculum also foregrounds the notions of diet and physical activity as prominent healthcare practices, thus supporting government funded programs aimed at 'eating well and being active' (Queensland Studies Authority (QSA), 1999). There appears, however, to be a lack of specificity about the range of rudimentary healthcare elements within the HPE curriculum. Developing holistic HPE pedagogy to address a broad spectrum of fundamental healthcare practices may therefore create challenges for contemporary teachers.

The researcher's trade marked 7 Natural Physicians (7NP) program (see Appendix A) had been designed specifically to draw teachers' and students' attention to a holistic spectrum of doable healthcare practices (Thomas, 2008). The purpose of using the 7NP program in this study was to allow for an investigation that might highlight the environmental influences on students' holistic healthcare practices beyond diet and exercise, both inside and outside the school gate.

Researcher's holistic healthcare program

Questions commonly asked by teachers wanting to know more about the 7NP program are generally about how the program was first created and how the program fits into the school curricula. The following section, the Researcher's Story, provides detail about the genesis of the 7NP program in 2004 and its development to date. This section provides an overview of 7NP curriculum. Inclusion and integrated curricula, symbolism, colour, humour and multimedia technology are all important design elements used in the 7NP program to stimulate the imagination and deliver the holistic healthcare messages creatively to young children.

The 7NP program relies on symbolism and pleasurable experiences to enhance the ease of transfer, uptake and recall of important holistic healthcare messages (Carlson, Davis, & Leach, 1998; Ginsburg & Opper, 1988). A mnemonic phrase 'Attitude is the ANSWER' is used to help students recall the seven health promotion tenets of the 7NP framework. Attitude is the first health aid and ANSWER represents the remaining six: Air, Nutrition, Sunshine, Water, Exercise and Rest. The 7NP are brought to life in the form of seven cartoon doctors: Dr Think Right (Attitude); Dr Inhale Exhale (Air): Dr Gastro Nomical (Nutrition); Dr UV Ray (Sunshine); Dr Hydrop Therapy (Water); Dr Vi Tality (Exercise) and Dr Zizz (Rest) (see Figure 1). Colour, humour, music, movement and information technology were overt design elements in the 7NP program aimed at addressing information and technology curriculum objectives and encouraging the broad community sector to engage with the program.

Figure 1. 7NP character diagram from 7NP webpage by T Thomas (author) 2008.

The 7NP program also embraces notions of inclusion by highlighting gender and cultural diversity. The 7NP doctors represent both genders and their skin tone and facial features highlight global diversity thus allowing students to make their own connections with the iconic characters. For example, some Indigenous girls have expressed their affection for Dr Vi Tality because they see that "she loves sport" and "she is like Cathy Freeman". Some students have expressed liking a particular doctor because they believe that doctor helped them improve their personal healthcare practices. "I like Dr Hydrop Therapy because she has helped me to drink more water." In some instances a connection with one of the 7NP may be more personal or seemingly obscure. For example, one student said "I like Dr UV Ray because my uncle's name is Ray." The 'gender, multicultural or personal preference' aspects underpinning the 7NP program highlight an appreciation for inclusion or 'recognition of difference' required in creative pedagogy (Qld DETA, 2002).

The 7NP program aims to foregrounds the notion that health is a community concern and various levels of expertise and care are required. Care principles, highlighting the ethical and moral foundations of teaching are evident in government citizenship educational philosophies where individuals are seen as having specific rights to freedom, safety and voice (Queensland Department of Education Training and the Arts (Qld DETA), 2007). All doctors in the 7NP program work collectively to address a wide range of physical, mental, emotional, social and environmental issues thus reflecting care and citizenship principles.

The 7NP program appreciates an integrated approach in curricula may help to diffuse time restraint pressures experienced by teachers in modern classrooms. Dr

Gastro Nomical's school vegetable garden and recycling of school scraps activity is an example of a suggested 7NP HPE/SOSE integrated unit. This unit aims to address Year 7 HPE Essential Learnings, (QSA, 2007a, p 3) "Beliefs, behaviours and sociocultural and environmental factors influence relationships and self management and shape personal development" and Year 7 SOSE Essential Learnings (QSA, 2007b, p. 3) "Sustainability requires a balance between using, conserving and protecting environments, and involves decisions about how resources are used and managed, i.e. 'rethink, reduce, reuse and recycle'; renewable versus non-renewable energy sources." Teachers may also choose to creatively include additional curricula such as literacy, numeracy and/or science in this unit.

The tables on the following pages are provided to familiarise the reader with the way the program is currently being used in primary schools and Early Years centres. The zero to five version of the 7NP program is called 7NP Simple Messages. Table 1 provides an overview of the 7NP elements, doctors, curriculum and 'Simple Messages'. Table 2 demonstrates shows how a school may use the 7NP program to integrate the individual mind, body, social and ecological elements of the HPE curriculum. Table 2 also shows how the 7NP healthcare education may be presented to students sequentially and developmentally throughout their primary school years. Teachers may choose to work with the 7NP program laterally, where the elements of health are defined, and/or vertically where the depth of curriculum for each 7NP element is addressed. Resources are central to the 'facilitation of' or 'engagement in' the 7NP program.

Table 1. *7NP and Simple Messages Curricula by Trish Thomas*

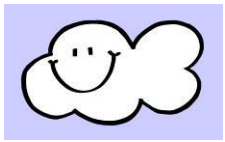
7NP Elements	Attitude	Air	Nutrition	Sunshine	Water	Exercise	Rest
7NP Names	 Dr Think Right	 Dr Inhale Exhale	 Dr Gastro Nomical	 Dr UV Ray	 Dr Hydrop Therapy	 Dr Vi Tality	 Dr Zizz
7NP Primary School Curriculum	Managing Emotions Communication Problem Solving Culture and Spirit Teamwork	Breathing Posture Voice Production Stress Management Clean Air	Food Science Healthy Food Choices Cultural Foods Attitude to Eating Oral/Dental Hygiene Vegetable Gardens	SunSmart Vitamin D Colour Happiness Solar Power	Hygiene Hydration Water Sports & Safety Water Conservation Water Sciences	Sports and Recreation Anatomy & Physiolog Dance Team Sports Safety Rules	Sleep & Rest Sleep Science Hobbies & Recreation Meditation Designs for Resting Places
7NP Icons							
7NP Simple Messages Zero to Five Years Curriculum	Listen Laugh Learn Love Act	Stand up tall Breathe Sing Talk Cloud gaze	Look Taste Smell Enjoy Grow	See Colours Shine Be SunSmart Be happy	Drink Swim Feel water Clean up See the rainbow	Play Have Fun Alone Together Focus	Sleep Rest Dream Imagine Star gaze

Table 2. *7NP whole school holistic healthcare curriculum overview by Trish Thomas*

Doctor	**Yr P-1 Meet the 7NP**	**Yr 2-3 Pets and the 7NP**	**Yr 4-5 7NP GP Visit**	**Yr 6-7 GES who's BOS?**
Attitude **Dr Think Right**	Emotions: Define a variety of emotions e.g. joy, sorrow, anger, anxiety fear, surprise and meditation Expression: Use Dr Think Right's 4 Steps to Managing my Emotions as a tool to help students get in touch with their feelings and to take control of their emotions Communication: Courtesy and acceptable social behaviours	Emotions are universal Even pets experience emotional states Decision making: Emotions are changeable and involve choice Conflict/resolution: Problem-solving using all 7NP to manage strong emotions Calming strategies Co-operation negotiation	Emotional States: Impacted by relationships at school, home and away from home Problem Solving Topics – teasing, bullying, being left out, etc versus meeting emotional needs, building self-esteem, group harmony, etc (Glasser) Communication: Verbal/ Non-Verbal cues: body language, gesture, facial expression Anatomy and Physiology: The Brain: Central Nervous System and areas of the brain	Emotional faces: Tell-tale signs young/old/wrinkles/wisdom/ experience. Consider roles, responsibilities toward stabilising emotions Philosophers/philosophy: GES: Genetic, Environmental and Social influences: gender/ cultural identity, mentors BOS: Brain, Orientation and Seven Natural Physicians Goals: Attitudes, values and beliefs Devise personal short, mid and long term goals (de Bono) Anatomy and Physiology: Limbic System and brain geared for survival
Air **Dr Inhale** **Exhale**	Posture: Identify the difference between good and poor posture Practice good posture Breathe for emotions, relaxation and exercise; clear airways Breathe for voice: Control and variation e.g. soft < loud; fast < slow	Breathing for relaxation, calming emotions and clear airways Good posture requires effort and habitual practice Breathing follows rhythmic patterns Voice variations: pitch, pace, pause and volume Pets and need for oxygen	Voice: Group recital, choral presentation. Concepts: harmony, contrast, call and response Emotions: Breathing for holistic health and wellbeing Anatomy and Physiology: Respiratory System Importance of the diaphragm and posture (Refer Musculoskeletal Systems - Exercise)	Postural and phasic muscles: Identify personal postural weaknesses and design exercises to develop core strength Breathing for emotional stability and relaxation combined with visualisation of goals Voice: Use dynamics of voice to enhance oral presentations
Nutrition **Dr Gastro Nomical**	Good foods and good digestion: Australian Guide for Healthy Eating – healthy foods Eating: is a sensory experience It involves sight, touch, smell, taste and sound It takes time, focus and gratitude Vegetable gardens	Diet: all life forms have some sort of diet. Animals - Food chains Humans - 5 food groups (AGHE); 'a lot, some and a little of' Nutrition: Balanced diet for healthy brain function, growth, energy production and emotional health Eating involves using the senses	Nutrition: Revise the AGHE healthy food plate - some, a lot, a little Classification and role of foods for the body: fats, proteins, carbohydrates, vitamins and minerals Healthy recipes and the 'Art of Eating' Anatomy and Physiology - Digestive System	Nutrition: Revise the AGHE and classification and role of foods Food for: - sport - geography and climate - optimum health - body image - brain function and emotional stability - recycle school wastes, compost and vegetable gardens
Sunshine **Dr UV Ray**	SunSmart: Reminders regarding daily SunSmart practices for protection and long term wellbeing Sunshine is good for our body It keeps us happy and helps us to grow strong	Sunshine affects life forms differently e.g. nocturnal animals or shift workers Sunlight: Impact on growth SunSmart habits practiced in a variety of contexts e.g. holidays, sporting events, etc	Sun Damage: The facts - UV index alert, radiation and skin cancers Role of vitamin D Dehydration from activities in the sun (Combine with Dr Hydrop) Sun Topics: Growth/adaptations, reptiles, solar system, history and solar energy Anatomy and Physiology: Integumentary System	Sun Damage: People and personal experiences regarding sun damage SAD: Lack of sun SunSmart: 'Cool Designs' - consider factors to suit the climatic conditions, e.g. clothes, social activities, sporting events, place, etc Sun Topics: Solar power, space inventions, colour – photo-science

Table 2 (continued). *7NP whole school holistic healthcare curriculum overview*

Doctor	**Yr P-1 Meet the 7NP**	**Yr 2-3 Pets and the 7NP**	**Yr 4-5 7NP GP Visit**	**Yr 6-7 GES who's BOS?**
Water **Dr Hydrop Therapy**	Water for: - mental health and alertness - all internal body functions - hygiene - playing in and with - rain and conservation - safety - rainbows	Water cycle: Conservation Water uses: Hygiene, community, domestic activities, sports and safety Water needs for humans and for wild life in relation to heat produced from physical activity and sunlight	Water facts: Circulation - transport of nutrients Body Composition - water content Hygiene Water sports: Safety Water in the local community, waterways and irrigation Anatomy and Physiology: Urinary and Circulatory Systems	Water for Health: Disease – water for elimination of waste products Dehydration: Effects of drugs and alcohol Water pollution and purification Water sports Water around the world Conservation
Exercise **Dr Vi Tality**	Movement is natural, enjoyable and good for the body Physical Education: Explore body awareness, physical effort in a variety of forms, e.g. dance, sport, movement and ball games Observe the physiological and psychological changes	Movement: Explore further principles of movement in relation to other people and objects, e.g. stability, force, strength, flexibility Observations: Before and after exercise Study the heart, breathing rate and skin responses; physical, mental and emotional changes Explore various forms of exercise, consider personal preference Consider pets' needs for exercise	**'For every action there is an equal and opposite reaction'** **- Newton's 3rd Law.** Fitness Testing: Run a standard fitness test. Design a daily fitness program for the class and modify for special needs students Observe changes: physical, mental and emotional Community Opportunities: accessibility, team member skills, cultural values/attitudes Anatomy and Physiology: Musculoskeletal System	Athletes: Training Programs Fitness: Personal fitness program - develop specific sporting skills using a variety of strategies Chart progress: heart rate, endurance, strength and flexibility Observe changes: physical. mental and emotional Health Professionals: Research specific sports History of Medicine: traditional, modern, alternative, complimentary, integrated WHO: World Health Organization – definition of health
Rest **Dr Zizz**	Rest helps me to grow and keeps me happy Rest is not only when you are sleeping Relaxation comes in a number of forms, e.g. meditation, hobbies, pets and socialising with friends	Resting places: Features of safety and comfort Consider this in respect of personal preference for humans and for wildlife Sleep: Personal needs and impact from too much or too little sleep Meditation: Restful stories that aid relaxation and inspire artistic creativity	Purpose of Sleep: Growth, repair, emotional and mental rejuvenation Age and sleep needs Meditation: Progressive muscle relaxation and visualisation Anatomy and Physiology: Hypothalamus Circadian rhythm - sleep cycles	Rest for Good Health: Rest from technology - television, mobiles, computers, etc Stress Management: Rest journal - record emotional and physical responses to rest Consider behaviour modifications to improve health and wellbeing Risk Assessment: Environments, behaviour and safety skills Anatomy and Physiology: Autonomic Nervous System, Sympathetic and Parasympathetic Nervous Systems NOTE: Anatomy and Physiology: All body systems to be revised for Yr 6

7NP resources. At the time of the study a 7NP website www.7NP.com.au was available which hosted a range of teacher and student curriculum resources and healthcare information for parents and the wider community. The website was upgraded in 2009 and, with permission from teachers and their school Principals, a range of teacher 7NP unit exemplars were added. The 7NP Teachers' Guide, year level units, blackline masters, 7NP healthcare questionnaires, individual 7NP graphics and key messages, accessed from the website, were all used in this study.

During a 7NP professional development training day, class teachers are encouraged by the facilitator to have their students complete a 7NP health questionnaire which can be accessed from the website. The results of this questionnaire should help familiarise teachers with their students' understanding of healthcare concepts and current engagement in holistic healthcare practices. Teachers are then encouraged to co-create a HPE curriculum unit to suit the healthcare educational needs of individual students in the class. The author's approach aligns with lisahunter's (2006a) and Tinning, Wright, Burrows & Macdonald (2004) suggestions for developing a student-centred curriculum based on the strengths and needs of their students. The author similarly favours a 'bottom-up' approach, so that students may have the opportunity to engage in a personal health and wellbeing investigative study based on their considerations of which 7NP is, or are, most relevant to them. Engaging the students in doable, affordable healthcare practices, as highlighted by Cale & Harris (2006), is hoped to increase the potential for these healthcare practices to continue into adulthood. The 7NP program was used in this study as it addressed a gap for primary teachers in school-based healthcare resources that are holistic.

Examples of 7NP assessment rubrics are also provided in the members' area of the 7NP website. Biggs' SOLO taxonomy is used to define the developmental stages of learning in the 7NP program (Biggs & Collis, 1982). For example, at a 'uni-structural' phase of development the students may grasp an understanding of a range of individual healthcare facts; at a 'multi-structural' stage students may recall all the doctors, the acronym and a number of associated healthcare facts; at a 'relational' stage students understand the way the 7NP may work synergistically (i.e. nutritional, water and rest needs may increase when physical activity levels increase) and at an 'extended abstract' conceptual stage students may be able to problem solve hypothetical healthcare scenarios.

The 7NP program and resources have been existence since 2004. Over the past seven years there has been significant contributions made to the program from classroom teachers, school executive staff and students. The 7NP program is still in an evolutionary phase of development.

Significance of research

Multiple immediate and long term effects were anticipated as a result of this research project:

a) For **students**, the holistic healthcare education was expected to raise their awareness of how a range of healthcare practices may work synergistically to influence their attitudes and healthcare practices. These personal choices should be understood in terms of their significance for positive lifelong health outcomes as prescribed in Australian Government health promotional programs (Aus DHA, 2008a). A flow on effect into some families was also anticipated.

b) For **teachers**, the research project would provide a structured reflective HPE curriculum/pedagogical practice opportunity (Queensland Studies Authority (QSA), 1999). For example, it was anticipated there may have been shifts in teacher thinking and that health notions might be taught more holistically in their classrooms.

c) For the **school,** the experience may influence school policy regarding holistic healthcare practices or HPE curriculum delivery ((International Union for Health Promotion and Education (IUHP), 2006). It was anticipated that long term other schools may be the beneficiaries of this school's case study experience.

Future implications. The complexity of escalating child health issues in Australia has mandated that schools and local communities work collaboratively to attenuate child health problems (Aus DHA, 2008b; Queensland Government (Qld Gov), 2006). Creative models that demonstrate supportive, specialist community interventions have been highlighted as an important resource (P. Abel, personal communication, September 14, 2006; Yager & O'Dea, 2005). (Abel, 2006; Yager & O'Dea, 2005)This study may potentially help by adding to the growing research of collaborative school and community based partnerships, where seeking to improve school-based holistic healthcare intervention programs to address child health-related issues is considered important.

Researcher's story

Foregrounding the researcher's position is particularly important in both quantitative and qualitative research (Lather, 1986). Patton's (2002) recommendation for identifying aspects of the researcher's background such as relationship to the

study, to the subjects or funding support is therefore included in this chapter. Allowing the reader an opportunity to uncover any partiality in the researcher's recount or analysis of the participant's experiences is understood to be highly important in this research.

The researcher in this case study assumed three distinct roles: 1) as author of the 7NP holistic health program used in the study; 2) as facilitator of the 7NP health program in the school and 3) as researcher responsible for designing the study, collecting data and retelling the story. The following personal account, outlining the development of the holistic healthcare program, community support, government funding and uptake in the schools is provided to shed light on the researcher's position within this case study.

Authoring the 7NP program. The genesis of the 7NP holistic healthcare program emerged from my personal interest in adult healthcare practices. Persistence in developing the children's holistic healthcare program, despite lack of funds, was fueled by a professional interest in children's holistic healthcare practices.

In 2003, after 20 years of being involved in primary school classroom teaching, distance education and teaching Art, Drama and Studies of Society and Environment (SOSE) in the high school, I left teaching and began working as a remedial massage therapist in my husband's naturopathic clinic. During that year I developed an eight-week weight management course called Comfortable in my Jeans (CIMjeans). CIMjeans was designed to provide an educative holistic approach to weight loss for adults. Twenty years of anecdotal evidence in the clinic had clearly shown that achieving weight loss through adhering to a sensible diet and exercise regime was within the reach of the majority of patients. Keeping the weight off or maintaining the goal weight, however, was not so accessible.

Heavy workloads, pressing time schedules and commitment to career were commonly cited as reasons for individuals not achieving their personal health goals. Many CIMjeans' participants echoed contemporary medical professionals sentiments highlighting a common awareness in the community around people knowing they should eat less fattening foods and exercise more (Blair-West, 2007; Broberger, 2005). The challenge lay more in uncovering why they didn't change or act on this knowledge. Neuroscientist Christian Broberger (2005) explains the reason for such repeatedly high failure rates for weight management through diet and exercise regimes is due to genetically hardwired messages in the human brain geared for energy conservation. These survival messages prioritise the hunt for food sources such as fats, salts and sugars. Biomechanical energy conservation survival messages in the brain are evident in the way the body will sit in preference to standing or walk instead of running. Neel (1962, p. 352) states, "It appears that 'we are battling ancient systems maintained by 'thrifty genes' that favour the preservation of energy stores."

CIMjeans' holistic approach to weight loss was designed specifically to broaden the client's diet/exercise focus for healthcare. The program slogan "it is not about fatness or skinniness it is about understanding, balance and vitality' was underpinned by a foundational curriculum called the 7 Natural Physicians (7NP); a concept introduced to Rob during his naturopathy studies. The 7NP elements include attitude, diet, sunshine, sleep, water, air and exercise. Research results during the last decade indicate the significance of these elements. For example, sleep deprivation, dehydration and attitude have been highlighted as important elements in health and wellbeing, including managing weight fluctutaions (Ader, Felten, & Cohen, 2000; Batch & Baur, 2005; Dodd, Biggs, Agley, Dollman, & Lushington, 2008). CIMjeans also drew on Howard Gardner's principles of multiple intelligences and utilised

colour, art, music, dialoguing, writing, mathematics and a kinaesthetic approach to addressing and solving weight associated problems (Gardner, 1993). Piaget, Glasser, Erickson and Edward de Bono were additional educational theorists whose theories and practices were also referred to during the course to help inspire, motivate and empower the participants (de Bono, 1985; Ginsburg & Opper, 1988; Glasser, 2004; Killen, 2007; Piaget, 1972).

CIMjeans' participants, including several teenagers, found the 7NP framework a useful diagnostic tool and prompt to engage in the more 'doable' healthcare practices. These included getting more rest, taking deep breaths to relax the body and drinking more water. Identifying attitudes and habitual behaviours previously undermining their efforts to achieve personal health goals was the most challenging aspect of the healthcare endeavour. By the end of 2003, a number of local health professionals who had become aware of CIMJeans expressed support for the efficacy of the program. The highly publicised obesity issue amongst children, together with the support of health professionals and the success I was observing amongst teenagers, prompted me to consider a way of adapting the 7NP principles for primary school aged children. The overarching aim for an adaptation was to reach young families so that holistic health messages and practices might become familiar and routine during the early years of development.

How to gain status on a school's busy curriculum timetable emerged as the next major challenge. Contemporary HPE programs adopted by schools are required to demonstrate an ability to support HPE curriculum objectives, a productive pedagogies approach and health promotion strategies for Australian schools (Queensland Department of Education and Training [Qld DET], 2002). Healthcare programs in schools also generally reflect the 21st century techno-info-tainment

consumer society. Johns (2005) talks about considering the way contemporary techno-savvy students think and respond to colour, humour, music, movement and information technology when creating meaningful curricula. The primary school HPE curriculum, pedagogy, government program and techno info-tainment became the broad criteria used in the design of the 7NP program. The goal was to entice both facilitators and learners to increase the chances of the 'uptake of' and 'engagement in' holistic healthcare messages.

Teachers' and students' feedback was critical during the development phase of the 7NP curriculum and resources. Responding to the teachers' suggestions, after an initial pilot of the program, sequential year level units were developed demonstrating ways to integrate the 7NP program with existing curricula. By 2008 a 7NP website www.7nps.com.au to host curriculum resources, student games and 7NP healthcare information was operational.

7NP community support and government funding. During the early implementation phase the 7NP program gained a series of government funding grants. Gaining support from medical and child welfare focused groups was considered important to help position the program in participating schools. Linking up with local community services effectively opened doors for funding opportunities for the 7NP program.

A commitment to naturopathic philosophies and holistic health and wellbeing has always been integral to our family's lifestyle. Over the past three decades, my husband and I have observed considerable change in the attitudes of governments and modern medical practitioners to naturopathic, or what was were once termed as 'alternate', healthcare practices. Indeed, the resistance on both sides from the medical dominant group and natural therapists in Australian society has lessened significantly.

Terms such as ‘complimentary, integrated or allied’ are now commonly used in lieu of ‘alternate’ healthcare practices. The Australian Government’s Medicare Locals primary healthcare delivery model is perhaps a good example of how this modern medicine/alternate naturopathic relationship has been shaped to incorporate a range of healthcare providers and services (Australian Department of Health & Ageing (Aus DHA), 2011).

Motivation to have the 7NP program accepted by local schools and healthcare professionals stemmed primarily from an altruistic concern. However, the need to ‘keep the family fed’ and survive the challenges facing small business in Australia meant that financial compensation was important to cover the time and cost of resources that were being invested in creating and developing the program. For the 7NP program to gain recognition I was aware it would need to be endorsed by both the school and the professional health sectors. From my teaching experience I was aware there was a lack in holistic healthcare resources which would increase my chances of gaining some measure of acceptance in the schools. I wasn’t as confident regarding the type of responses I might expect from the some professionals in the health sector. At the time there was high publicity about the Therapeutic Goods Association exposing a large pharmaceutical company for a lapse in their quality control practices which resulted in defective products being recalled. Natural health practitioners were concerned that the publicity would nurture public nervousness and scepticism in natural healthcare products.

The 7NP was first trialed in 2004 in a primary school where the Principal and nominal staff expressed interest in adopting the program as a part of their HPE school curriculum. The 7NP program was identified as being supportive of addressing learning outcomes identified in the HPE curriculum. A small Australian Health

Promoting Schools Grant helped to fund this project. In all funded 7NP projects a written agreement between the funding partners and myself is signed stating that the intellectual property of the program remains with me. Any of the teacher's resources created during this time would remain in the school and were agreed to be made available to other teachers or schools, via myself as the program author, with the school's consent.

At the beginning of 2006 I was contracted by the Townsville General Practice Network to source funding to run a pilot study based on the 7NP program. Although there was some resistance from individuals in the health sector, the majority of health professionals and organisations who reviewed the program acknowledged that the 7NP framework was useful for linking together a wide range of existing state and national healthcare programs. Despite lack of success in gaining funding, a pilot study took place in 2006 and 2007. Ethics Approval from James Cook University was obtained for this small research project (see Chapter Three). The pilot study involved 13 teachers and 305 Year Four to Six students in three schools in LSE communities in North Queensland.

The purpose of the 7NP pilot study was to further develop and implement a community based education program to assist with improving children's general health and wellbeing. The 7NP general health knowledge questionnaire completed by the students before and after implementation of the 7NP curriculum revealed gaps in students' understanding of basic healthcare practices, such as how much water they needed to drink each day, how much physical exercise they should engage in daily or how much sleep they required each night. The students also appeared confused about a number of the health messages outlined in the Australian Guide for Healthy Eating (Aus DHA 2001a). The need to further refine and develop the 7NP program and to

investigate student understanding of health promotion recommendations was apparent. Increasing the potential of student's engagement in ongoing preventive healthcare behaviours remained a priority.

In 2007, two of the schools engaged in the pilot study described above, worked with the local General Practice Network to secure a three year Community Renewal grant to implement the 7NP holistic health program in their schools (Qld DoH, 2008). Community Renewal projects, established by the Queensland Government Department of Housing in 1988, target capacity building initiatives in low-socio economic communities by facilitating partnerships between the State, local governments, business, residents and the community sector. The 7NP program was further developed during this time. Rob joined me by providing professional development for staff on 7NP health education as a support for managing stress. The teachers drew on this training to help with the development of their own 7NP class units. Rob and I also devised and presented a humorous 7NP puppet show to a group of students. The puppet show effectively launched the teachers' HPE units by introducing the students to the 7NP concept and highlighting each physician with their key healthcare messages. The success of this funded pilot led to 7NP being taken into eight other Community Renewal zones throughout Queensland. As word spread, The Smith Family, Communities for Children and Western Australian Department of Health also accessed funding to implement the 7NP in their schools, healthcare and childcare settings.

The Community Renewal combined zones project engaged an external evaluator who found that the teaching staff embraced the program for several reasons (Pain, 2009). The 7NP:

- supported HPE curriculum objectives

- encouraged the use of creative, integrated pedagogies
- aligned with national health curriculum objectives and health promotion strategies for Australian schools
- engaged the whole community

The uptake of the 7NP as a program with the potential to benefit communities where young families were recognised as living with socio-economic disadvantage warranted investigation. To facilitate an understanding of how this potential might be maximised, I enrolled in a Masters of Education (Honours) at James Cook University. This led me to ask one of the local schools in the original Community Renewal funded project if they would like to be the site for this case study. This particular school already had a working relationship with researchers from James Cook University.

Chapter 2 Literature Review

This chapter presents a literature review that informed this case study. The implementation of a Health and Physical Education (HPE) curriculum, as a dynamic pedagogy in schools is influenced by a host of political, social, physical and economic influences. Similarly, the students' uptake of the HPE curriculum is dependent upon and responsive to multidimensional environmental influences. Further, students living in low socio-economic (LSE) communities in this review are highlighted for having unique issues.

Introduction

HPE education in schools has been in a state of flux for the past decade. Reforms were made to the HPE curriculum in Queensland in 1999, and in other Australian states, to capture the multidimensional or holistic conceptual elements underpinning health and wellbeing (McMahon & DinanThompson, 2008). Further interest in the way the HPE curriculum is theoretically structured, implemented by teachers and embraced by students has been heightened recently with the development of an Australian national HPE curriculum.

The purpose for this literature review is to examine literature about student healthcare education and practices in primary schools. Particular to this review is a growing concern amongst educators over the schools changing role for addressing public health issues (Gard & Leahy, 2009; Johns, 2005; Kirk, 2006). McCuaig (2006, p 65) summarises this dilemma:

> School communities often feel that they bear the burden to fix all of society's ills including the level of family breakdown, violence, drug abuse, suicide, mental health and the rising incidence of obesity to name a few. However,

> many health and education professionals acknowledge that 'teachers are employed to teach students – not to solve society's health problems'.

Issues around governance and power relationships influencing HPE pedagogy in classrooms are central to this concern.

Schools have traditionally been cited as a strategic site to reach children and their families with the intent of improving the nation's health status (National Health and Medical Research Council, 1997). Access to families and lengthy periods of time spent with students, based on compulsory attendance laws, have been highlighted as positioning schools favourably to fulfil government policies and practices (Leow, et al., 2009; Mohammadi, Rowling, & Nutbeam, 2010). Children's health issues in the school context have traditionally addressed issues such as quality and frequency of physical activity and sports, personal management of health and the healthcare role of the community. In more recent times, within the context of rapid social change, issues such as the quality of children's lunch boxes, gender issues in sports, mental health, sexual health, addictive substance abuse, bullying, in particular cyber bullying, and aggression prevention have become child health government concerns (Australian Government, 2012; Edith Cowan University Western Australia, 2012).

Governments have become increasingly concerned with whether or not children are growing up in a safe environment. The Australian Government has gathered a variety of data to illustrate 'A picture of Australia's children' (Australian Institute of Health and Welfare, 2009). Issues such as exposure to environmental tobacco smoke, homelessness, literacy and numeracy challenges, children as victims of violence, neighbourhood safety, and parental health and disability are current influences highlighted in the data for impacting children's developing health and

wellbeing. Children in Indigenous and low socioeconomic communities are depicted as being 'most at risk'.

The limitations of this thesis prevent exploration of the depth and breadth of contemporary child health issues. Obesity has therefore been selected as a topical child health issue that will be used as a mechanism for contextualising illustrations of power relations relevant to this research. To examine this issue of the schools' emerging responsibility to address public health concerns, the hierarchical governance that shapes HPE policies, curriculum and practices in schools will be examined. At the top level of the hierarchy is the World Health Organization (WHO) and public health agents responsible for defining healthcare models, prioritising social diseases and determining healthcare remediation strategies. In the middle sector national and state governments act as mediators to schooling organisations. School staff, students and their families are positioned at the lowest rung of governance in the hierarchy. As the literature review unravels, the conflict experienced by teachers and students at the grassroots level appears, as Leahy & Harrison (2008) and Burrows (2005) suggest, a 'messy business'. A pictorial synopsis of the literature review can be found on the following page (see Figure 2).

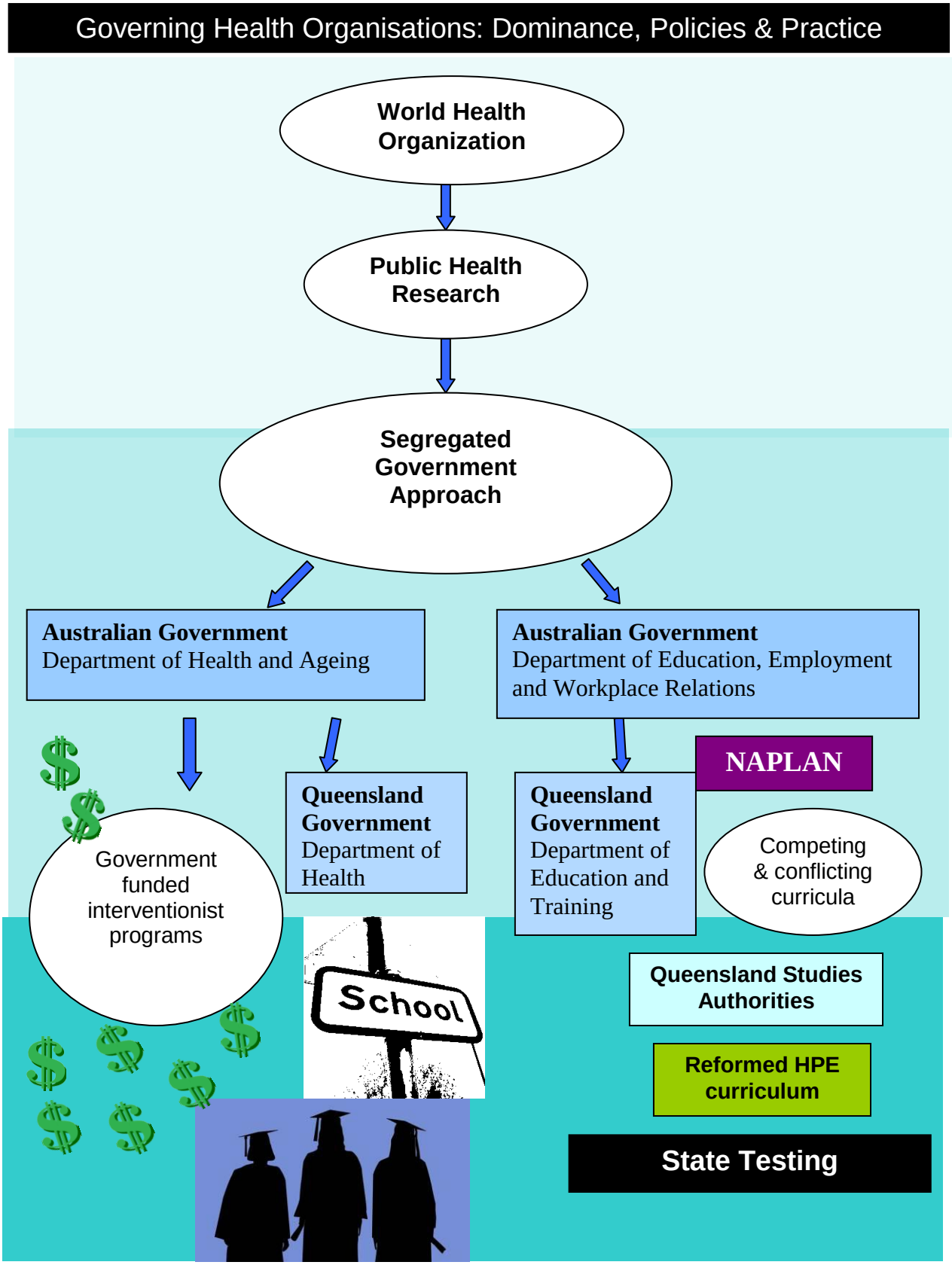


Figure 2. Hierarchical governance. A pictorial synopsis representing the hierarchical flow of political governance highlighting a range of factors that may influence HPE pedagogy in contemporary schools.

Health models and governance

Health models provide frameworks for the professional community to manage the analysis, treatment and educational elements of health and wellbeing. Ultimately, these actions are designed at benefiting both the individual and the community (Parizkova & Hills, 2005). History provides evidence of a range of diverse health models. In contemporary societies the World Health Organization (WHO) is credited for providing an international holistic medical model used for guiding public health research activities which in turn influence the development of government policies and practices (Lohrmann, 2010; McMurray, 2007).

Holistic health models have been evident in Western and Eastern societies since ancient times. Holistic health models, which acknowledge an individual's life experiences as interactions between their mind, body and spirit and the environment, have underpinned many of societies' political, religious, cultural and medical traditions (Craven & Hirnle, 2007). Ancient Greek medical practitioner Hippocrates, often referred to as the Father of Medicine, taught an appreciation of health and wellbeing with respect to a range of influencing factors including diet, climate, work environments, social relationships, access to water and rest (Phillips, 1973). Pre-Hippocrates Western theorists speculated on notions of change and stability within an ordered universe. Understanding natural elements such as earth, wind, fire and water and seed formation principles for influencing growth and change were also foundational to Western understanding of health and wellbeing (Conrad, Neve, Nutton, Potter, & Wear, 1995). Similarly natural universal laws and the earths' elements, such as 'fire, earth, water, air and space' in Ayurveda traditional Indian medical systems and 'wood, fire, earth, metal and water' in traditional Chinese medicine, were central to understanding and treating disease in ancient eastern

cultures (Fulder, 1996; Shankar, 2010). Ancient medical philosophies reflected an amalgam of speculative thought about the internal workings of the body in relation to their observations of the universe and nature.

During the 17th Century, Cartesian Dualism emerged as a dominant reductionist healthcare model (Bracken & Thomas, 2002). Descartes' dualism theory surmises the material body and the immaterial mind are discrete entities consisting of unlike substances which interact with one another. Descartes' renowned quote, "I think therefore I am" positioned thoughts as being responsible for physical responses (McCuaig & Hay, 2009, p. 200). Whether the mind is 'superior, equal or inferior' to the body has been noted for influencing a health educator's choice and justification around educational initiatives and sports training practices (Hay & Macdonald, 2009; Smith, 2007). Reductionism, stemming from dualism theories, contrasts significantly to the ancient holistic appreciation of the body.

Today, the WHO's healthcare model has marked a return to the Hippocratic social view of health. The WHO's multidimensional health model overrides dualism ideologies ensuring that health should be thought of beyond the parameters of the mind and the body. The WHO (1948, p. 100) originally defined health as "a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity." The Ottawa Charter for Health Promotion' (WHO, 1986) and The Jakarta Declaration (WHO, 1997), two prominent WHO documents commonly cited as underpinning public health research and the formation of government health policies, provided further context for the way health is currently defined (Nutbeam, 1998).

The Ottawa Charter for Health Promotion (1986) reasoned that to reach the state of total well-being, individuals must have and know how to use, their physical

capacities, and personal resources. Five strategies were identified for health promotion: building healthy public policy; creating supportive environments; strengthening community action; developing personal skills; and reorienting the health services (WHO, 1986: p. 2-3). Spiritual wellbeing was also cited as an important and integral element for health promotion. More recently, the Jakarta Declaration on Leading Health Promotion into the 21st Century placed an emphasis on the social justice and ecological factors impacting individual health (WHO,1997). The Jakarta Declaration (1997, p. 2) states that the prerequisites for health are "…peace, shelter, education, social security, social relations, food, income, the empowerment of women, a stable eco-system, sustainable resource use, social justice, respect for human rights, and equity. Above all, poverty is the greatest threat to health." The holistic model identified by WHO may be referred to as an ecological health model and issues such as national prosperity and postcodes will be implicated in government policies and outcomes (Lindau, Laumann, Levinson, & Waite, 2003; Queensland Health [Qld Health], 2007).

The Health Promoting Schools model, a framework to assist schools in addressing health issues, was strongly promoted by the WHO and has been implemented in many countries throughout the world (Australian Health Promoting Schools Association, 2008). The success of health promotion in schools requires a coordinated partnership between the health and education sectors. A Health Promoting School's approach identifies a range of activities, such as teacher training for curriculum development, community participation, changes to school health policies and practices and ongoing research, to help foster a comprehensive approach to child health issues in the school setting.

The Australian Health Promoting School's framework acts as a guide and consists of six areas or checkpoints for health promotion in schools. These are school health policies, the physical school environment, community relationships, personal health skills and health services. The challenge for health promotion in schools appears to have arisen from the differing goals of the education and health sectors (St Leger, 1998). Both agree on the importance of school health. The health sector favours a more scientific 'fix it' approach and is interested in measuring specific health indicators and looking for changes in health behaviours. The education sector, however, favour a 'build it' strengths based approach thus upholding principles and practices in learning. The educational perspective privileges an education orientated approach for health promotion, thus highlighting the social determinants of health.

The concept of health literacy is integral to an appreciation of the social determinants of health. Nutbeam (2000, 2008) defines health literacy in terms of three domains including skills and knowledge; critical analysis through understanding the social determinant of health and an engagement in collective action to promote and maintain good health. At a functional health literacy level, individuals are reliant upon having basic reading, writing and literacy skills to gain sufficient information about risks and services in the community so they can make choices and act on that knowledge. At a communicative or interactive health literacy level, individuals rely on being able to derive meaning from different forms of communication and can apply that information to changing circumstances. In this instance community groups may challenge social norms to improve individual and community health and wellbeing. For critical healthy literacy, which is perhaps the most significant, individual resilience implies social and economic diversity. Individuals using higher cognitive and social skills to critically analyse health information may use this

knowledge to exert greater control over life events or situation through community action. This approach, importantly, recognises there are issues of power that may impact access to healthcare information. How, when or where information is disseminated or what types of information may or may not be promoted within a given community can all reflect issues of hierarchical dominance and governance.

Governments have been responsible for identifying national health priorities. Cardiovascular health, cancer control, injury prevention, mental health, diabetes mellitus, asthma, arthritis and musculoskeletal conditions and obesity have been identified by the Australian Government as our national health priorities (Australian Institute of Health and Welfare, 2011). Power and governance issues are particularly evident when healthcare problems and interventionist strategies are being developed by public health organisations to address community health and wellbeing.

Public health research models. Public health agencies are responsible for providing the community with information regarding the definition, treatment and education of disease. Concerns have been raised about the practical application of the WHO's biopsychosocial/ environmental medical model in public health research. The breadth and synthesis of the multidimensional elements of health has meant there is substantial variance for explaining the causal influences of morbidity and mortality. Concerns are raised when there appear to be flaws in public health research approaches and practices (McLaren, 2002).

Public health researchers or epidemiologists investigate the incidence or patterns of health or disease in a given community or population (McMurray, 2007). Public health research is based on qualitative and quantitative data (Lock, Last, & Dunea, 2001). This data is used to inform governments of disease risks and trends and associated sociocultural, economical and environmental factors. The public health

model is based on examining the host (an individual's biological dispositions that deem them resilient or susceptible to disease); the agent (internal or external causative factors that may lead to disease) and environmental influences (physical, sociocultural, economic, emotional and spiritual factors that exacerbate or moderate the effects of the agent on the host) (Craven & Hirnle, 2007). The objective of epidemiology or public health research is to develop interventionist measures for disease prevention.

Governments rely heavily on public health research to direct them in policy formation and practice (Australian Department of Health & Ageing (Aus DHA), 2008). The outworking and application of government policies are primarily evidenced in healthcare sites and educational and training institutions (Queensland Department of Education and Training (Qld DETA), 2010; Queensland Health (Qld Health) 2010; University of Queensland, 2010). The Eat Well, Be Active, Smart Choices, Smart Moves, 2 Fruit and 5 Veg are examples of health promotion campaigns supported by public health research to address obesity and to promote individual general health and wellbeing (Leow, et al., 2009).

Obesity is a complex contemporary healthcare issue that has attracted interest from all sectors of the community. The school is particularly targeted as an obesity prevention interventionist site. (Leahy & Harrison, 2008; Leow, et al., 2009; Simmons et al., 2009). An examination of the obesity issue in Australia highlights conflicting discourses between various stakeholders. The discourses become increasingly divergent, and power issues illuminated, when public health research is held under scrutiny at the democratic policy formation stage (Nathan, et al., 2005).

Government policy formation for addressing obesity. The development and implementation of government health policy in a democratic society seeks to meet multiple objectives. It aims to address major health and social policy problems, consider effective use of public resources, satisfy a range of stakeholders, avoid conflict and ensure that political and economic objectives are met (Eckersley, 2001; Hopkins & Levin, 2000; Rist, 1994). An analysis of the way Australian Governments have moved strategically to justify their policies and practices for interventionist healthcare education in schools based on public health research strategies highlights how marginalised voices from the professional and public sector may be overlooked. This is particularly evident in obesity discourses.

Several prominent obesity summits and forums have been held in Australia over the past decade. Reducing the financial burden of obesity, described as a preventable disease, is a prime reason for governments to 'take action'. Professional, government and non-government voices can be heard investigating the parameters of the obesity problem at these government forums (Australian Government (Aus Gov), 2009; New South Wales Department of Human Services (NSW DHS), 2002; Queensland Government (Qld Gov), 2006). Obesity Summit discussions generally reflect the public health model where those who are most susceptible (the host) are identified, along with the causes (the agent) and mitigating circumstances (the environmental influences). Developing strategic policies and community action plans are intentional outcomes for obesity summits. However, it appears at each juncture of the analysis of obesity, such as defining, measuring and identifying causes and solutions, there are concerns.

Defining and measuring obesity and identifying those most susceptible to the disease are areas of dissent. Obesity is a classified disease and defined as an excessive

amount of body fat in relation to lean body mass (WHO, 1948). WHO (1997) proposed that a classification of body weight based on the body mass index (BMI) be defined as weight in kilograms divided by height in metres squared. The BMI value based calculations used to track obesity trends, however, have been cited as inadequate as a marker across cultures and ages to predict the onset of obesity-related chronic diseases (Deurenberg-Yap, Schmidt, Van Staveren, & Deurenberg, 2000). The BMI is also criticised for not being able to differentiate between fat and muscle mass (Bouchard, 2000). Gathering obesity data, however, has been promoted as beneficial for tracking trends and measuring the impact of interventionist strategies (Baur, 2001, 2002). Children, low socioeconomic families and Indigenous peoples have been highlighted as the most 'at risk' obesity groups in Australian. Various interventionist programs have therefore been executed in low socio-economic communities (Australian Bureau of Statistics (ABS), 2007; 2008; Queensland Health, 2008). Tracking obesity trends may present problems if the assessment tool for defining obesity is considered unreliable.

Conflicting discourses are most prominent when 'causes and solutions' for obesity are discussed. Causes of obesity are generally reduced to an 'energy input/output imbalance' (Catford & Caterson, 2003; WHO, 2003). Increased 'energy saving' or 'entertaining' technologies, urban planning and safety issues; availability of energy dense fast foods; increased portion sizes and multi-media activities are all noted for contributing to the problem (Aus Gov, 2009; IOTF & EASO, 2005). Remediation strategies, cited in government policy documents, have subsequently involved developing a range of community action plans aimed at giving individuals greater opportunity to be physically active and education for raising awareness about eating healthy foods (Aus Gov, 2009; WHO, 2003).

Inherent flaws in obesity studies have been raised. Green (2004) argues paucity of baseline data for comparisons and methodological limitations raises concerns about the validity of research declaring contemporary children's physical activity levels have declined. Gard (2004) also draws attention to the incongruence of national surveys of physical activity patterns amongst Australians. The physical activity patterns of Australian adults as reported in the results of the 1999 National Physical Activity Survey highlight the fact that men are known to have higher rates of obesity than women, even though they have higher levels of physical activity (Armstrong, Bauman, & Davies, 2000). In this instance increased physical activity to assist with weight management does not appear to have been effective for Australian males.

The complexity of managing obesity is noted as being found in a multitude of random genetic (hereditary), sociocultural, ethnic or erratic natural or man made environmental influences (IOTF & EASO, 2005). Neuroscientists, generally overlooked in obesity discourses due to the newness and complexity of the science highlight the genetic influence in obesity (Spiegel, A., Nabel, E., Volkow, N., Landis, S., and Li, T., 2005). Neuroscientists appreciate the 'nature/nurture' elements associated with weight fluctuations in the body (Broberger, 2005; O'Rahilly & Farooqi, 2006). For example, the feeding task, central to obesity studies, is now uunderstood to be a dynamic, complex interaction between autonomic reflexive body responses to environmental stimuli and cognitive responses involving motivation, reasoning, problem solving and models of food reward systems (Widmaier, et al., 2004). Biodiversity, the notion that individuals possess varied biological dispositions influencing biophysical and psychological responses to surrounding sociocultural and environmental stimuli, is highlighted by neuroscientists as a significant determinant

not accounted for in the simplistic 'diet/exercise/obesity' equation (Wang, et al., 2001; Widmaier, Raff, & Strang, 2004).

Governments, despite the broader research uncovered, have adopted simplistic energy input/output healthcare educational approaches to address obesity. Government interventionist healthcare promotions appear to be attempts at controlling obesity and shaping children's bodies (Burrows and Wright, 2007; Leow, et al., 2009). It is within the school gates that the hierarchical influence of governments is observed as contributing to the messiness (Leahy & Harrison, 2008) involved in delivering a holistic HPE curriculum.

Schools responding to government HPE expectations

A range of tensions are experienced by schools as they respond to broad government curricula expectations to curb the national obesity health issue. The health and education government departments, vying for power and position in schools to meet their health or broader educational agendas appear to be creating significant challenges for schools. Questioning and resisting the government's top-down approach to influence HPE curriculum in schools to address child public health issues is a common theme in the educators' discourses (Gard, 2006; Kirk & Macdonald, 2001; lisahunter, 2006b; Macdonald, 2003).

Narrowing the HPE curriculum enacted in schools is cited as being primarily linked to government interventionist healthcare programs. Contemporary schools have been described as vehicles to deliver the "new public health agenda" (Wattchow & O'Connor, 2003, p. 4), caught up in the "fix it" phenomena (Burrows, 2005, p 3) or "Save the Child" campaigns (Evans, et al., 2007, p 12). Government healthcare messages in interventionist programs have been noted for:

1) being based on healthism commentary (Kirk, 2006)

2) being driven or supported by the media (Gard, 2004).

3) containing inaccuracies, subjective opinions and gaps (Gard & Leahy, 2009)

4) being supported by funding incentives that may impact pedagogy and student uptake (Leahy & Harrison, 2008)

Each of the tensions will be defined and discussed with particular reference to how individual teachers' pedagogy may have influenced students' HPE experiences at school.

Tension 1: Healthism theory. Historical and contemporary government health interventionist programs are cited as being designed to achieve specific citizenship and outcomes based on healthism ideals. Healthism principles assume an individual's ability to act on healthcare knowledge is acquired through educative processes (Harrison & Leahy, 2006; Hopwood, 2007). A range of student, teacher and sociocultural issues, however, are highlighted as challenges to healthism ideals.

Historically HPE has been noted as a unique interventionist curriculum associated with producing changes in student healthcare behaviours (Gard & Leahy, 2009; Kirk, 1998; Richard Tinning & Kirk, 1991). For example, the history of HPE practices in Australia over the past century highlights how discourses of politics, economics and sociocultural health issues were reinforced. Tinning, Macdonald, Wright & Hickey (2001, p. 36) state:

> At the beginning of the 20th century drilling, discipline and formal exercises were used for the express purpose of rendering these bodies docile and amenable to disciplined channelling of energies and capabilities into the processes of economic production and defence of the country.

Callisthenic activities were also used at this time to develop female bodies capable of producing healthy children (Evans, et al.,2008). In the 1930s, post World War II new forms of games orientated physical education developed in schools based on promoting individual health and wellbeing and enthusiasm and pleasure rather than regimental time routines (Tinning, et al., 2001). Sports games were also underpinned by philosophies of developing leadership and moral characteristics to build personal lifelong wellness and a strong cohesive nation. HPE curriculum may therefore be seen as representing a set of philosophies, practices and assessments based on 'adult centric' views of what is relevant and important at particular points in time (lisahunter, 2009).

Health education in the 21st century is viewed as being shaped by public health models based on 'healthism' ideals. Evans, et al., (2007, p 9) state that "…individuals rather than other antecedent or contingent socio-economic factors are the primary resource for the resolution of health problems and associated risks." Rationality is assumed as being the condition to making responsible choices. Student abilities to make rash decisions, however, should be considered in context with their biophysical stage of maturation and limited capacities of autonomy in the home environment (Carr-Gregg & Scott, 1993; Gard, 2004). For example, a student's desire to engage in health promoting activities in some instances may be hindered due to lack of parental support or finances (Hart, Herriot, Bishop, & Truby, 2003; Macdonald, 2004; Norton, Froelicher, Waters, & Carrieri-Kohlman, 2003; Ronalds & Allen-Craig, 2008). Johns (2005) suggests students may also not see reason for improving their health through fitness and diet during a phase in life that naturally affords them good health.

Governments in the 21st century have also engaged schools in promoting a range of health programs aimed at managing children's weight. For example, in

Queensland, the Eat Well Be Active program, as a part of the Healthy Kids for Life 2005-2008 Action Plan, was developed by the Queensland Government to address government concerns with childhood obesity (Qld Gov, 2005). Smart Moves (which mandated that students must engage in 30 minutes of aerobic physical activity every day at school) and Smart Choices (which provided schools with guidelines for abolishing the sale of junk food from school tuckshops) were examples of health programs promoted by Education Queensland in schools that were specifically aimed at increasing students' opportunities to be active and make healthy food choices to reduce obesity (Qld Gov, 2007a; 2007b).

Students may also see a distorted portrayal of an adult as a 'healthy role model' or 'lifelong learner' as contradictory and conflicting with healthism ideals (Tinning & McCuaig, 2006). Researchers investigating adult phases of life, when healthcare issues may be serious and the incentive to act on healthcare messages more pressing, have indicated achieving healthcare goals in adulthood may still be somewhat illusive (Broberger, 2005; O'Rahilly & Farooqi, 2006). Teachers who engage in deleterious healthcare practices such as poor SunSmart practices, smoking and/or over-consumption of alcohol or teachers who are obese, inactive or struggling with an eating disorder may find it difficult to discuss curriculum on these healthcare topics (Brown, Ralph, & Brember, 2002; Yager & O'Dea, 2005). Collective staff role modelling that is incongruent with a school's healthcare practice promotions may also be a concern. For example, soft drink machines in staff rooms would appear a double standard to students if soft drinks are banned from the tuckshop due their high sugar content (B. Kelly, Chapman, King, Hardy, & Farrell, 2008). Students may perceive that soft drinks are a 'reward based' or 'privileged' food for adults. Uptake of the HPE curriculum by students may therefore be diminished if teachers are observed as

lacking in ability to conform to the health curriculum they are promoting (Queensland College of Teachers (QCT), 2006).

The relegation of particular health risks to specific socioeconomic or cultural groups, commonly cited in literature (Booth et al., 2003; O'Dea, 2008), may be unduly linked to healthism notions (Evans, et al., 2008; Munns, 2004). McCuaig (2006) refers to this as a 'victim blaming' strategy where individuals are portrayed as being deviants from the norm and possibly undeserving of health or welfare services. Students, particularly those in LSE communities, who are categorised as in a 'high risk' obesity cluster may see themselves as isolated, powerless and targeted for government healthcare remediation programs. Schools may be perceived as organisations perpetuating a culture where specific groups are singled out and ultimately held responsible for not achieving health ideals.

Government child healthcare policies and promotions appear to have raised significant concerns for educators in modern schools. A misalignment in philosophical perspectives, particularly around healthism ideologies, is highlighted as central to this variance in opinion. The media has been highlighted for its supportive role in sanctioning the Australian Government's healthcare policies and practices.

Tension 2: Media Pressures. The media may be perceived as a community activist group who use communication channels to disseminate news, entertainment, education, data or promotional messages (Carroll & Hackett, 2006). Historically, the media has contributed to popularising health trends (Kirk & Tinning, 1999). The media has also been noted for providing both 'representations' and 'misrepresentations' of the Australian health picture (Gard, 2004; Gard & Wright, 2006; Kirk, 2006a).

The media portrays the 1970s as a distinct period in Australian history where a new health consciousness and public persuasion emerged (Kirk & Tinning, 1999). Government healthcare mandates during the 1970s included the outlawing of industrial pollution, fireworks, flammable nightwear, cigarette advertising and smoking in public places, water fluoridation, compulsory seat belts and labelling of poisons and food items. The government also employed new taxation strategies and educational advertising campaigns aimed at discouraging individuals from engaging in health risk behaviours (McMurray, 2003). For example, anti-smoking media campaigns, tobacco taxes and morose graphic advertisement on cigarette packets is believed to be linked to the decline in the statistic of smokers in the Australian population over the past two and a half decades (Scollo & Winstanley, 2008).

Health education in the 1970s was also significantly linked to commercial enterprise. Fad diets, where foods and calories were limited, were promoted by health professionals at this time (Tinning and Kirk, 1991). Health clubs and aerobic exercise classes were popularised by television celebrities. Tinning and Kirk, (1999) suggest this host of commercial public health educators gave voice to new health messages about the body, which then became entangled in political and public healthcare messages. These messages defined ‘health’ as being about body shape, weight, fitness, strength, youthfulness, beauty, sex appeal, disease prevention and longevity. The triplex of ‘exercise = fitness = health’ or ‘exercise = slenderness = health’ were reinforced by governments and the media (Johns 2005). Today, foregrounding iconic sports men and women as elite examples of fitness and health and wellbeing is a key strategy used by both governments and commercial enterprises (Qld Gov, 2006; Germov, 2002).

Topics around children's body shape and the 'diet/exercise – cause/solution' phenomenon have been ongoing in media publications. In the past two decades the media have actively provided vivid imagery and derogatory health tidings relating to the health status and practices of Australian children. For example, the following Herald Sun (2010) headline highlights the notion that modern technology is to be blamed for children's weightiness, laziness and subsequent lower intelligence; "TV makes kids fat, lazy, less academic." Gard (2005) resists the broad brushed techniques of the media and highlights proficiencies of many modern youth as hard working, sports minded and active competent members of society. Evans, et al., (2004, p 17) state that victim blaming, in instances such as this, is believed to be a useful method for "depoliticising the responsibility and roles of schools, governments and other health organisations." Critical analysis of media discourses is therefore emphasised as important to either deflect unfair insinuations about children's healthcare practices or to redirect the perspective within the discourse (Tinning, et al., 2001).

The Australian Government's focused interest in children's 'physical activity' or 'dietary practices' appears to mirror international activity where similar responses to WHO's (2004) recommendations to address obesity has been observed (IOTF & EASO,2005; United Kingdom House of Commons Health Committee, 2004; United States Department of Health and Human Services, 2010). There have been a proliferation of studies and reports, highlighted in the media, providing justification for diet/exercise interventionist programs in schools (Leow, et al., 2009; Penney, 2008). Discrepancies, however, in the content of government interventionist programs for students have been raised.

Tension 3: Government healthcare interventionist programs. Prominent government health programs have focused principally on the benefits of making

wholesome nutrition choices and engaging in regular physical activity (Aus DHA, 2004; 2008; Aus Gov, 2005; Qld Health, 2008). All of these programs, and others, have been identified as strategic resources to address the Australian obesity epidemic (Aus DH&A, 2008; Burrows & Wright, 2007; Qld Gov, 2006). Concerns, however, have been raised over inherent inaccuracies, inconsistencies and in some instances gaps in government interventionist healthcare programs (Gard & Leahy, 2009).

Incongruent curricula may be observed in some government obesity interventionist healthcare programs. For example, the 2 & 5 Fruit and Veg (or Go for 2 & 5) and AGHE posters are commonly cited in schools, hospitals, medical centres and commercial health outlets (Aus DHA 2008, 2009). Whilst eating fruit and vegetables is the key health message in both programs, it is the numerical inconsistency of 'how much we should eat' that may create confusion for students. For example, teachers may focus on the numerical element of the 'Go for 2 & 5' campaign by asking, "How many fruit should we eat each day or how many vegetables?" In contrast to this curriculum, the AGHE recommends that children under 11 years of age eat one to two pieces of fruit daily and children between four and seven years are recommended to eat only two to four serves of vegetables daily. Categorising an array of fruit and vegetables may also create complications for the students when pumpkin, tomato and cucumber are commonly classified as vegetables but are botanically identified as fruit. Conflicting messages in government healthcare programs may create challenges for teachers when they are left with the responsibility of providing an explanation for oversights in the government health curriculum.

Messages within government nutrition promotions may contain bias. The Western Australian Government's 'Vegie Man vs Pill Man Poster' poster (see Figure 3) is an example of a government health promotion that provides subtle negative

messages to the public about the use of vitamin therapies (Aus DHA, 2008). Hidden messages and subjectivity in government health promotions may engender a lack of confidence or scepticism by the public, particularly in a democratic society where 'freedom of choice' is a citizenship right (Germov, 2002).

Figure 3. Vegie Man versus Pill Man. Poster from the Queensland Health Go for 2&5 campaign http://www.gofor2and5.com.au/. Reprinted with permission Department of Health Western Australia (see Appendix B).

Teachers have expressed mixed responses to government health interventionist diet/exercise programs (Wilkenfeld, Pagnini, Booth, Booth, & King, 2007). Interventionist diet/exercise programs have been noted for their benefits in achieving short term academic and personal health outcomes (Florence, Asbridge, & Veugelers, 2008; Salvy, Bowker, Roemmich, Romero, & Kieffer, 2009). Underlying messages in a range of interventionist programs, however, have been questioned. Burrows & Wright (2007, p. 12) found notions such as "fat is bad" and "the joy and pleasure of finding out how your body can work in ways that may be functional, aesthetic and/or performative is replaced by the notion that bodies need shaping, training and 'work'." Teachers are also aware there are multiple external environmental factors that may not be accounted for in interventionist programs which influence personal attempts to improve health and wellbeing (McCuaig & Hay, 2009; Wright, Macdonald, & Groom2003).

Foregrounding certain healthcare messages above others in government healthcare promotions can be observed as being problematic. The SunSmart campaign is an example of a government sponsored campaign that presents strong messages about avoidance of the sun (Cancer Council Australia, 2008). These avoidance practices are particularly relevant to people living in North Queensland where susceptibility to suffering from skin cancers is high (Cancer Council Australia, 2008b). In the southern states in Australia exposure to the sun during the winter months, when sunlight is limited, is considered important for the production of Vitamin D. Vitamin D is recognised for elevating moods and assisting with the absorption of calcium to help strengthen bones, particularly relevant in the aged (Holick, 2002, 2004; Morris, Need, & Nordin, 1999). In Montague, Borland and Sinclair's (2001) review of the SunSmart campaign over the past twenty years the success of the campaign is focused on being sun protective. Being SunSmart, however, requires a holistic understanding of the multiple benefits or risks sunlight has on the human body with respect to changing variables such as season and place of residence within Australia.

Gaps in government healthcare programs have been identified. Posture, breathing and sleep healthcare practices are considered highly relevant to contemporary students. Students' posture in relation to carrying heavy school bags (Education Queensland, 2007a) and/or spending lengthy periods interacting with technology (G. Kelly, Dockrell, & Galvin, 2009; Robbins, Johnson, & Cunliffe, 2009) have been investigated in recent research. Sleep deprivation is also frequently linked to students' technology practices. Current studies investigating sleep deprivation have shown correlations to injury (Ken Green, 2000), academic performance (Robertson, Pascual-Leone, & Press, 2004; Walker, Brakefield, Morgan, Hobson, & Stickgold,

2002), obesity (Biggs & Dollman, 2007; Dodd, et al., 2008) and low socio-economic communities (Van Cauter & Spiegel, 1999; Zhang, Li, Fok, & Wing, 2010). Students' postural practices, as a health education focus, were previously a part of core HPE curriculum (McCuaig, 2006). Students' sleep or rest healthcare practices, on the other hand, represent a new interest area of education research.

Delayed school starting times for adolescent students, allowing for biophysical maturation phases, has been proposed as a strategy for schools based on modern sleep research (Warner, Murray, & Meyer, 2008). Students' improved attendance, focus in class, completion of homework and an increase in the number of students eating breakfast and improved daily dietary practices have been cited as a range of the observed positive outcomes for delaying school starting times (Carskadon, Wolfson, Acebo, Tzischinsky, & Seifer, 1998; Dani, Burrill, & Demmig-Adams, 2005; Gau, Soong, & R, 2004; Owens, Belon, & Moss, 2010; Wahlstrom, 2002). Very few schools, however, have adopted the delayed-start strategy, which is believed to have stemmed from resistance from families who consider their lifestyles would be negatively impacted by the change (Wahlstrom, 2002).

Engaging students in rest oriented healthcare activities at school may be controversial. Ramstetter, Murray and Garner (2010, p. 517) argue recess periods at school should not be used for academic or punitive purposes as they provide a "unique contribution to a child's creative, social, and emotional development." Activities associated with promoting restful states and positive attitudes have also been highlighted as a productive pedagogy in some schools. For example, reduction in absenteeism, school rule infractions such as dress violations, excess tardiness, disruptive classroom behaviour, fighting and suspensions have been noted as outcomes for students engaging in mindful mediation techniques (Barnes, Bauza, &

Treiber, 2003). The business of curricular timetables, however, may position rest or meditation healthcare practices as a fringe activity.

Health promotion in schools is a universal practice (Mukona & Flisher, 2004). Inherent gaps, contradictory curricula or bias in government interventionist healthcare programs, however, may create challenges for the classroom teacher. Challenges to pedagogy are perhaps most transparent when government healthcare programs are viewed as either 'competing' or 'conflicting' with the breadth and depth of school curricula (Leahy & Harrison, 2008).

Tension 4: Government funding influences HPE pedagogy. A political demand for delivering diet/exercise curricula in schools to address obesity is linked to the potential compromised delivery of the holistic HPE curriculum. Competing interest for other subject curricula, teacher world views and student issues are complexities integral to the implementation of the HPE curriculum in schools and the uptake of healthcare messages by students (DinanThompson, 2009a; Gard, 2004; Leahy & Harrison, 2998; Wattchow & O'Connor, 2003).

Understanding the content of the HPE curriculum helps to provide context around how funding may impact pedagogy and student uptake of the healthcare messages. The HPE curriculum includes content and practices embracing: a health knowledge field (health as an individual and community act); physical activity (movement and skills) and a personal development field (managing self) (DinanThompson, 2009b). For example, the Year Seven Essential Learnings listed below highlights the holistic elements of Education Queensland's Years 1-10 Health and Physical Education syllabus (QSA, 2007a):

- *Knowledge and Understanding*: Health is multidimensional and influenced by individual, group and community actions and environments
- *Physical Activity*: Fundamental and specialised movement skills, movement concepts, tactics and strategies are elements of physical activity
- *Personal Development:* Beliefs, behaviours and social and environmental factors influence relationships and self management and shape personal development

The triplex in the current HPE curriculum, acknowledged in various ways across all states and territories in Australia, is foundational to the proposed Australian national HPE curriculum. The HPE curriculum framework also aligns with WHO (1986, 1997) philosophies, health literacy approaches (Nutbeam, 2000), Australian Health Promoting Schools strategies (1994, 2008) and Australian Sustainable School Initiatives (2008).

Government policies supported by large scale community funding grants and media promotions are noted for contributing to a dominance of 'diets/exercise' programs in schools (Burrows & Wright, 2005; Leahy & Harrison, 2008). For example, the Australian Government's Building a Healthy Active Australia policy (referencing the Ottawa Charter) invested $1.16 million over four years in health promotion (Aus Gov, 2004). The majority ($90 million) of the funds was apportioned to Active After-school programs and the remaining $26 million was awarded to schools that were committed to implementing at least two hours of physical activity each week or to community and media organisations for health promotions focusing on nutrition and physical activity. Similarly, the Queensland Government's Smart

Moves mandate directed schools to ensure that students engage in 30 minutes of aerobic activity every day (Qld Gov, 2007a). Funds for professional development for teachers were allocated to help establish this mandate in schools. Both examples demonstrate the government's advocacy, supported by funding incentives, to gain agency for 'diet/exercise' curricula in schools as a curative means to address the national obesity issue. lisahunter (2009) refers to the government's activity as further entrenching an adult-centric, positivist interventionist, reductionist approach to healthcare. From a social constructivist perspective, a series of questions warrant consideration 'Whose reality is this? Is it based on fact or myth? What are the consequences of adopting this healthcare view? Who is to benefit from maintaining this point of view?

Research into the effectiveness of the health promotion in schools has highlighted the need for the health and educational sectors to work together and develop a shared appreciation and conceptualisation of problems and solutions for child health promotion in schools (Rowling & Jeffreys, 2006). This shared dialogue, to be effective, is recommended to be across different administration levels within the health and education departments. Teachers, however, have been found to hold diverse views about the role of health promotion in schools. Some teachers see government health promotion programs as an adjunct curriculum an 'add on' coming from the 'outside' (Marshall et al., 2000). Schools were viewed as having a series of individual health policies influenced by government health promotions rather than a general umbrella policy about creating a health promoting school (Stokes & Mukherjee, 2000). The education sector believes an appreciation of the basic tenets of school life including an understanding of how policies and practices for curriculum development are particularly important for the health sector (Mohammadi, et al.,

2010). The role of teachers, in particular, as the deliverer of the healthcare messages in the classroom is central to health promotion research (Jourdan, McNamara, Simar, Geary, & Pommier, 2010) .

Schools are non profit organisations. Teachers operating on finite budgets may experience multiple restrictions thus impacting personal pedagogy (Lapere, Mummery, & Yates, 2008). Opportunities for funding may therefore provide strong incentives for classroom teachers interested in raising the level of creative academic endeavour to promote student engagement in government diet/exercise discourses. Government funding may also be used by teachers to implement pedagogy that reflect their personal world views.

Teacher world views influence HPE pedagogy

Teachers represent a unique cohort of professionals. Individual teachers' personalities, world views and prior experiences will ultimately influence their pedagogical beliefs and practices thus shaping their delivery of the HPE curriculum (Connelly & Clandinin, 1990; Wattchow & O'Connor, 2003). Leow, Macdonald, & McCuaig (2009) state additional exigencies such as time, funding, core business, mindsets and power issues also shape HPE pedagogy in schools.

Effective pedagogy, defined by Education Queensland (2002) has broad implications in the school context. At the heart of effective pedagogical practices is a concern for the wellbeing of the students, teachers and the school community. Its aim is to build community confidence in the quality of learning and teaching in a given school. Appreciating that students do not come to school as 'empty vessels waiting to be filled' but rather as individuals with unique interests, experiences and understandings is central to this philosophy (McCuaig & Hay, 2009). Teachers are encouraged to use a range of teaching strategies that may be implemented across all

key learning and subject areas (Lingard, Hayes, & Mills, 2003). Providing supportive classroom environments, recognising student differences and finding ways to improve the intellectual quality and connectedness of the curriculum are the four pillars of productive pedagogies. A teacher using a strengths-based approach to teaching HPE will draw on these productive pedagogies and focus the curriculum on authentic tasks that involve problem solving to enhance or facilitate student's healthy living practices.

Structural relations of power have been highlighted for impacting pedagogy. Macdonald (2003) considers the way curriculum resources for schools have been prepared more recently by a cohort of government officials, academics, teachers and other key stakeholders thus minimising the classroom teacher's influence on curriculum. Griggs (2007) looks at a range of issues such as time, space, curriculum priorities and pedagogy that may also impact the quality, delivery, uptake and outcomes of Physical Education in Primary schools. The schools' role in using exclusion from engaging in physical education opportunities, or physical and social activities during recess breaks, has also been raised as a top-down approach used by schools that may warrant review (Buss et al., 2009). Griggs (2007) suggests a 'bottom-up model where the curriculum content reflects a breadth of experiences and is flexible enough to meet the needs of all pupils. Partnership models, representing a combination of top-down and bottom-up approaches, have been used more recently in schools (Kirk & Macdonald, 2001). Teachers represent an important voice in this model.

Teachers, however, may have differing world views which can in turn reflect their values, beliefs and teaching practices. For example, teachers working from a positivist perspective may favour a teacher-centred, direct instruction approach to teaching HPE. A positivist teacher's HPE curriculum choices may also highlight

elements of the ‘fix it’ type notions underpinned in producing skilled performers (McCuaig & Hay, 2009; Qld DETA, 2007). Alternatively, a teacher favouring a social constructivist perspective may favour a student-centred teaching approach where developing students as ‘informed citizens’ and ‘critical thinkers’ is valued. A teacher with a social constructivist world view will facilitate lessons that help students to build on their existing strengths and understandings by investigating how health knowledges are constructed and how multidimensional influences may impact their abilities to ‘engage’ in healthcare practices (Cliff, Wright, & Clarke, 2009). Teachers’ HPE curriculum, if based on their strong positivist or social constructivist world views, will most likely reflect clear and contrasting pedagogies in the classroom.

Teachers with a positivist perspective and pressed for time may be prone to reducing the core business of HPE to diet/exercise type curricula. Positivists view the body as a unit that can be worked upon and may look to sport’s media constructs reflecting iconic shapes and sizes as support for their philosophies (McMahon & DinanThompson, 2008). Foregrounding ‘diet/exercise’ body management type curricula with the intent of producing slender, toned healthy bodies may also appeal to those outside the school gate who value the ‘healthy citizen’ approach or who consider ‘healthism’ ideals are important for addressing child/health issues in contemporary societies (Richard Tinning, et al., 2001). Government health and community promotions may therefore be seen as shaping narrowed HPE pedagogies in the classroom.

The HPE curriculum working from a positivist perspective may, however, appear flawed and one that does not mirroring the real world. Burrows & Wright (2007, p. 11) highlight this concern:

> Eating and physical activity are so much a part of everyday family life, both behaviours being used in celebratory and function ways, yet in the context of neoliberal obesity discourses, physical activity and food become vehicles for achievement of purposes quite distinct from these ones. That is, food is something to be monitored and surveilled rather than enjoyed and a walk to the park an opportunity to burn off calories rather than chat with each other.

A shift in focus with an accent on the affective and social elements of participating in physical activity was foundational to the reformed HPE curriculum (DinanThompson, 2009). "Students use their interests in health and physical activity to explore how the dimensions of health are interrelated and are influenced by the interaction of personal, social, cultural and environmental factors" is cited as an essential learning (QSA, 2007a, p 1). A practical approach for encouraging life long engagement in sports or physical activities was thus highlighted as an essential learning in the reformed HPE curriculum (Cale & Harris, 2005).

Foregrounding a sociocultural perspective in HPE has been promoted by community groups engaging in school physical cultures (Stokes-Guinan, et al., 2011). Teaching Games for Understanding (TGfU), for example, is a popular and internationally recognised HPE curriculum practice (Clennett & Brooker, 2007). The shift from a teacher-centred, skill development focus to a student-centred sociocultural curriculum perspective embraces team efforts based on fun, problem solving and curriculum ownership. Students demonstrate higher order thinking skills in TGfU associated with insight, empathy, strategy and performance (O'Connor, 2006). The teacher's role may therefore be seen as assisting students to engage in the holistic sociocultural elements of the HPE curriculum (Burrows, 2005) whilst becoming "skilful and thoughtful movers" (Gard, 2005, p. 39).

Programs that develop habitual holistic healthcare practices that persist throughout adulthood are suggested as favourable in preference to programs that promote short term fitness attainments. For example, Cale & Harris, (2006, p. 410) explain "This [HPE] may require a focus on more individually orientated and unstructured activity which is more characteristic of adult physical activity." Teachers may therefore assume a role as a co-learner with the students demonstrating that health promotion is an ongoing lifelong lesson and attendance to health and wellbeing needs may alter at different phases of life (Wright, et al., 2004). It is in this space where students and teachers can co-learn and co-create in the curricula that realistic HPE outcomes and expectations can potentially be agreed upon.

Pedagogy will reflect a range of issues reflecting teacher mindsets, curricular priorities, time and resource restraints (Cliff, et al., 2009). Recent research has publicised a range of 'private troubles' students may be experiencing in relation to their body size, shape and weight that may influence their uptake of the HPE curriculum (Ebbeling, Pawlak, & Ludwig, 2002; Marcus & Baron, 2010). Understanding students' sensitivities in context with their engagement in HPE is therefore central to this discourse.

Student issues

Students, like teachers, also represent a cohort of unique individuals with diverse capacities, inherent skills, preferences and world views. The way students engage with and respond to the delivery of the HPE curriculum in schools will vary (lisahunter, 2006b; Petrie, Jones, & Anne, 2007). There is a range of teacher, student, gender and parental issues noted for potentially enabling or limiting students' uptake and engagement in the HPE curriculum (DinanThompson, 2009; Penny, 2002).

There has been a growing interest in examining student perspectives about enabling or limiting factors influencing their pursuit or engagement in healthcare practices. Wright, et al., (2003) found geographic location was a strong indicator for the way students may construct their identity in socio-cultural context. "How they [students] take up these resources (for instance, media sport messages about bodies, physical activity and health) depends very much on the social and economic capital and the salience of particular resources in terms of their cultural, social and geographic location" (Wright, et al., 2003, p. 30). Family support, physical and financial systems are integral to a student's access to local sports facilities.

Gender is an issue that warrants consideration. Gender is frequently observed as being linked to students' engagement in physical activity and nutritional healthcare practices (Green, 2004; Jutel, 2005; Penney, 2002). Males have been renowned for being influenced by fathers (Norton, et al., 2003). Males, it appears, prefer dominant leadership roles in physical education in schools (Webb & Macdonald, 2007) and may use their sporting activities to gain identity and build self-esteem (Evans & Penney, 2002). Girls, on the other hand, have been noted for following maternal role models (Norton, et al., 2003); for experiencing eating disorders (Stice, Presnell, & Shaw, 2005) and for avoiding the more aggressive games boys like to play (Williams & Bedward, 2002). The current move to break down the sociocultural historical traditions based on 'masculinity' and 'femininity' is considered important to promote equity and inclusion and to improve student mental health and wellbeing.

Early intervention education to prevent the development of mental health problems in children is an Australian Government public healthcare priority (Aus DHA, 2001). Children and adolescents living in low-income, step/blended and one-parent families are cited as being 'at risk' of suffering from mental health problems

(ABS, 2004-5). Chronic physical complaints without a known cause, delinquent behaviour, attention problems and aggressive behaviour represent a range of mental health symptoms (Sawyer et al., 2001). Mental wellness is frequently cited as one of the benefits of government diet/exercise programs (Aus DHA 2008, 2009). Diet/exercise focused HPE curricula in schools, however, have been noted for potentially creating stress for some students (Yager & O'Dea, 2005).

Extreme behaviours associated with eating disorders or compulsive or excessive physical exercise regimes are examples of body/weight focused activities reflecting sociocultural influences (Cohen, Perales, & Steadman, 2005; O'Dea, 2007; Yager & O'Dea, 2005). Burrows & Wright (2007) suggest that children as young as eight years old can clearly articulate the health messages they believe adults expect of them. Ebbeling, et al., (2002) also point out overweight children as young as five years old can develop a negative self-image and obese adolescents may also exhibit declining degrees of self esteem associated with sadness, loneliness, nervousness and 'risk' behaviours. Furedi (cited in Evans, et al., 2008, p 118) suggests that the normal anxieties we encounter in existential practices such as eating, exercising and work or play have been nurtured by adults and the media to the extent that they have been reinterpreted as medical issues.

Students have expressed sensitivities to having their bodies observed when they are moving. Fitness testing for monitoring and regulating the body under the teacher's critical gaze has been particularly identified for its potential in undermining a child's self esteem, confidence and interest in being physically active (Cohen, et al., 2005; O'Dea, 2007; Yager & O'Dea, 2005). Kirk & Tinning (1991) suggest the teacher's authoritative 'gaze' may become 'internalised' and students can become overly focused on checking their fitness and performance levels. Self reporting of

underestimations of personal weight or over estimations of engagement in physical activities may reflect this sensitivity where individuals feel pressured to conform to socially constructed standards (Magarey, Daniels, & Boulton, 2001). Teasing, difficulties playing sports, fatigue and social isolation are all noted as causal factors attributed to students disengaging from physical activities in HPE (Williams & Bedward, 2002).

Surveillance of the quality of foods in students' lunchboxes may create tensions for both students and teachers (Abbott et al., 2007; Cross, Burns, & King, 2001). A recent study found that students' lunchboxes contained reasonable amounts of fruit, but a recommendation was made for health promotion that targeted reducing excessive amounts of energy-dense foods in school lunchboxes and sweetened drinks (Sanigorski, et al., 2005). Teachers may feel the need to be seen reinforcing healthy food concepts on the one hand and on the other hand are faced with the dilemma of managing student sensitivities surrounding social equity and cultural disadvantage. Leahy & Harrison (2008) refer to this as a 'dammed if you do' and 'dammed if you don't' quandary. Schools have been encouraged to create policies and education for parents around healthy lunches to improve learning outcomes for students (International Union for Health Promotion and Education, 2010).

Researchers have investigated the influential role of parents to further understand child healthcare practices (Norton, et al., 2003; Ronalds & Allen-Craig, 2008; Sanders, Turner, & Markie-Dadds, 2002; Stallman & Ralph, 2007; Weinshenker, 2002). A family's changing resources, finances and time commitments may influence their potentials to support their children's healthcare needs and practices (Dollman, Norton, & Norton, 2005). Based on these types of public health findings, governments have developed policies around strengthening families and communities and

supported further research activities (ABS, 2004-5; Aus Gov, 2010). Family influences, particularly in context with public health concerns appear diverse, thus positioning parents as both ‘enablers’ and/or ‘barriers’ regarding their child’s/children’s healthcare practices. Strong family relationships are noted for reducing “a young person’s vulnerability to suicide, mental health problems, drug use, eating disorders, weight management, pregnancy, tobacco use, delinquency and risk-taking behaviours” (Ronalds & Allen-Craig, 2008, p 5). On the other hand, parental expectation for children engaging in health promoting activities has also been noted as potentially creating stress for their own child/children if the child/children feel they may not be living up to their parents’ expectations (Weinshenker, 2002). Engaging both parents and students in the development of HPE curriculum in the classroom is perhaps a highly relevant exercise.

The potential marginalisation of both parent and student viewpoints has been raised in the literature. DinanThompson (2009b) suggests that parental viewpoints are potentially allocated a lower rank on the list of teacher curriculum planning priorities. Pupils are also cited as frequently being overlooked in the development of class HPE curriculum despite the fact they “are both ‘carriers and recipients’ of the discursive practices that define classroom culture and the curricula of physical education” (Penney & Evans, 1999, p. 132). Students may be positioned poorly in their HPE experience in schools if their teacher assumes a dominant role in the classroom.

Teacher dominance raises issues about student voice. Bernstein (2000) explains that teachers possess the keys and are responsible for the resources in the classroom. Teachers are the representative at curriculum meetings, generally design the structure of the lessons, create assessment tasks and are often the sole evaluator of the students’ progress. lisahunter (2009, p 90), echoing John Dewey’s educational

social reform philosophies, says that "providing students with an opportunity to 'speak up' and 'be heard' is an important experience that assimilates democratic processes. Voice is influential in terms of opinions, political action, decision-making and social change." In the classroom, however, student suggestions may be viewed as lacking maturity or practicality and subsequently their ideas, whilst heard, may be dismissed by the teacher who ultimately decides how the curriculum will be enacted upon. Teachers pressed over managing school organisational factors such as class sizes, timetabling, staff support, availability and/or access to resources may also find it difficult to find time to address the students' mentoring needs for learning how to 'speak up' effectively (Brown, et al., 2002; Gard, 2004; Kirk, 2006).

Constructing and implementing a multidimensional HPE curriculum to meet student needs in a technologically driven world provides significant challenges for contemporary teachers. Integrating curricula and incorporating critical analysis skills is suggested as a constructive way to blend the scientific biomechanical approach to HPE with a sociocultural or environmental/ecological approach (QSA, 2007). Wright, et al., (2004) suggests teachers may need to use combinations of pedagogies and seek collegial support from peers to meet this challenge. Allowing for parental and student input may also be important for addressing gender issues and student susceptibilities to mental health issues as a result of their engagement in HPE programs in school. Parent and Citizens' (P&C) groups may provide a useful forum for discussing these types of student healthcare issues (Qld DET, 2000). However, as Kristofferson (2009) points out, representation of parents on school boards may reflect who is available and therefore what views may be heard at a parent and citizens meeting

This section of the chapter has reviewed a range of tensions schools experience around delivering HPE in modern classrooms. Teacher world views,

managing crowded curricula, meeting government expectations, coping with limited finances and resources are a number of the political, social, economic and physical issues highlighted for shaping pedagogy in schools. It is the students and their families, however, who appear to be the target site where the impact of government, media and pedagogy tensions around healthcare education is most felt. Students' and parents' potential lack of voice to relay the impact of the HPE curriculum on modern students is perhaps the most pressing concern.

Conclusion

In summary, teaching HPE or being the recipient of an HPE curriculum in contemporary schools appears, as Leahy and Harrison (2008) describe, a 'messy business'. Investigating the multi-dimensional elements of health, as highlighted in the HPE curriculum and reflected in the WHO definitions for health and wellbeing, has revealed the unique way diverse physical, political, sociocultural and economic influences may position individuals favourably or adversely for health promotion. This is highly evident within the school gate.

A review of the Australian obesity issue has highlighted how conflicting discourses about a modern healthcare issue and governance may shape healthcare education in schools. Governments were seen in this review as influential political authorities, supported by public health research organisations, that possess the power to determine what healthcare issues are most important, which public sector is most in need of remediation strategies and how those strategies should be appropriated. The media was seen as playing a dominant role in perpetuating images of modern youth as 'fat and lazy' and upholding the curative notion of 'nutrition and physical exercise' for obesity remediation strategies (Gard, 2004; Kirk, 2006a).

Within the school gate teachers are faced with multiple challenges. A teacher's prime responsibility in the HPE curriculum is aimed at helping students negotiate 'healthy lifestyle practises in a 'risk society' where multiple conflicting discourses resound (Glasby & Macdonald, 2004). This 'multi-tasking' to create curricula may have to take place under the potential pressures of being time poor, financially challenged, resource deficient and further challenged to meet a range of curricula expectations. It is in coming to appreciate the way governance and media influences intersect with an amalgam of naturally occurring physical and socioeconomic complexities within the school that the 'messiness" in delivering the HPE curriculum can perhaps be best understood (Burrows, 2005; Leahy & Harrison, 2008; Watthcow & O'Connor, 2003).

The literature cautions teachers to be wary of discourses that "reduce the contribution of education to a trivia of food (diet), exercise and weight management or generates social practices in which children or young persons are reduced to 'bodies' (Evans, et al., 2007, p. 17)." Holistic HPE curriculum, as Burrows (2005, p15) surmises "will not necessarily point to a 'right' or 'correct' way of doing something but rather emphasise the processes involved in working out how one feels, thinks and behaves in relation to particular bodies of knowledge." Supportive HPE programs, that help promote a broader health curriculum and critical health literacy perspective, are therefore significant for helping students develop competencies of 'making meaning, relating to others and managing self' (QSA, 2007).

Chapter 3 Methodology

Case study is commonly used as a research method in the social sciences. This chapter explains why a qualitative methodology and associated philosophical assumptions seemed most appropriate for this student holistic healthcare case study. The methods section explains the rationale for selecting the site and the participants. Information relevant to data collection phases and data analysis follows this explanation. Ethical considerations and an overview of the research design can be found at the close of the chapter.

Introduction

Research projects investigating children's diet and exercise practices are widespread. Swinburn, et al., (1999) suggest, however, that very few child health studies have systematically evaluated the broad environmental influences on students' healthcare practices. In this study I wanted to investigate how the range of political, sociocultural, physical and economic environmental variables, as defined in the 'Analysing Grid for Environments Linked to Obesity' (ANGELO) might influence a group of students' engagement, or lack of engagement, with holistic healthcare practices. Definition for students' holistic healthcare practices was to be taken from the 7NP program (attitude, air, nutrition, sunshine, water, exercise and rest). The shift of research focus from obesity in the ANGELO to holistic healthcare practices outlined in the 7NP program required the creation of a synthesised analysis framework. The adapted analysis framework incorporating ANGELO environmental influences and 7NP holistic healthcare practices, discussed in more depth later in this chapter, was called the "Analysing Grid for Environments Linked to Holistic Healthcare" (ANGELHH).

The research question thus emerged ‘What environmental (physical, political, sociocultural and economic) ‘enablers and barriers’ are highlighted when primary school students interact with an innovative holistic healthcare program?’ I hoped the research experience might help me better understand HPE pedagogy, student holistic healthcare practices and trends highlighted in literature around escalating concerns of contemporary child health issues (Aus DHA, 2001, 2008a).

Philosophical assumptions

In order to carry out this investigation I employed a case study design. The research design and decisions made during implementation were underpinned by principles of qualitative research and social constructivist philosophical assumptions.

There are three aspects of qualitative research practices that were particularly relevant to this study. Firstly, qualitative research methods were developed in the social sciences to enable researchers to study social and cultural phenomena (Denzin & Lincoln, 2003b). Secondly, qualitative researchers interact with the culture or organisation being studied so that they may better understand what it is like to be a part of it (Krauss, 2005). And thirdly, qualitative research paradigms generally conform to a social constructivist theoretical paradigm that acknowledges the multiple realities perceived by individual participants within the study (Patton, 2002).

The construction of knowledge is understood to be influenced by broad sociocultural factors (QSA, 2007a). Cliff, et al., (2009, p. 167) explains “The critical underpinnings of a sociocultural perspective also recognise calls for HPE to problematise the construction of knowledge, through an approach to knowledge that understands it as socially constructed.” Teachers fostering a sociocultural perspective in their students when studying health will require their students to move away from ideas of ‘certainty’, ‘fact’ and ‘truth’ and encourage the questioning of the ‘taken for

granted' notions of health. For example, 'Who stands to benefit from promoting or perpetuating this healthcare point of view?', 'What are the current, broader discourses around this issue?' and 'How are differences such as culture, class, ethnicity, gender and economic status accounted for in these discourses?' are all pertinent questions when critically analysing health issues.

Understanding contexts of power and control within students' lives was considered important in this research. Denzin & Lincoln (2000, p. 373) state that "….knowledge is always local, situated in a local culture, and embedded in organizational and interactional sites." For example in a school site, interactions amongst a host of players such as family, peers, teacher, media and other phenomena may significantly impact a students ability to learn (Cooper, 2007). In schools, a student's engagement or disengagement with curricula may reflect the student's journey in negotiating positions of power around control, knowledge, constructing meanings, ability, place and voice (Munns, 2004). Bernstein (2000) suggests a teacher has three message systems around control which are curriculum, pedagogy and assessment. What is considered important knowledge, who makes that decision and how is that knowledge translated and assessed in the classroom is central to developing curricula (lisahunter, 2009). Individual students will also possess different capacities and strengths for learning and problem solving (Gardner, 1993). Qualitative research methods offered ways to help understand the unique way students might respond to their curriculum experiences. Qualitative research methods also offered an opportunity to better understand how students' curricular experiences may be shaped by governments, community groups, the media, schools and individual teachers.

Investigating students' engagement in holistic healthcare practices in context with a range of environmental influences meant, to a certain extent, I needed to

become a part of the community. Stake (1995) discusses the importance of not disturbing the natural setting so a clear picture of the participants' experiences within the physical, sociocultural contexts of their environments might be captured. Becoming integrated into the students' school community, rather than as an outsider observer, therefore seemed to be the best way to minimise any disruption to the natural setting. Engaging a school where I had an existing relationship was considered advantageous for enabling me to move freely within the school environment when collecting data. Interviewing participants and collecting additional data, such as student class work or observations of students' healthcare practices would possibly be less intrusive if the participants were already familiar with me.

Capturing participants' insights and experiences faithfully was considered an important research responsibility. I appreciated all participants would have their own personal histories, experiences and interpretations of events which would translate as what was 'real' and 'meaningful' to them (Tinning & lisahunter, 2006). These 'multiple realities' would somehow have to be interpreted and constructed into an account that reflected the participants' experiences. To ensure authenticity of the qualitative research process, 'trustworthiness, credibility, dependability and conformability' would all need to underpin the research (Lincoln & Guba, 1985). A case study method was selected as a purposeful systematic method to guide this research process.

Case study

Case study can be used as a method to discover how complexities in real life may influence decision making. Stake (1995, p xi) says "Case study is the study of the particularity of and complexity of a single case; it is the coming to understand its activity within important circumstances." The case study method of inquiry, however,

may vary depending on the reason for the research. Stake discusses three types of case studies. An intrinsic case study, where the researcher needs to learn about a particular case; an instrumental case study, which has broader implications and is often concerned with solving a puzzle or research question in search of greater general understanding and a collective case study, where a similar issue is researched in several sites to gain deeper understanding. This particular school based HPE case study conforms to an intrinsic case study where the researcher is interested in learning more about environmental 'enablers and barriers' that influence students' engagement in holistic healthcare practices.

Qualitative research as in case study and quantitative research methods require analysis regarding their merits and weaknesses (Creswell, 2003). The key difference between qualitative and quantitative research is that positivist quantitative researchers in the natural sciences attempt to eliminate bias whilst social constructivist researchers engaged in qualitative research make explicit acknowledgements of potentials to bias. Each method, however, is argued to be prone to flaws (Kopec & Esdaile, 1990; Lather, 1986). For example there may be known, unknown or unacknowledged errors in the way the research question is framed or the research is designed. Human error may also occur when measuring, selecting samples or following the research procedures. Identifying inherent limitations in this case study was considered important. This does not necessarily refute case study's validity but rather allows the researcher to put in place methodical practices to overcome potential discrepancies or bias (Mays & Pope, 2000).

A case study relies on systematic methods for collecting data, analysing information and reporting the results to examine a single instance or event (Creswell, 2003). The event in this study refers to the implementation of a holistic healthcare

program. The combination of the actors ‘within’ and ‘without’ the school gate and their surrounding multidimensional environments highlight the distinctiveness of this case study. Careful planning and systematic practices to promote rigour and validity of the case findings were integral to this research endeavour.

In case studies, the researcher has the responsibility of co-creating the understandings and providing a reliable recount of the participants and their stories (Berg, 2004). Stake (1995) points out that confidentiality and a trusting relationship are integral to elucidating a genuine and reliable account. The school chosen for this study was one where I had established a working relationship of trust with both the students and teachers. We were already in dialogue about co-creating a holistic healthcare curriculum and capturing student responses. This established a strong foundation for implementing the various data gathering methods in the design of this study.

Awareness of a researcher’s vulnerabilities and potential to bias is fundamental to case study method. Case study researchers are encouraged to identify the integral experiences, values and perspectives of both the researcher and the participants within the study in order to allow the reader to draw their own conclusion regarding potential bias (Creswell, 2003). My central role as the researcher in the investigation was perhaps the most challenging issue. I foresaw that the three distinct roles I assumed in this study: 1) as author of the 7NP holistic healthcare program; 2) as facilitator of the health program and 3) as researcher responsible for collecting data, would require me to be conscious and vigilant in my reflections of vulnerabilities to bias when interpreting the data. Making decisions about the role of my voice in the discussion of research findings raised questions about tense and the presence of voice; when where, how much and how often.

Transparency of position in the research is key to qualitative research. The autobiographical information presented in the introductory chapter was purposefully placed so the reader, from the outset, would be positioned to acknowledge the subjectivity of the researcher in this study. Providing this information was important for disclosing my epistemological position in the research as favouring a social-constructivist interpretive approach. The breadth and quality of data to be collected was an important consideration. Yin (1994) states collecting a sufficient amount and a variety of data helps to promote rigour in case study. Adequate data was sought to enhance my role as the researcher, so co-creating understanding and constructing meaning of the participants' shared healthcare experiences, perceptions and world views might be illuminated in the findings (Byrne-Armstrong, Higgs, & Horsfall, 2001). Multiple types of data, additional data collectors and member checking practices were used as validation (Denzin & Lincoln, 2003a; Stake, 1995).

Underpinned by the discipline of careful planning, the design of this case study was strategic in its application of qualitative research principles. Systematic methods of inquiry, analysis and reporting were useful for providing an illumination of students' engagement in holistic healthcare practices (Byrne-Armstrong, et al., 2001; Denzin & Lincoln, 2003b). The intention being that the final account of the case study would ultimately render the pluralistic values, opinions and experiences, thus highlighting a range of environmental 'enablers' and 'barriers' influencing the student's engagement in holistic healthcare practices.

Table 3. *Research timeline and research activities*

Research Timeline	**Research Activities**
Stage One: **Ethics Approval**	Research Ethics submission and approval granted by James Cook University Ethic Committee
Stage Two: **Case study site located**	Participating school provided verbal consent.
Stage Three: **Data Collection**	**Phase One: Pre-Implementation** Research project information was disseminated and signed consent forms from participants were collected Semi-structured interviews were held with teaching staff and pre-service teachers during the 7NP planning session A 7NP healthcare questionnaire (pre-test) was administered to all Year Six students School policy and administration documents were collected Reflective journal highlighting records of initial observation Transcripts of interviews were made and preliminary analysis of data including school documents, students' 7NP questionnaires and interview transcripts commenced ANGELHH framework developed
	Phase Two: Implementation Teachers implemented their 7NP HPE units Four x two student focus group interviews were held periodically during the term Some transcripts of interviews were made to assist with ongoing analysis of data Member checking practices with pre-service teachers took place Semi-structured interviews were held with a health professional and one parent Informal interviews were held with staff and students Student work and additional school documents were collected Reflective journal including observations of class lessons, students healthcare practices at school and events at the Year Six camp Teachers concluded their unit by giving the Year Six students a 7NP healthcare questionnaire (post-test)

	Phase Three: Post-implementation Two semi-structured interviews were held involving a parent and a second health professional Remaining interview transcripts were made to assist with ongoing analysis and triangulation of all data collected An informal interview was held with a chaplain Member checking procedures continued by phone or email with school staff Reflective journal entries were added as events came to mind that had not been documented earlier
Stage Four: Analysis and Report writing	ANGELHH framework was used for ongoing analysis of all data and report writing

Methods

In this section I will explain the methods used to carry out this research project. Procedures used for selecting participants to engage in the study, types of data to be collected and data collecting phases will be described. A summary of the four stages and the research activities can be found in Table 3. The detail provided in this section also aims to demonstrate how procedures were set in place to help promote validity and rigour in the study.

Sampling. Former relationships, locality and ease of access were factors that influenced where the study took place and who was engaged in this case study. The logistics and practicalities of data gathering processes, Stake (1995) suggests, are integral to determining participants in a case study. Sampling methods for selecting which staff, classes, students, parents and community participants who were to be involved are described below.

The Principal and the Curriculum Coordinator from a school that had been working with the 7NP program in 2007 were asked if they would consider participating in this research project. (A description of the school site is provided on page 98). At that time the school was a recipient of a Queensland Department of

Housing (2008) Community Renewal grant. The funds provided the school with 7NP resources, professional development for the teachers and consultancy support for teachers and their students in the classroom setting. The school was also engaged in a James Cook University research investigating mobility or the movement of students between schools and associated policies. The Principal informed me that a 7NP research project in the school may be of interest to them for bringing to light significant issues around the students' healthcare practices at school. She indicated she would ask for an expression of interest from their teaching staff. Two Year Six teachers responded. One of the Year Six teachers had delivered the program in the previous year but the second teacher had not. Both teachers were experienced and had been teaching for six and 13 years respectively. The teacher with 13 years' teaching experience, in addition to her full time teaching contract with Education Queensland, worked as a part-time fitness instructor. From my perspective, combined issues such as being familiar with the school layout, standard policies and procedures in the playground, knowing the administration staff by name, being known by the teachers and students were all considered favourable for allowing me to move with ease around the school site to gather data.

Once the school agreed verbally to engage in the research study, I emailed the Principal a copy of the research information document that had been approved by James Cook University (JCU) (see Ethics Compliance 4.4.1) and the participation consent forms. The Principal responded by sending the required letter of consent to the JCU Ethics Committee. Arrangements were then made for an initial interview with the Principal and her Curriculum Co-coordinator. A second date was set for a HPE curriculum planning session with the two Year Six teachers.

During the teachers' planning session a number of research issues around holding interview sessions were addressed. Teachers said they were happy to have small groups of students, who had been given parental consent, to engage in interviews during class time. There were also four Pre-service teachers who, as a part of their Teaching Degree course requirement, were interested in being involved in interviewing the Year Six students.

Following the teachers' planning session, the Year Six teachers and myself explained the nature of the research project to the Year Six students. Almost all of the 52 Year Six students, aged between 10 and 11 years, with the exception of two new students, had worked with me during the previous year on a 7NP project. The students' potential to offer elements of comparability of their healthcare practices from one year to another may provide, as Creswell (2003) points out, additional scope to the research. After the meeting a notice was sent home to parents informing them about the study, along with a participant consent form to be signed. The students understood that the 7NP program was going to be a HPE focus in fourth term. An incentive of being allowed to take part in the production of a series of 7NP health promotion television advertisements for those who were going to participate in the study was used to help with recruiting student participants. Incentives to raise recruitment levels in Human Research is reported as being innocuous when there is no strong aversion on behalf of the participants to partaking in the research study (Grant & Sugarman, 2004). Fifty-one students, including the two new students, returned the research consent forms. Of these 51 students, eight were of Aboriginal or Torres Strait Islander descent. There were 23 males and 28 females.

Pluralistic views were highlighted earlier as being important for providing a variety of perspectives from a variety of participants highlighting the students' holistic

healthcare practices (Stake, 1995). The Principal, the Curriculum Coordinator, the two Year Six teachers and the Year Six students from the school were active participants in the research. Over the course of the research journey there were four pre-service teachers, two parents, two health professionals and a chaplain who represented the additional community players who agreed to engage in the study.

Data collection. There were three phases for data collection which related to the students' interaction with the 7NP HPE curriculum (see Table 3, Stage Three). The three discrete phases were called the preparation, implementation and post-implementation phases. All of the phases had their own distinct objectives, energies, research practices and time constraints. This section details the data collection in respect to 'when, where, what and by whom'. Validation procedures are also highlighted in this description.

Types of data collected and validation. The types of data collected for this study were those commonly recommended for case study research. The data included school, student and community documents, digital recordings and transcripts from semi-structured and focus group interviews and researcher journal notes capturing casual conversations with participants and observations of participants (Creswell, 2003). Observations were noted during interview sessions and notes were made of students' healthcare practices in the playground, in the classroom, on school excursions and in the community.

The collection of documents is considered a useful research tool as it represents unobtrusive ways of gathering information that may reflect or portray participants' experiences, values or insights (Creswell, 1998). In this study documents highlighting issues around school governance, curriculum, teacher planning and student work were gathered. School documents such as tuckshop lists, school

newsletters, annual reports, the school's website and school policy documents pertaining to HPE curriculum within the school were collected for analysis. Class rolls provided information about the students' cultural background allowing for the identification of Anglo, Indigenous or Torres Strait Islander students. Additional artefacts from the classroom and the playground were also taken into account such as availability and class access to sports equipment, designated eating and play areas, additional access to playing fields, water bubblers and fixed playground equipment.

HPE curriculum, teacher planning documents and student work were particularly sought in this case study. Teacher curriculum documents were collected to provide detail about pedagogy that may have influenced the students' interaction with the 7NP HPE curriculum. The range of samples of student work gathered included student responses to 7NP healthcare questionnaires. These included a pre-test (see Appendix C) and a post-test (Appendix D). Additional student work comprised of students' persuasive texts on health promotion, healthcare journals, student work books and student designed 7NP teaching tools. Class teachers, in some instances, provided examples of student work that they felt best demonstrated the range of work being handed in by the students. Students' comments uploaded to the Learning Place website, where their 7NP unit was posted by their teacher, were also gathered. A series of 10 newspaper articles that were printed in the local newspaper were also among the student work samples. These articles were co-authored by one of the Year Six teachers and her class, outlining the students' learnings and engagements with the 7NP program.

There were three types of interview methods used in this study. They were semi-structured, focus group and informal interviews. Semi-structured interviews rely on using a set of questions for guiding the interview, however exact wording or order

of questioning is not necessarily followed (Stake, 1995). Semi-structured interviews were considered an important method for increasing the rapport between the participants and myself therefore allowing for a more relaxed and fruitful exploration of the research issues. Student focus group interviews also relied on a set of guiding questions, however, an emphasis was placed on allowing the students to talk freely to one another and contribute to the variety of topics raised during the interview. These discussions would importantly highlight the participants' personal healthcare practices in context with the rest of the group (Patton, 2002). Informal interviews comprised of informal or casual conversations that took place on site during the implementation phase.

The following sets of questions were used for guiding semi-structured interviews:
Guiding research questions for students' semi structured interviews:

- What are your feelings about doing HPE at school?
- Are you involved in sports or clubs after school?
- What are the things that help you to 'be healthy' or to 'live a healthy lifestyle'?
- What is it that stops you from 'getting healthy' or from 'being a healthier person'?
- Which physicians are you 'best' at? Which physicians do you think you are 'worst' at?

Guiding research questions for executive staff's semi structured interviews:

- What are some of the 'enablers and barriers' for students at Riverside engaging in health promoting activities?
- How do you feel the school has catered for the health needs of the students?

- What role do the parents play in guiding the school with health policies or activities?
- Have government programs such as 2&5 Fruit & Veg or mandates such as 'Smart Moves' impacted what happens in the school/classroom?

Guiding research questions for teaching staff's semi structured interviews:

- What is your teaching background?
- What are your past experiences or perspectives of teaching HPE?
- What are your past experiences or perspectives of student engagement in HPE?
- What do you think are the most obvious influences that "enable' or create 'barriers' to students engaging in 7NP's health promoting activities?

Guiding research questions for parents' semi structured interviews:

- Are you aware of the 7NP's program that your children have been studying at school?
- What are some of the challenges for you trying to help get or keep your children healthy?
- What areas do you feel you do well in? What areas do you feel you don't do so well in?
- Are there ways that you see that the school really helps to promote your child's/children's health and wellbeing?
- Are there things the school could improve on to promote your child's/children's health and wellbeing?

Guiding research questions for health professional's semi structured interviews:

- What is your background in healthcare?

- From your clinical experiences what are some of your current concerns with children's healthcare needs?
- How do you see the school or the community is trying to address these concerns?
- In what was is the school or the community not helping to address these concerns?
- Do you have any practical suggestions as to how the school or the community could address local child healthcare concerns?

The teachers were given autonomy to select the focus group participants, as the interviews were to take place during class time. Six participants were agreed upon by the teachers and myself as a reasonable number to help gain a variety of student perspectives around their engagement in holistic healthcare practices. One teacher said she had considered criteria such as returned consent forms, gender, multiculturalism and student responsibility when selecting those from her class to participate in the focus group. The other teacher said she thought having the triplets from her class in the focus group might provide an interesting perspective. Both focus groups ended up comprising of two males and four females. All participants were 10 - 11 years of age and of Anglo descent with the exception of one Philippino boy and a Torres Strait Islander boy in one focus group and an Aboriginal girl in the second focus group.

The interviews, where possible, were recorded and later transcribed. The participants understood this process would allow the interviewer to give their full attention to the ebb and flow of the discussions and that rigour could be enhanced as actual quotes could be included in the recount. Where there were limitations in recording the interviews, shorthand notes were taken during the interview and soon

after theses notes were rewritten in more detail. Member checking practices were employed to validate the content of the recount. For example, a copy of the transcribed interview when the recorder failed was emailed to a trainee teacher who was present at the interview. These participants were asked to respond to the email and make notes to help verify the content of the interview transcription. Contributing additional information overlooked in the transcription or suggesting edits were encouraged. Information relayed from participants to myself during informal or casual conversations was captured as soon after the event as possible in shorthand or dot points. These notes were later transcribed and elaborated upon in the researcher's journal. Triangulating the data from interviews, documents and observations was considered important for enhancing or validating the data or identifying information that may be disreputable (Denzin & Lincoln, 2003a).

Throughout the duration of the study I kept a researcher journal where field notes, observations, reflections and insights were noted. Methods of recording observations included recording details in relation to time, location, setting, characters, reason for gathering and sequence of events (Creswell, 2003; Neuman, 2007). Shorthand journal entries were made during schools visits and following the event a detailed account was typed and stored chronologically on computer files. At other times additional researcher reflections were recorded. For example, issues that had been discussed amongst friends or colleagues or topics that the researcher had mulled over during recreational walks were later captured in narrative or point form.

During the final two weeks of Term Four, I was contracted to teach one of the Year Six classes involved in the study. This appointment provided opportunity for prolonged engagement in the research field and persistent observation to observe the students' health promoting or deleterious healthcare practices within the school

context (Denzin and Lincoln, 2003a). The appointment also allowed for a regular flow of informal interviews with a number of the students and other staff within the school. Informal interviews or casual conversations with participants during this time were similarly noted in point form and elaborated on at a later date. The strength of observation during this phase allowed me to compare and contrast particular information students had been presenting in their interviews and school documents (Denzin & Lincoln, 2003a). Pre-occupation with professional responsibilities as a teacher of the Year Six class, however, placed limitations on my attention to research activities during this period.

Validation practices were considered important in this case study to promote notions of 'trustworthiness, credibility, dependability and conformability' all of which are expected in case study research practice (Creswell, 2003; Denzin & Lincoln, 2003a, 2003b; Lincoln & Guba, 1985). Collective validation procedures used in this study included identification of the researcher's position, prolonged engagement in the research site and persistent observation of the participants. Triangulating the data was supported by using additional persons such as pre-service teachers to collect the data and ensuring a variety of data was collected to check for consistencies in participants' stories. Digital recordings, member checking of transcripts with individual participants and researcher journal accounts were all used to enhance rigour and verify accuracy in the data. University supervisors were also helpful for providing objectivity about the data and for raising questions that I, as the researcher/participant may have overlooked.

Data analysis. The data was systematically analysed so a co-ordinated story about the Year Six students' engagement in holistic healthcare practices could initially be drafted, fashioned and then retold comprehensively (Denzin & Lincoln, 2003a).

Colour coding, tallying responses, transferring information into retrieval charts were processes utilised so that comparisons could be made in the data across a range of the students' school, home and community sites. The aim was to provide the reader with an insight into the multidimensional environmental 'enablers and barriers' that may potentially be influencing the Year Six student's engagement in holistic healthcare practices. The perspectives of individuals whose lives were to varying degrees interconnected with these students were analysed using an analysing grid that was adapted from the Analysing Grid for Environments Linked to Obesity (ANGELO) (Swinburn, et al., 1999).

From ANGELO to ANGELHH. The ANGELO was identified as a useful analysing grid to gather data around the multidimensional influences on health (Swinburn, et al., 1999). However, for this study the grid would need to be adapted to allow for the examination of data gathered in this study highlighting the students' 7NP holistic healthcare practices. The reformatted analysis grid was called the Analysing Grid for Environments linked to Holistic Healthcare (ANGELHH). Permission was sought and received from Deakin University to use the ANGELO in this study (See Appendix E). The environmental aspects of the ANGELHH, based on ANGELO, included: political (what are the rules); sociocultural (what are the attitudes and beliefs); physical (what is available) and economic (what are the costs). The holistic healthcare practices to be analysed were those highlighted in the 7NP program: attitude; air; nutrition; sunshine; water; exercise and rest.

The ANGELO also provided definition around the 'micro' and macro environmental influences on health. Microenvironments are geographically defined and relate to small group settings (e.g. schools, workplaces, homes and neighbourhoods) where people gather for specific purposes, (e.g. food consumption or

physical activity). These microenvironments are cited as the easiest to target for healthcare remediation. Macroenvironmental structures such as health systems, governments and the commercial industries (i.e. agricultural, manufacturing, distribution and marketing enterprises) are considered more difficult to influence or change based on the size and complexity of their operations (Nathan, et al., 2005). Protecting the profit motive of commercial enterprises is also seen as a key consideration for neoliberal governments when developing policies.

ANGELO studies have predominantly focused on child health behaviours in terms of individuals 'making healthier food choices' or engaging in 'increased physical activity' (Simmons, et al., 2009; Swinburn, et al., 2004). Examples of studies using the ANGLEO in schools include 'Measuring the 'obesogenic' food environment in New Zealand primary schools' (Carter & Swinburn, 2004) and 'Understanding Influences of the Media on Physical Activity and Nutrition: An Ecological Approach' (Spence, 2005). More recent studies have further investigated the influence of media on physical activity (van Zutphen, Bell, Kremer, & Swinburn, 2007); the consumption of key food and soft drinks by school children (Sanigorski, Bell, & Swinburn, 2007) and social trends in obesity (Sanigorski, Bell, Kremer, & Swinburn, 2007). ANGELO studies appear to foreground the notion that diet and exercise are key causes and therefore important remediation strategies for the treatment of obesity.

Contemporary obesity researchers, however, have resisted the simplistic 'energy input/activity output' or 'diet/exercise' notions highlighted in the ANGELO (Broberger, 2005; Evans, Davies & Rich, 2008). Current research highlights evidence of sleep deprivation potentially being linked to obesity (Biggs & Dollman, 2007; Dodd, et al., 2008). Attitudinal elements are commonly linked to obesity remediation (Lingswiler, Crowther, & Stephens, 1987; Lowe & Fisher, 1983; Pinaquy, Chabrol,

Simon, Louvet, & Barbe, 2003; G. Wang, Volkow, Thanos, & Fowler, 2001) and drinking water for weight management has more recently been advocated (Batch & Baur, 2005; National Health and Medical Research Council (NHMRC), 2007a; Stanton, 2006). Contemporary researchers are collaboratively raising an awareness of the broader holistic healthcare 'variables' influencing the 'development' or 'prevention' of obesity. The ANGELO, however, may be seen in deficit if used only to analyse the diet/exercise elements in obesity studies.

This study was not designed to research obesity issues or to measure the effectiveness of the 7NP program. The research task was designed to gather data that might illuminate a range of students' holistic healthcare practices. The ANGELHH elements were embedded in seven guiding research questions to ensure that the collection and analysis of data would address the study's overarching research question, 'What environmental (physical, political, sociocultural and economic) 'enablers and barriers' are highlighted when two Year Six classes interact with an innovative holistic healthcare program?' The seven guiding research questions were:

1) What are the political, sociocultural, physical, and economic environmental 'enablers' and 'barriers' that influence Year Six students' engagement in attitudinal healthcare practices?
2) What are the political, sociocultural, physical, and economic environmental 'enablers' and 'barriers' that influence Year Six students' engagement in air-related healthcare practices?
3) What are the political, sociocultural, physical, and economic environmental 'enablers' and 'barriers' that influence Year Six students' engagement in nutritional healthcare practices?

4) What are the political, sociocultural, physical, and economic environmental 'enablers' and 'barriers' that influence Year Six students' engagement in sun-related healthcare practices?
5) What are the political, sociocultural, physical, and economic environmental 'enablers' and 'barriers' that influence Year Six students' engagement in water-related healthcare practices?
6) What are the political, sociocultural, physical, and economic environmental 'enablers' and 'barriers' that influence Year Six students' engagement in exercise-related healthcare practices?
7) What are the political, sociocultural, physical, and economic environmental 'enablers' and 'barriers' that influence Year Six students' engagement in rest-related healthcare practices?

Yin, (1989) suggests that when in the research field, it is not uncommon for a researcher to become distracted by the participants' stories. The questions were therefore significant for curbing my vulnerabilities for becoming side-tracked.

Retrieval charts were used to collate the data during the analysis process. Table 4 below is a summary retrieval chart showing how all the data was collated for analysis. Table 5 shows how information about the students' 7NP specific (for example attitudinal healthcare practices) was collated according to the multiple thematic political, physical, sociocultural and economic environmental influential enablers or barriers in three sites which were the school, home and community.

Table 4. *ANGELHH summary retrieval chart for collating data depicting 7NP healthcare practices, location and environmental influences*

7NP	Political		Physical		Sociocultural		Economic	
	Enabler	**Barrier**	**Enabler**	**Barrier**	**Enabler**	**Barrier**	**Enabler**	**Barrier**
Attitude School Home Community								
Air School Home Community								
Nutrition School Home Community								
Sunshine School Home Community								
Water School Home Community								
Exercise School Home Community								
Rest School Home Community								

Table 5. *ANGELHH rubric for collating data highlighting environmental influences on 7NP specific healthcare practices (e.g. attitude) in the students' school, home and community settings*

Influences	**Political**		**Physical**		**Sociocultural**		**Economic**	
	Enablers	Barriers	Enablers	Barriers	Enablers	Barriers	Enablers	Barriers
School								
Home								
Community								

Coding of data. When applying the ANGELHH to the data analysed in this study it became evident that redefining key terms for the multidimensional environmental influences on the student's healthcare practices was needed. The 'political' influences in this study took on a broader meaning where government authorities and school bodies were not the only rule-makers who developed policies and mandates. Parents were seen as rule-makers in the home, and sporting associations were another group of rule makers who had clear guidelines for their athletes in the community. Collaborative partnerships between these groups were observed at times to create rules in the interest of student health and wellbeing. The 'social' influences theoretically included those people who were observed as shaping the participants' attitudes, values and world views. In most instances these influences were found within the school amongst staff and peers and at home amongst family and friends. In the community, the students' social network extended beyond relationships in the local vicinity when students connected to the global interface through media and technology. Finances or 'economic' capital to access these resources or engage in these local or global communities was significantly related to a range of 'physical' elements such as possessions, time, space and location.

The data was initially colour coded by placing a line down the side of the text highlighting significant multidimensional environmental influences: physical (brown), sociocultural (pink), economic (dark green) and political (maroon) 'enablers and barriers' around the students' holistic healthcare practices. A second coding was then made of that same data highlighting underneath the text to indicate which 7NP holistic healthcare practice attitude (yellow), air (light purple), nutrition (light green), sunshine (orange), water (blue), exercise (red) or rest (dark purple) was being referred to in the data (see Appendix F) for example of colour coding data).

Following the first two colour coding phases, the highlighted data was then collated into a series of retrieval charts (see Table 5). The retrieval charts contained data relating to a specific 7NP healthcare practice and the environmental influence. The data was then sorted according to where the activity took place. The students' world was divided into three distinct sites; they were the school, home and the community. Re-organising the data in this way helped in the identification of recurring themes around the political, sociocultural, physical and economic environmental 'barriers' and 'enablers' influencing the students' 7NP healthcare practices. Identifying patterns, tensions, gaps or contradictions around the students' holistic healthcare practices was integral to this process. Researcher notes were also made so that retrieving information such as quotes, stories and document details would be easier when it came time to report the case study findings.

A descriptive statistical approach was used to present the data in a way that would allow simpler interpretation of the data. Dominant themes in the data for each of the students' 7NP healthcare practices were identified based on repetition of findings in the data. Tallies were made in the findings and where possible the mode, median, and mean statistics in the data was used to establish the central position of a frequency distribution for a group of data. For example, the number of times 'lack of money' was referred to as a reason for limiting a student's opportunity to engage in community sports was tallied and identified as an economic determinant. The number of students who stated they were 'best at' or worst at' a particular physician was tallied so that detail around specific healthcare practices could be analysed.

Stories reflecting issues highlighted in the literature review were also considered for their relevance. For example, the Parent and Citizens' (P&C) group's collaborative decision with the school to provide the students with seats under a shaded area for eating

purposes conflicted with the student's desire for space to play games during recess breaks. In this instance the way the space had been utilised represented the 'physical' influences, the cost for these items represented the 'economic influences, and the marginalised student voice and school policy or decision making processes were seen as the 'political/sociocultural' elements impacting the student's 'attitude; exercise and sunshine' healthcare practices.

The data highlighting the students' home and community environments were analysed in a similar manner. For instance, family finances may have been an 'enabler' or a 'barrier' for students engaging in recreational sporting activities. Parental rules or the 'lack of' rules in the home may have also nurtured or challenged the students' 'rest' or 'attitudinal' healthcare practices. Parent, sibling or coaches as role models were highlighted for being either sociocultural 'enablers' or 'barriers' to the students' healthcare practices. For example, role modelling may have been referred to as postural practices (air), consumption of healthy foods (nutrition) and engaging in physical activities (exercise). A discussion of the findings is provided in Chapter Four where each of the individual guiding research questions is addressed in detail.

Ethics

Prior to the commencement of this research project university ethical protocols and procedures were observed (James Cook University, 2007; Qld DETA, 2008). This involved understanding researcher responsibilities when conducting human research and adhering to national codes for researcher ethical guidelines.

The National Statement on Ethical Conduct in Human Research states that ethical guidelines are not simply a set of rules but their application requires researchers to deliberate on the values and principles within the guidelines and they are required to appreciate context and exercise judgment (NHMRC, 2007b). The core values of respect

for human beings, research merit and integrity, justice, and beneficence are principal to shaping a research relationship that is based on trust, mutual responsibility and ethical equality. Universities and government educational bodies are responsible for providing committees that ensure ethical guidelines and protocols are followed and adhered to by researchers.

Permission for the Research or Teaching Involving Human Participants for the 7NP pilot study was first granted by James Cook University Ethics Committee in 2006 (see Appendix G: Ethics Approval Number H 2360). Amendments to the Ethics application were submitted in October 2008 to cater for this particular case study. The amendments included changes in supervisors; title of research and a minor change to the research information page. The ethics approval expired 18 April 2010. Research information handouts, teacher consent forms and student participation consent forms were distributed amongst the participants. An accompanying note from the Principal about the research project was sent home to all parents of students in the two Year Six classes also informing them of my role within the study and the school. Student participation consent forms were signed with the understanding that anonymity and confidentially would be upheld. The research questions were designed to be non-intrusive and students understood they could withdraw from participating at any time during the course of the research project.

There were eight students of Aboriginal or Torres Strait Island descent who participated in this study. The researcher's former engagement with schools with high Indigenous populations, and participation in postgraduate subject Indigenous Research Ethics (IA5010) helped to raise personal awareness of Indigenous cultural diversity and their contrasting world views. The multicultural awareness philosophies apparent in the

7NP healthcare program, reinforced in the appearance of the 7NP characters, also promoted an ethos of inclusion and respect for cultural sensitivities and diversity.

All participants were treated with respect and levels of honesty and trust were upheld throughout the research activity. For example, at different times the participants were reminded about the purpose of the research and the importance that comments were not being judged by the researcher or those in the focus group interview. Participants understood that de-identification through coding names (e.g. Student 1) would be used in the case study report (Denzin & Lincoln. 2003a).

Limitations and delimitations

Research studies are defined not only by their methods and methodologies but also by factors that provide delimitations or limitations that impact the outcomes and rigour of the study (Denzin & Lincoln, 2003b). Delimitations refer to the boundaries of the study. For example, delimitations may be based on the context in which the inquiry was carried out, e.g. where the study took place and who was involved. Limitations, on the other hand, refer to the potential weaknesses in the study. For example, limitations may refer to selection methods of participants or unexpected external exigencies that interrupt the flow of the procedural phases of the research design. There were several delimiting and limiting factors that influenced this case study.

Delimiting factors in this particular study related to scale, place and participant factors (Stake, 1995). The study was confined to a small cohort of Year Six students from one school within a low-socio economic community. A pluralistic representation or maximum variation representation amongst the cohort was anticipated, however, the teacher selected focus groups resulted in a restricted representation of the two Year Six classes. The majority of students in the focus groups and the Year Six classes were white Anglo students. Only three students in the focus group were non Anglo; one boy's parents

were from the Philippines, one girl was part-Aboriginal and another boy was a Torres Strait Islander. Both focus groups were female dominated and analysis of whole class documents revealed that these students in general represented the higher academic achievers and the more affluent demographic of the classes. For example, the vast majority of the focus group engaged in after-school sporting activities and possessed a range of sporting equipment at home that encouraged them to engage in physical activity such as swimming pools, trampolines, bikes and skateboards. Written documentation from whole class accounts of physical supports at home to help them engage in physical activities indicated that having a swimming pool at home was not necessarily the norm. Parental engagement in the school was also minimal which resulted in restricted input from the students' parents. The students' data was therefore relied upon for gaining greater insight into parent healthcare perspectives and practices that may have reflected the students' subjectivity. Researcher bias, as accentuated in my case being the author, trainer, facilitator and teacher of the 7NP program, is always a potentially delimiting factor in qualitative research.

Limitations in this study were anticipated in teacher implementation, student uptake and engagement with the 7NP program and logistical challenges that may occur when carrying out research activities. In this research project the two Year Six teachers had expressed and demonstrated sound willingness to participate in the program. Corporate planning, allowing for the two teachers to design their own unit, the provision of 7NP healthcare resources, guest speaker support and ongoing facilitator support were a range of strategies implemented to help support the teacher 'delivery' and student 'uptake' of the 7NP holistic healthcare program. However, as the research process began, there were a series of researcher and teacher issues, curricula demands, technological malfunctions and school schedules that created limitations in the study. For example,

access to students or teachers for interviewing sessions became particularly challenging during the latter part of term four. By the end of the year both teachers and students were tired and the pressure to meet end of year concerts, exams and reporting commitments meant that the quantity and/or quality of the interviews were on some occasions limited. Technical difficulties for digital recordings were also experienced. Researcher work commitments in 2009 also created an interruption to my master's timeline thus delaying data analysis processes.

During the analysis phase, additional interviews and communications transpired to help address gaps located in the data. For example, on one occasion I went back to the teachers to find out if any of the students had used the school's free lunch services or if the teachers themselves ever supplied the students with food if the students had forgotten or didn't have their lunch at school. I also inquired about the provision of free sunscreen for students for special sports events or daily use at school.

Citing the inherit delimitations and the limitations that occurred in the case study is important for providing the reader with insight into the discussion of the findings, which is found in the following chapter. A reasonable amount of data, however, was sought and collected, highlighting the Year Six students' engagement in holistic healthcare practices.

Conclusion

In conclusion, case study was used as a methodical research approach to investigate the range of 'physical, sociocultural, economical and political' environmental factors that enabled or created barriers for a cohort of Year Six students' to engage in holistic healthcare practices. The case study school was in a low socio-economic community in North Queensland identified by the Queensland Government (Qld DoH, 2008).

The Analysing Grid for Environments Linked to Holistic Healthcare (ANGELHH) framework, a synthesis of the Analysing Grid for Environments Linked to Obesity (ANGELO) and the 7 Natural Physician's (7NP) Holistic Healthcare (HH) program was developed to analyse the range of data collected in this study. The range of holistic healthcare practices analysed in this study included those associated with: attitude; air; nutrition; sunshine; water; exercise and rest. These healthcare practices were those identified in government healthcare programs utilised in the school and in the 7NP program.

An appreciation that learning is a sociocultural construct was critical to analysing this problem (Patton, 2002). An emphasis was placed on pluralistic representation from the range of participants who were either 'in' or 'interacting with' the school community (Denzin & Lincoln, 2003a). The participants included the Principal, a Curriculum Coordinator, two teachers, four pre-service teachers, 51 Year Six students, two parents, two health professionals and a chaplain. Research ethics protocols and practices were observed to protect the rights of those engaged in the research. Verification strategies such as prolonged engagement in the research field, persistent observation, triangulation and member checking of the data, and identifying researcher's vulnerability to bias were all applied to strengthen the rigour and validity of the study. The delimiting and limiting factors inherent in this research project were also highlighted to illuminate the uniqueness of this particular case study (Stake, 1995).

The challenge in qualitative research inquiry is to make sense of massive amounts of data. Reducing the volume of data through repetitive collating, coding and interpretive processes is a time consuming and creative human endeavour (Kopec & Esdaile, 1990). Finding clear or agreed guidelines to verify the validity or reliability of the findings are challenging. Foregrounding notions of researcher transparency were, therefore,

considered important (Lather, 1986). The discussion of the findings in this children's holistic healthcare research project is therefore embarked on with an understanding that the human element in qualitative research is an inherent weakness and strength.

Chapter 4 Findings and Discussion

This chapter presents and discusses the data gathered in this case study. The discussion, based on the application of the analysing grid for environments linked to holistic healthcare (ANGELHH), presents an interpretation of the data that highlights the multidimensional environmental 'enablers and barriers' influencing the Year Six students' holistic healthcare practices.

Introduction

The case story unfolds exploring three distinct sites making up the students' world as disclosed in the data. These sites are the school, the home and the community. Each of these sites was seen as having distinct environmental (physical, political, sociocultural and economic) influences on the students' holistic or 7NP (attitude, air, nutrition, sunshine, water, exercise and rest) healthcare practices.

When applying the ANGELHH to the data, detailed in Chapter Three, it became evident that the multidimensional environmental influences on the student's healthcare practices required case appropriate definitions. The political influences in this study were observed as individual or collective 'rule-makers' such as government authorities, school bodies, parents and/or community representatives from local sports clubs. People shaping the participants' attitudes, values and world-views were considered the sociocultural influences impacting the students' holistic healthcare practices. This included a host of individuals ranging from local residents to international figures who entered the participants' world via the media and technology. Stories pertaining to finances, or economic capital often correlated with a range of physical elements such as resources, space and location. Time and heat were viewed as more abstract physical influences. In this discussion, inherent contradictions, gaps and points of interest around the Year Six

students' holistic healthcare practices, illuminating distinct multidimensional environmental influences, are linked to tensions raised in the literature in Chapter Two (see Figure 4).

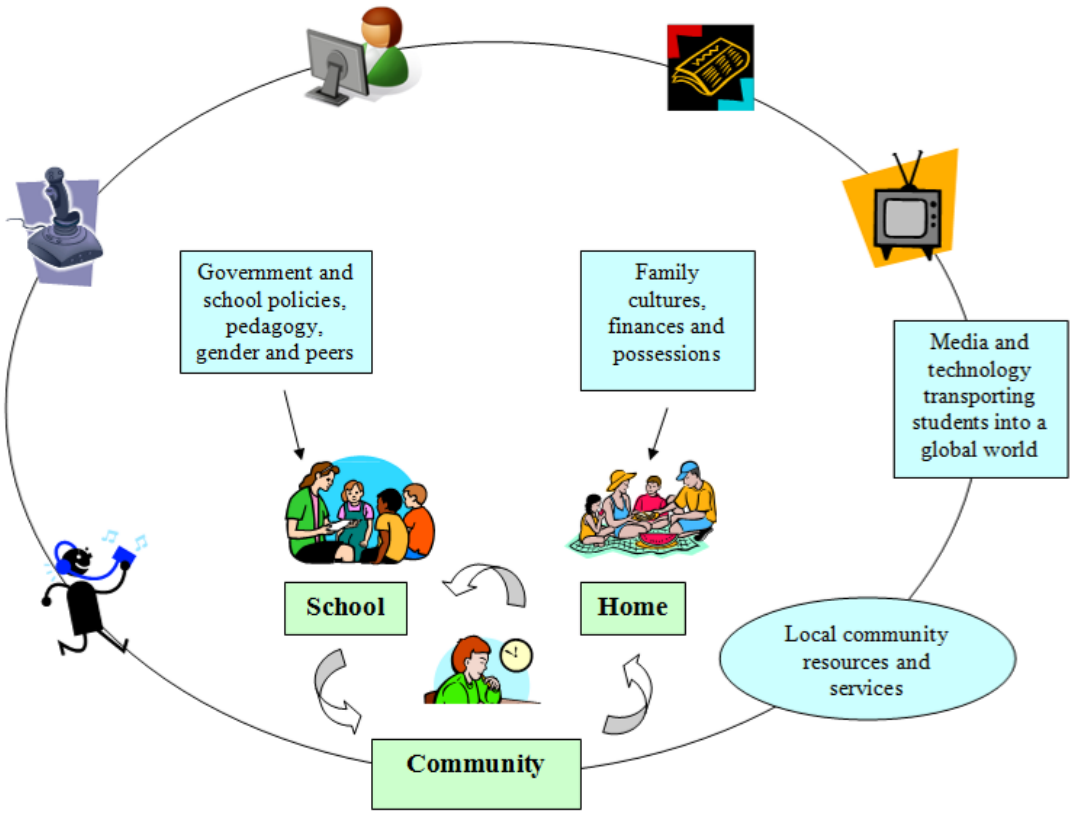


Figure 4. A student's triad world. Three distinct sites (highlighted in green): school, home and community. The tensions (highlighted in blue) represent issues raised in the literature review (Chapter Two).

At school

The school case data is discussed and presented in two phases. The 'pre-implementation' phase firstly provides data describing the physical aspects of the school and surrounding area. A discussion reflecting data gathered from semi-structured interviews, government and school documents introduces the reader to some of the

policies and practices in the school. Contrary adult and student perspectives are highlighted during this part of the discussion particularly in relation to attitude and exercise issues. The second phase, the 'implementation phase', describes issues that were highlighted when the Year Six teachers implemented their self-devised holistic HPE units. The bulk of the data, gathered during the implementation phase, provides greater insight into how the dominant and less dominant healthcare policies and practices were managed in the school. The Year Six teachers' pedagogy, aimed at 'responding to' or 'addressing gaps' in government policies and curricula, and the students' voice are important elements in this discussion.

Phase one: Pre-implementation. The first point of contact I had with the Year Six students was via the executive staff at the school. The Principal and the Curriculum Coordinator and myself shared an interest in students' holistic health and wellbeing with a particular emphasis on the biophysical relationship to behaviour, learning and healthcare. A funded/partnership model of practice (Doune Macdonald, 2003) highlighting structural relations of power between government, school, medical, commercial and parent stakeholders was used when the 7NP program was adopted by the school in 2007.

The case school was located in a government classified low socio-economic area (Qld DoH, 2008). The school grounds covering six hectares housed a series of teaching, resources and information technology and amenities buildings. There were also two undercover playing areas, a large L-shaped playing field with climbing equipment and several basketball courts that could be used for academic and recreational purposes (see Appendix H). The local community surrounding the school was described as suburban with a mix of cattle properties, agriculture and aquaculture. The population of around 14,500, a third of which were 15 years and under, and consisted of 3 9000 families. A

small percentage of the community were either Indigenous; born overseas or spoke languages other than English. A range of commercial, medical, sporting and community services were also available in the area. Many of these community groups were observed as being supportive of advertising important school events or occasionally displaying students' work.

A government/community partnership model, highlighted in this study, demonstrated how multiple stakeholder objectives might be met in a community partnership project (Hopkins & Levin, 2000). In 2007 the Principal, the Curriculum Coordinator, some teaching staff and the Parent and Citizens' (P&C) group made a decision to enter into a partnership with the Queensland Department of Housing and a medical body in order to access funding to adopt the 7NP program for their school curricula. The partnership stakeholders saw that skilling up professionals to deliver key holistic healthcare messages and providing the school and community with healthcare resources and professional support may potentially impact the health and wellbeing of families and other residents in the local community. The Curriculum Coordinator explained to the stakeholders, "The school doesn't have a written health curriculum. We just rely on Education Queensland's HPE essential learnings." The Principal and the Curriculum Coordinator saw adopting the 7NP program would help their staff deliver lessons to address key HPE essential learnings whilst also reinforcing messages in the school's Responsible Behaviour Plan.

The school's Responsible Behaviour Plan, representing the school's 'attitudinal' priorities, was expected to underpin pedagogy to enhance learning and foster harmonious relationships throughout the school. The Responsible Behaviour Plan was an amalgam of three behaviour management programs created by educators or government authorities with an invested interest in children's emotional health and wellbeing. They included:

The ‘You can do it!’ program (Bernard, 2008), popularly used in Australian schools; The Gold, Silver and Bronze key reward system developed by the school community and the School Wide Positive Behaviour System promoted by the Queensland Government (Qld DETA, 2005). The foundational social emotional learning skills of the ‘You Can Do it!’ program identifies ‘organisation, persistence, getting-along, confidence and resilience’ as the ‘Five Keys for Success’ to enhance student and teacher mental health and wellbeing. The school’s innovative ‘Gold, Silver and Bronze Key reward system’ was based on the students’ abilities to consistently demonstrate the ‘five keys’ and culminated in a ‘Rewards Day’ at the end of each term. The School Wide Positive Behaviour System, aimed at minimising school rules, recognises fostering ‘responsible, respectful and safe’ behaviours as school priority goals.

Consideration of whether the 7NP program could benefit the staff and students in the case school was raised during the teachers’ staff meeting in 2007. The Principal explained to the staff that when first seeing the 7NP Managing my Emotions poster (see Appendix I) she recognised it as a resource that complemented and affirmed her biopsychosocial approach for behaviour management. She explained, “Students who are sent to the office are routinely asked ‘Are you hungry? Have you eaten breakfast? Do you need a drink of water?” These practices however, were not documented in their behavioural management policies. The staff agreed the 7NP holistic healthcare approach could support the school’s behaviour management programs and may be useful for engaging the students’ families, thus acting as a type communicative or interactive health literacy (Nutbeam2000). The question foremost in the Principal’s mind was “How do we link it [7NP] to other programs in the school?” This intention, based on the dilemma of managing the school’s already crowded curricula (Leow, et al., 2009), was highlighted by the Curriculum Coordinator. She identified a way the 7NP program could be linked to

Education Queensland's citizenship model (Queensland Department of Education, Training and the Arts (Qld DETA), 2007) saying, "At the moment what we're looking at are curriculum organisers… If you do your 7NP and your healthy citizen then that's it." The staff also saw the potential for the 7NP to be used as a holistic healthcare framework that could incorporate a range of existing government healthcare interventionist programs and resources to support the delivery of the HPE curriculum in the classroom.

During the Year Six teachers' 7NP planning session in September 2008, creative ways to reinforce analogous school healthcare messages were explored. Unfortunately, due to lack of funds the Physical Education specialist teacher was unable to attend the training day. The classroom teachers identified the Year Seven HPE Essential Learnings' statement (Queensland Studies Authority, 2007, p 2) "Health is multidimensional and influenced by individual, group and community actions and environments" as a key healthcare message that highlighted health as a personal and community citizenship practice. Citizenship ideals, such as caring for one's self (healthy citizen), caring for one another (democratic citizen) and caring for the school environment (eco citizen) (Qld DETA, 2007), were already linked to a range of attitudinal principles within the school's Responsible Behaviour Plan. The schools' commitment to Smart Moves, SunSmart policies and Smart Choices, discussed later in this section, were additional school healthcare curricula identified by the staff as intrinsic to the 7NP framework and the HPE curriculum. Amalgamating messages and resources for ease of learning or to make the learning meaningful for the students, highlighted by Burrows (2005), appeared to be an important objective for the staff.

The teachers, during the planning session, also noted the 7NP program had shed light on gaps in their former HPE pedagogy. During the planning session the teachers echoed Leahy and Harrison's (2008) assertion that schools predominantly implement

curricula around diet and exercise. Teacher 2 said teaching HPE for her had been "…more along the lines of exercise. It is mainly surface teaching." Teacher 1 expressed her appreciation of a holistic approach for healthcare by reiterating Stanley, Richardson & Prior's (2005) reference to children needing exposure to a broad range of natural elements such as air, sunshine, water, etc to be healthy. "I just look at it [7NP] as a wellness program. It is all encompassing. You can't just choose one…you need all seven." After the 7NP training session the Curriculum Coordinator summed up the teachers' responses to the 7NP program by saying, "They [the teachers] think it is worthwhile, it has opened their eyes that health is more than just diet and exercise but a whole gamut of things."

The Curriculum Coordinator guided the teachers to consider how the 7NP curriculum might be integrated with other syllabi. She said, "It is always a case of how many birds with one stone….How do I incorporate the 7NP into ICT [Information, Communications & Technology] or into maths?" Reflective practice and a professional collegial approach to pedagogy, suggested by (Wright, et al., 2004) was evident in this case for helping the teachers manage a range of considerations around time, resources, policy and curriculum. The teachers however, had differing ideas about how they wanted to design and implement their HPE 7NP units. This difference was evident in their units, which were almost completely shaped by the end of Term Three.

Teacher 1's HPE/ English/Technology 7NP unit reflected an amalgam of government programs, 7NP curriculum resources and her own ideas plans (see Appendix J). The 'Be in it, stay in it' unit used by Teacher 1 was a Queensland Studies Authority (2008) prepared unit requiring the students to write a persuasive text article encouraging teenagers to be more active. The students were also to engage in daily Smart Moves to increase their fitness levels and to act as a coach during their weekly peer tutoring session with their Prep buddy-class. At the end of term Teacher 1's students, as a dual

Technology and English assessment task, were required to develop a 7NP teaching tool and present an oral explanation of how they had used it to help acquaint their buddy-student with holistic healthcare concepts. On a weekly basis Teacher 1's class was also to be responsible for collaboratively writing a feature article highlighting their 7NP weekly healthcare activities at school. This article would then be submitted and printed in a local, freely distributed, newspaper. The first article, an introduction to the 7NP holistic healthcare approach, was to be followed by seven articles introducing a new doctor each week and explaining how the students applied that particular doctor's advice when at school. The final article was to be a reflection on the students' engagement with the program at school. Teacher 1's unit appeared to favour a bio-mechanist approach to health and wellbeing with a focus on physical activity (exercise).

Teacher 2's integrated 7NP HPE/English/Science/ITC/Art unit, 'How to be a healthier me' incorporated elements that may have encouraged students to think of the broader sociocultural elements of healthcare. Teacher 2's students were to engage in several tasks focused on analysing their own health habits and those of others in the school (see Appendix K). The students were required to keep a 'Healthy Habits Journal' and record 7NP daily healthcare habits, goals and reflections. Students were expected, based on Teacher 2's exemplar, to submit an on-line reflection of their 7NP healthcare practices each week. Opportunity for the students to interact with one another and the teacher on line was also to be encouraged. "To recognise that being healthy is more than just eating properly and exercising" was highlighted on the student's task and criteria sheet as a key purpose for the journaling activity. At the same time the students were journaling their holistic healthcare practices, they were required to carry out a research task called 'How healthy are the kids at our school?' Students, working in small groups, were expected to design a survey based on the 7NP holistic healthcare practices. They

were then to visit classes in the school, survey the children, analyse the data and present their finding in a scientific report. 'A healthy piece of work' was the title given to Teacher 2's art activity where the students were required to create an art piece to represent how to be healthy, using a range of medium choices (painting, an abstract photo/painting, a collage). Teacher 2's integrated unit appeared to embrace a more holistic or biopsychosocial/cultural appreciation of their 'own' and 'others' holistic healthcare practices.

Researcher reflections on the teachers' preparations by the end of Term Three were recorded in my journal. I wrote (28.9.08):

> It was intriguing to see (and be re-reminded of) how much time and energy was spent at the teachers' planning session around considering existing government and school policies and practices. This all took place before the fundamentals of what a HPE/7NP unit might look like in the classroom was considered.

Following the planning session and by the end of Term Three the teachers found time to gather or create a host of curricular documents including unit overviews, lesson plans, criteria assessment and student worksheets. It appeared the students were going to have little say in how their HPE experience during Term Four would take shape. The absence of students' voice in developing curriculum was raised as a concern in the literature review. It seemed the adults, as discussed by lisahunter (2009), were making choices for the students based on their own ideas of what contemporary students needed in their healthcare and academic education. Observing students' responses to the teachers' HPE 7NP units, essentially a top-down approach, had therefore gained my attention.

Phase two: Implementation of the 7NP unit. The school staff had in place a range of policies for directing and controlling the students' attitudinal and healthcare practices both inside and outside the classroom. Behavioural management policies

(attitude), SunSmart rules (sunshine), healthy food choices (nutrition) and engagement in daily physical activity (exercise) reflected the policy driven top-down approaches that were dominant in the school. These policy and practice issues are discussed first. Policies, practices and documentation encapsulating the students' 'air, water and rest' healthcare practices, discussed second, were less evident but not necessarily less significant. The Year Six students' responses to top-down approaches, highlighting policies (political), investments (economic), pedagogy (social) and resources (physical) noted for influencing their healthcare practices are also highlighted in these discussions.

Governance: The attitude/exercise connection. Dominant government policies were seen as underpinning the school's Responsible Behaviour Plan. Government mandates and school initiatives underpinning the students' exercise healthcare practices at school were also intrinsically linked to the shaping of students' attitudes and behaviours at school. It was the adult voices which dominated case stories about how these government policies and practices were used to shape school policies, and to justify financial investments in resources to promote the students' health and wellbeing at school. Students' perspectives and priorities, however, did not always align with the adults' decisions regarding health promotion for students at school. This was particularly evident regarding attitude, sunshine and exercise health promotion policies and priorities.

The school's behavioural management policies and the HPE curricula were both underpinned by government citizenship philosophies (Qld DETA, 2007). The literature identified core citizenship values, such as 'abiding by the rules, assuming leadership roles and working as a team member', as being embedded in the HPE curriculum (QSA. 1999), teaching games for understanding (Clennett & Brooker, 2007) and social emotional learning philosophies (Collaborative for Academic, Social, and Emotional Learning, 2003). Government citizenship philosophies and HPE curriculum policies appeared to

reinforce the staff's actions on citizenship values. This was particularly evident around the students' engagement in sports days or Gold, Silver, Bronze Key Reward Days where physical activity was the gratifying reward. The Curriculum Coordinator said, "If they're not behaving, then they're not allowed to go to sport that week." She further explained her commitment to citizenship values when she said, "Because you're representing the school. Sport is not just about going out and running around, it's about being a member of a team and it is about showing respect."

There were school practices that required parents' written consent to government citizenship values. The Principal explained that parents were required to sign an agreement form stating they accepted the condition of students displaying inappropriate behaviour could be withheld from going to inter-school sports events. The Curriculum Coordinator mentioned, "Parents can get quite upset if their child is not going off to sport." The Principal reiterating her convictions around citizenship values maintained, "We will stand by this agreement. This is part of the way you accept consequences. It's about learning the way the society goes." Consensus in voice and commitment to the school's behavioural management policies, encouraged by governments (Qld DET, 2006), appeared important to staff in the case school for creating a safe learning environment.

Parent representatives were noted for using their political influence to mediate change in the school's management of the students' sports experiences. Prior to 2004 the school had been involved in inter school sporting activities. Executive staff had reasoned, however, that the time, travel and transport costs to engage the upper primary school students in the interschool sports competitions was too costly, particularly as a number of students were only getting a short run on the field. These collective physical and economic barriers contributed to the school's decision to develop their own sport's

program, GAK (Get Active Kids). GAK was designed to ensure all Year Four to Seven students engaged in lengthier 'active' periods and focused on developing basic skills for sports such as rugby league, netball, hockey, touch, soccer, football, basketball and T-ball. The opening of a local bridge in 2005 provided the school with quicker and easier access to the interschool sports venue. The parents requested that the school re-enter the inter-school sport competition in 2008. The school staff's response to the parents' request reflected Dinan-Thompson's (2009) and Kristofferson's (2009) writings signifying the importance of parent voice for shaping educational priorities and policies in their children's education. In this series of events the parents' voice highlighted their value on the students' engagement in sporting (exercise) activities.

The parents' voice and the school staff's commitment to promote the students' engagement in physical activities reflected, as lisahunter (2009) suggests, contemporary social values. The 'exercise' healthcare values in the case school were apparent in a range of school documents. The 2007 and 2008 annual school reports, housed on the school's website, highlighted the Principal's commitment to the Queensland Government's Smart Moves program. Restricted availability and access to sporting equipment, as Gard (2004) and Kirk (2006) state, can sometimes be a barrier for teachers wanting to engage their students in sporting activities. The Principal explained how a joint venture with the P&C had helped to address this issue. She said, "The P&C [sic] have just given $2000 to buy colour-coded equipment packs for each of the six teaching blocks." Colour coding the class's equipment was a strategy to support the longevity and sustainability of Smart Moves' activities within the school. Feature articles in the monthly newsletters also outlined individual students' and team successes in the school's internal and external sporting activities. 'Being active' at the case school was valued by governments, school staff and parents.

The adult healthcare messages and justifications for governance of the students' 'attitude and exercise' healthcare practices appeared to be clearly aligned. Enhancing the students' social capacities was seen by the adults as fundamental citizenship values integral to the students' HPE education. The Year Six students' responses to these adult priorities were sought in the data.

Students' responses to the Responsible Behaviour Plan. The Year Six students demonstrated mixed responses to the school's behaviour management programs. The practical application of the school's behaviour programs in the classroom, including program language, may have created barriers for some students trying to develop positive attitudes. Leadership training opportunities provided by the staff may have also benefited some groups within the class above others.

The students appeared to accept that learning to comply with the school's Responsible Behaviour Plan was integral to their education. In my journal (26.11.08) I observed, "The majority of Year Six students appeared to work enthusiastically toward achieving their Gold, Silver, Bronze Key Awards." The key reward system was used by the teachers in relation to the Year Six upcoming leadership camp. Teacher 2 told her class, "Going to camp is a reward. You have to earn your keys." Students in their focus group interviews or work documents, however, made no mention at all about the 'Five Keys to Success' or the 'Gold, Silver or Bronze Key' reward days as an incentive or aid to help shape their attitudes or behaviour. Perhaps a mismatch between the students' natural language and the language of the Responsible Behaviour Plan was relevant.

Blume's symbolic interactions theory (Baker, 2002) suggests language is a key principle for helping individuals make sense of themselves and their environments. The 'You Can Do It' program key words are 'organisation, persistence, getting along, confidence or resilience'. Many of the concepts from the 'You can do it!' program were

inferred by the students in the data but the actual terms were not used by the students. For example, the six persuasive text articles that were analysed showed that none of the 'You can do it!' program words were utilised. Student 2 was the only student who used the term 'confidence' in a focus group interview. She said, "When I get with my friends I do a lot more exercise and I get a lot of confidence." Student 1 inferred gaining confidence when he said, "It makes me feel good when I am asked to lead the warm-up at martial arts." The data seemed to highlight lisahunter's (2009) observation that schools can sometimes impose adult language systems and values on children.

The Year Six students' language highlighting 'attitude' issues were frequently coined in phrases about being 'happy and positive' or 'angry, fighting and sad'. Five students used the word 'positive' and eight students used the word 'happy' during interviews when explaining why they thought they had a good attitude. Students described their negative attitudes during interviews in terms of being 'angry' (five students), 'fighting' (three students) or 'sad' (two students. The word 'always' was used 31 times in the students' conversations highlighting the 'You Can Do It!' notion of 'persistence'. The word 'always' was used in contrasting ways. For example, Student 4 said, "I always have a kind, positive attitude" and Student 20 said, "I am always fighting with my brother and sister." The Principal stressed that "having a program where you get that consistent language is huge." The school's oversight, however, of engaging students in co-creating behaviour management curricula, reflected in Prosser, McCallum, Milroy, Comber, & Nixon's (2008) research, may have contributed to the Year Six students' diminished potential for 'making meaning' of the school's behavioural management programs.

The student data highlighted their responses to the teachers' positions of power and control when enacting the school's policies and practices for behaviour management.

Bernstein (2000) discusses the way structural relationships of power and in particular teacher dominance in the classroom may impact students. The student data highlighted their perception of the teachers having authority to allow or withhold students from engaging in physical and social activities such as the school's 'Gold Key' reward days, sports events, recess breaks and other school excursions. Student 4 explained how 'missing out' could sometimes impact the whole class. He said, "Even if only one person is not following school rules we all get kept in." Student 18, and his friend Student 47, on the other hand, shared their sense of 'always missing out'. In a focus group discussion Student 18, an Indigenous student, told Pre-service Teacher 1 he was worst at attitude because "I yell out sometimes and I don't listen to people, and swear." Student 18 had also been reprimanded on occasions for outburst of violence in the playground. The issues of 'inclusion' appeared relevant. I made inquiries to understand better how the school's behaviour support systems may have been operating to help students achieve the school's codes of behaviour.

A behaviour management support teacher and a chaplain were key personnel to help students who were challenged with conforming to the school's behaviour management rules. Each week the behaviour management support teacher took a small group of the Year Six students to help foster and develop their social skills. I wrote in my journal (28 November) "The students appeared to have mixed feelings about being withdrawn to participate in these activities." I observed Student 18 saying to Student 47 as he left the classroom with his support teacher "Oh this is gammin [a local Indigenous term meaning not good]." Munns (2004) talks about how students' experiences at school may shape personal perceptions of how race or low socioeconomic status can potentially create disadvantage amongst peers. I also asked the chaplain in a semi-structured interview if many Year Six students used her services to help them with their behavioural

challenges at school. She explained that the chaplaincy service was fairly new to the school and at this stage only a couple of the students had chatted with her privately and that was based on their parents' encouragements. She added, "The ones who come and see me are probably not the ones who are struggling in class with behaviour." Barriers to the Year Six students' benefitting from the school's support services may have reflected issues around self-perception, stereotypes and access and familiarity.

The Year Six leadership camp was another example where disadvantage amongst particular groups was highlighted. Several students, including representation from Indigenous and step-blended families, were excluded from camp for behavioural reasons or lack of finances. Inclusion, on the other hand in this study, reflected a cohort of students with abilities to conform to school rules and sufficient economic capital to pay the camp fees. The fourteen students who were eventually selected for Year Seven leadership positions were amongst those who attended the camp. The literature (NASPE, 2009) encourages schools to consider how excluding students from physical or group activities for behaviour management purposes may disadvantage those most in need of developing social skills. The data, however, highlighted the difficulties schools may experience when monitoring behaviour whilst also providing collective opportunities for the students to learn. This was particularly evident when violence occurred and safety for the whole group became a priority consideration.

The case data highlighted complexities for managing behaviour in schools. Submitting to the school's behaviour management programs, accentuating adult values and societal trends, seemed to work as 'enablers' for compliant students. On the other hand, the school's top-down behavioural management system appeared to have inherent limitations, particularly when some students' learning opportunities for developing positive attitudes and team/leadership skills through physical activities were minimised

due to economic disadvantage or behavioural problems. The school's top-down approach and students' responses were also highlighted in the 'nutrition and sunshine' data.

Governance: Nutrition and sunshine healthcare practices. 'To eat or what not to eat' (nutrition) or 'to play or when not to play' (sunshine) were Year Six students' healthcare choices that were subject to adult scrutiny and top-down models of practice. Health prevention or promoting healthy nutrition choices to guard against obesity was highlighted in the literature as justifications for government diet (nutrition) healthcare promotions in schools (Qld Gov, 2005). Prevention of skin cancer, similarly paved the way for government SunSmart (sunshine) campaigns in schools (Cancer Council Australia, 2005). The staff members were expected to enforce the school's SunSmart and nutrition healthcare policies. There was some disparity, however, between the staff's and the students' healthcare priorities.

Nutrition. Concern for the Year Six students' nutrition healthcare practices drew adults in the school community into a range of diverse tasks and responsibilities. Monitoring foods in the school tuckshop, running the breakfast program, providing classroom fridges and surveying students' lunchboxes were significant practices. A number of these practices were supported by government recommendation for enabling students to make healthy food choices or accessing nutritious foods (Queensland Government, 2005, 2007b). Stories about the students' experiences, however, highlighted the way the school's service or provision for nutrition healthcare could be perceived as a 'barrier' to some students and an 'enabler' to others.

The school tuckshop was an important nutritional resource centre for the school community. The display of a series of Queensland Government posters depicting children eating or drinking healthy food selections in the tuckshop perhaps, as Dinan-Thompson (2009) infers, reinforced messages around government dominance for defining,

promoting and monitoring the students' 'healthy food choices'. In the parent handbook (p 21, see Appendix L) the school tuckshop was identified as a 'Smart Choices Tuckshop'. A search of key school policy documents and the school's web page did not uncover what actually constituted a 'Smart Choices Tuckshop'. This gap in communication in key school documents may have reflected Blair-West's (2007) notion of there being a general acceptance in the community of what foods are considered healthy choices.

The students' perception, however, of the quality of the food in the tuckshop varied. Student 10 indicated, "The tuckshop usually has fresh foods like hamburgers with salad." Student 2 argued, however, that the quality of some of the food available at the tuckshop was not nutritious. Student 2 said "It's chips and Jay Jays and mince pies and brownies, chocolate donuts, iced cookies and slushies. Everyone buys them." Student 2 went on to explain, "The pies have preservatives, the chicken nuggets are deep fried and the pizzas lack nutrition as they came in packages and are re-heated in the school microwave." The majority of the students in the focus group nodded or verbally agreed with Student 2. This data suggested there was a shared understanding amongst a group of Year Six students about definitions for healthy food choices and a collective concern over a number of foods sold at the tuckshop foods may have lacked nutritional quality. The tuckshop foods were therefore perceived by the students as potentially a physical 'enabler' or 'barrier' to the student's nutritional healthcare practices. The questionable quality of some of the foods in the school tuckshops points toward a possible gap in the school's uptake of the state education's Smart choices' policy. Making healthy choices appeared to be largely dependent on students taking responsibility to act on their nutritional healthcare understandings.

The school's breakfast program, catering for students who came to school without eating breakfast, also operated out of the tuckshop. An article in the school's newsletter

(22.7.08, see Appendix M) highlighted better behaviour, concentration and academic performance as benefits for students who regularly ate breakfast. This correlation is supported by Dani, et al., (2005) and Portwood (2006). Student 12 concurred, "If I have a healthy breakfast I work quieter in class." Information, however, about the school's breakfast program was not found in any of the school's key documents but was conveyed to the students by 'word-of-mouth' by their class teachers. The Curriculum Coordinator explained "The breakfast program is not something we want to advertise in case families became too dependent upon the service." Teacher 1 highlighted 'shame' as a potential barrier to some students accessing the breakfast program. Teacher 1 explained in a casual interview that Student 18 in particular could have benefited from the breakfast program, however, she said, "He felt embarrassed and didn't want to be seen going up to the tuckshop to get some breakfast." Whilst breakfast programs have been promoted in the literature as being beneficial for Indigenous or low socioeconomic children (Dockett, Perry and Kearney, 2010), the role of 'shame' for accessing the service and the social construction of class (Lichtenburg, 2003), in this instance, is perhaps less discussed.

Issues around accessing or utilising the nutritional support resources and services in the school were highlighted in the data. The student and teacher comments aligned with my journal observations concerning gaps in this area. The provision of fridges in each building block was a school investment aimed at helping to preserve the nutritional quality of the lunches; particularly relevant when living in a hot climate. During my contract at the school I noted that "very few students used the fridge as an option to keep their lunches fresh" (Journal notes, 9.12.2008). Student 1 complained about salad sandwiches being soggy by the time lunch came around. When asked why she didn't use the fridge, Student 1 said, "I forget to." Student oversights such as this, raised as student maturity concerns in the literature (Carr-Gregg &Scott, 1993), perhaps provided reasons

for teachers to take a more dominant role in surveying the students' dietary practices at school.

Data highlighting teacher dominance and surveillance practices of lunchboxes illuminated a range of mixed messages around students making healthy food choices. I noted in my journal (8.10.08) "At recess breaks Teacher 1 and Teacher 2 checked that the students ate their healthy food choice first." Teacher reflections about students' lunchboxes were generally about the poor quality of the food. Teacher 2 said, "You look in the lunch boxes and often all you see is packaged food. There is hardly anything fresh…not even a sandwich!" The Principal stated, "They know now that I won't let them eat junk food. How can they learn if they start their day eating food like that?" The staff indicated these surveillance practices were essentially aimed at enhancing the students' academic performance which aligned with the literature (Dani, et al., 2005; Florence, et al., 2008).

Gard (2007) raised the concern that teacher surveillance of students' eating and exercising practices, stemming from obesity discourses, may impact the students' perception of their personal body shape or image. Teacher 2, echoing Wilkenfeld, Pagnini, Booth, Booth & King's (2007) findings, felt the onus of responsibility to address childhood obesity issues though diet/exercise surveillance practices as expressed was "too complex and beyond our control." The staff appeared more focused on their professional responsibility to raise the levels of the students' academic performance across the broad school curricula.

The data showed the school staff's top-down approaches and provision of physical resources to help promote the student's nutritional healthcare practices at school were an integral part of their professional practice. Students were, however, observed as resisting some of the school's nutritional provisions stating they weren't healthy choices, despite

them coming from a ‘Smart Choices’ tuckshop. Gaps in communication, potential maturity factors and family cultures, however, were the observed sociocultural barriers for the Year Six students’ nutrition healthcare practices at school. The school staff perceived the parents as having the greater influence on the students’ nutrition healthcare practices. Top-down approaches were also reflected in the students’ sunshine healthcare stories.

Sunshine. The Year Six students’ ‘sunshine’ stories reflected issues around the school’s locality in Far North Queensland. Data highlighting the development of SunSmart policies and practices in the school shed light on how significant sociocultural and economic issues enabling the students to engage in sunshine healthcare practices may have also limited the students’ desires to engage in exercise opportunities. A challenge to healthism notions that educative processes will help create sociocultural norms and foster an individual’s compliance to healthcare practices (Hopwood, 2007; Kirk, 2006) was highlighted in the ‘sunshine’ data.

‘Being SunSmart’ was a healthcare message the Principal highlighted for needing to “be consistent and continuous” across the whole school community (Principal Interview, 25.11.08). The Principal elaborated on her top-down approach which is supported in the literature (Macdonald, 2003). “When we went to the bucket hats we went to the Parent & Citizen committee and said ‘We’re having bucket hats.’ We said to parents through the newsletter “No hat no play.” The Cancer Council of Australia (2008) classifies the modern popular peaked hats as unsafe due to leaving areas of the neck, ears and face exposed to the sun’s harmful rays. Peaked hats, according to the revised policy, fell into a ‘No hat’ category. The new ‘bucket hat’ policy advocated by the school drawing from Cancer Council (2008) recommendations was sanctioned by parents and

therefore represented a strong political and sociocultural 'enabler' for protecting the students' faces when playing outdoors on hot days.

The school had also made explicit investments to provide physical resources and supports aimed at facilitating the students' engagement in SunSmart practices at schools. Providing sunscreen for students in each classroom, shade cloths over the playground equipment, opening the library during recess breaks and selling the school's SunSmart bucket hats at the tuckshop represented an array of physical and economic 'enablers' for the Year Six student's SunSmart practices. The school's commitment to promoting SunSmart education was also evident in the abundant SunSmart signage visible in individual classrooms and undercover areas. SunSmart promotions, reflecting Australian Health Promoting School's (2010) protocols, were also reiterated in the school's parent handbook (p 21: see Appendix L) and the school newsletter (15.7.08, see Appendix M). The 7NP healthcare questionnaire given to the students at the beginning of Term Four verified that the students' long term exposure to the Cancer Council's SunSmart promotions, along with habitual practice, had helped familiarise the students with the SunSmart rules.

Teacher mentoring and monitoring of students' SunSmart practices represented strong political and sociocultural 'enablers' for protecting the students from daily dangers of being sunburnt. The school's expectation for staff adhering to SunSmart policies and practices were based on workplace health and safety regulation and professional 'duty of care' defined by the Queensland College of Teachers (2006). Observations of teachers donning sunglasses and applying sunscreen before going on yard duty appeared to reinforce the universality of the SunSmart healthcare messages promoted by the Australian Cancer Council (2008a, 2008b). The 'No hat, no play' rule was generally accepted by students. Student 5 wrote in a work document "When I forget my hat I don't

get to play." A consequence for not wearing a hat, remaining in undercover spaces, appeared relatively easy for teachers to police and enforce.

Employing creative ideas to motivate the students to engage in SunSmart practices was also highlighted as a sociocultural 'enabler' in the data. The Principal spoke enthusiastically about students buying the schools' bucket hats in their sports teams' colour which she perceived "looked great on sports days." The Year Six teachers had also engaged the Year Six students in designing their personalised hats for the Year Six Leadership Camp with the view to increasing the regularity of students wearing their hats. Glasby & MacDonald (2004) concur student compliance is increased when curricula or policies are the result of teacher/student negotiations. Principles of care were also reflected in this approach. I noted in my journal (2.10.08), "The staff's genuine interest in the students' sun protection, reflecting was perhaps most apparent when teachers were observed tolerating the students' deviations from the school's rules by wearing alternate floral or graffitied bucket hats (See Figure 5).

Figure 5. SunSmart hats. Graffiti on student SunSmart hat (left) and student Floral SunSmart hat (right).

There were occasions when the Year Six students were observed taking risks and going out in the sun unprotected. A combination of lack of shade, the students desire to be active and at times forgetfulness were highlighted in the data for students' omitting to conform to SunSmart practices. The students' strong desire to be active and playing in open sun-exposed spaces was discussed frequently in interviews. Pre-service Teacher 4

found the students' desire to be active in the heat enigmatic. She said, "It could be the hottest time of the day and they still want to go out and do their Smart Moves or run around the oval." One hot day at the end of term I came across a group of five Year Six students painting Christmas decorations in direct sunlight outside the classroom. When I asked why they didn't have hats on, two of the triplets (Students 3 and 4) replied, "I don't know. I didn't really think about it." Student 6 in a focus group interview also spoke about sometimes not putting her hat back on when it came off when she was playing sport during recess breaks. Kirk (2006) and Hopwood, (2007) suggest that the complexities surrounding an individual's ability to comply with sensible healthcare practices, as evidenced in the students' sunshine healthcare data, is not accounted for in healthism theories.

Strong competition for shaded areas was raised by both the students and the Year Six teachers. The student data revealed there were limited shaded spaces for the students to access during play breaks. Student 22 highlighted this issue in an interview with Pre-service Teacher 1. Student 22 said, "I play under the undercover area but it gets a bit crowded so I play on the oval." The teachers made references to timetabling and limited resource issues, raised in the literature (Brown, et al., 2002), as being problematic. Teacher 1 explained "The larger shaded areas are used by the PE [Physical Education] teacher which means I have to take my kids out onto the oval for Smart Moves."

The marginalisation of students' voices, echoing Iisahunter's (2009) concern, was highlighted by a small group of Year Six students during a recess break at the end of Term Four. The students told me that when the shade cloth was first put up outside their classroom they enjoyed using the space to be physically active. Student 2 explained the turn of event when she said "We go out to find shade and they've put tables on the court. We hated that cuz [sic] we used to play handball there." In this instance the students

perceived the adult choice was an undemocratic practice and had compromised their opportunities to socialise and be physically active.

The data showed the school's commitment to guarding the students against a range of health risks at school had created new dilemmas for the students. The top-down, healthism oriented approach also appeared contradictory to the Queensland Studies Authority (2007, p.1) HPE essential learning objective of students "making decisions" about their healthcare practices. The students desire to be active (exercise) was particularly evidenced in the data as a high priority for the students and central to their concerns about school policies and practices. The Year Six students, in contrast to the adult participants, appeared to be thinking more synergistically about their holistic healthcare practices.

Gaps in polices and practices: Water, Air and Rest. Contrary to 'attitude, exercise, nutrition and sunshine', government health promotions to foreground the students' 'water, air or rest' healthcare practices at school were less evident or absent in the data. The HPE Year Three to Seven essential learnings repeatedly identifies 'attitude, exercise, nutrition and being SunSmart' as examples of healthcare practices (QSA, 2007). An analysis of the Year Seven HPE curriculum documents revealed restricted support for the Year Six teachers when constructing their 7NP 'water, air and rest' healthcare curricula. Case data highlighting the political and physical 'enablers and barriers' to the students' 'water, air and rest' healthcare practices were therefore viewed as important for providing context to the students' holistic healthcare practices at school.

Water. Water safety, hydration and hygiene practices are key water-related healthcare topics underpinning students' health and wellbeing at school. A description of the school's physical supports aimed at catering for the students water-related healthcare practices are provided as an introduction to this section. This is followed by an analysis of

the case school's policy documents that might have reflected the Year Six students' water-related healthcare practices at school.

Student access to toilets and water bubblers appeared to conform to school regulations and to be adequate to meet the students' needs. The Year six students shared an amenities block with the Year Four to Seven students and a series of three water bubblers were located outside each block of four classrooms. There were additional bubblers in the undercover play areas (referred to as CPA or Community Participation Area: see Appendix H School Map). Open air playing fields were in close proximity to classrooms so students could break from their games without too much effort to rehydrate. I noted in my journal (26.11.2008) that "After recess breaks the area around the drinking fountain thronged with a bevy of activity indicating that the students were responding to their thirst or taking care to rehydrate after exercising and perhaps the teachers' frequent reminders to have a drink before coming into class after a play break."

Analysis of key teacher and parent school policy documents revealed that there was only minimal information about safeguarding the students' water safety and hygiene practices at school. A number of these were standard Workplace Health and Safety guidelines (Education Queensland, 2007b; Queensland Parliamentary Counsel, 1995). The staff's administration booklet for policies and procedures incorporating workplace health and safety (see Appendix N) identified school staff as being responsible for water safety issues such as reporting 'water leakages' from air conditioners or blocked sinks, and for overseeing evacuation procedures in the case of flooding during a cyclone. The school's parent handbook contained a health and hygiene section that encouraged parents/caregivers to ensure that children have a bath each day, clean their nails daily, and to wash their hair every few days. Two articles in the school's newsletters (18.3.08 &

15.7.08, see Appendix M) also requested parents/caregivers to talk to their children about toiletry practices at school.

The absence of any information or policy referring to the students' hydration practices at school was of particular interest. The omission of a school policy for students' daily hydration practices appeared to be a significant oversight considering the potential health implications for dehydration when playing outdoors in a hot climate (Kidney Health Australia, 2008). A similar search through key school documents to look for school policies on the students' air healthcare practices identified a gap in government healthcare promotions.

Air. Due to the lack of government definition on student air healthcare practices at school the 7NP 'Air' curriculum was used as criteria to sort the data. The 7NP 'Air' curriculum mirrors universal concerns for air-related healthcare practices such as access to clean air, posture, breathing and stress management. The teachers' curriculum however focused on the students' postural practices. The students' interactions with a range of material objects in the classroom and/or immaterial things such as 'time' and 'temperature' were considered for their potential physical influences on the Year Six students' air healthcare practices.

The role of fatigue, lack of movement, and technology were identified as potential physical barriers to the students' postural practices at school. Current research highlights modern societies and lifestyles as contributing to the development of poor posture and associated maladies (Aagaard & Storr-Paulsen, 1995; Knight & Noyes, 1999; Robbins, Johnson and Cunliffe, 2009). Spending lengthy periods engaged with technology, lack of physical exercise, quality of school furniture and carrying heavy bags are list of some of the concerns around issues impacting students' developing posture. A visiting guest speaker, a chiropractor, affirmed her similar concerns when she said, "A third of the

children I see suffer from headaches, mild back pain and poor posture." She linked the causes for these problems to postural healthcare practices at both home and school. The chiropractor believed "Children just don't move anymore. They sit for long periods either at school in class or at home watching TV [sic] or playing video games." Student 21 identified interaction with technology as a cause for her poor postural practices. She said, "I'm always slouching and just sitting on the couch watching TV." The students' data highlighting their postural practices at school was further analysed.

Students' understanding of the mechanical elements of posture was apparent in the analysis of the Year Six students' 7NP healthcare questionnaire given at the beginning of Term Four and the focus group interview transcripts. Sitting up straight so that the lungs had optimal capacity for breathing was a key understanding. However, student data at the end of Term Four showed seven of 16 students in the focus group and 11 of the 33 students who completed the post-test perceived they were 'worst' at 'Air'. The most common justification for this perception was poor postural practices. Tiredness, pain and lack of strength were referred to repeatedly in the data by the students as 'symptoms of' or 'reasons for' not having a good posture. Student 13's remarks stating "It hurts my back...I can't sit up straight for ages. When I'm tired I just want to put my head down on the desk, so I'm slouching", resonated with other students' comments in the focus groups. The relatively high statistic of Year Six students who reported they were 'having trouble' with their air-related healthcare practices appeared somewhat significant, particularly in terms of students having a say in the curriculum or the relevance of a student-centred teaching approach.

The frequency of the Year Six students' comments about their 'slouching' encouraged me to pay closer attention to the pervading issues or circumstances potentially impacting their postural and breathing practices in the classroom. 'Time of day' and

'classroom furniture' was considered for potentially influencing the student's posture. I noted in my journal (28.11.08) that "The students appeared most upright in the morning sessions…After lunch students were commonly observed with heads on their desk or slouching forward, elbows on the desk, with hands supporting their heads." Students were encouraged in the focus groups to consider whether or not they felt their desk and chairs influenced their postural and breathing practices. There appeared to be mixed understandings. Interested in knowing who was responsible for ergonomic regulations for classroom furniture prompted further investigations. A Manager from the Strategic Assessments Unit from the Queensland Department of Education and Training, after making several of his own inquiries, informed me the responsibility for ergonomics of the classroom furniture apparently lay with the manufacturers (Personal Communications, 2010). School staff apparently made purchases based on the sales representative's recommendations. The Curriculum Coordinator also informed me, "Teachers made some decisions in the classroom about appropriate desk and chair sizes for students who were not comfortable in the furniture provided in their classrooms."

Interestingly, policies for recess breaks at school were not based on, as I had previously assumed, the students' needs to break from sitting at their desks and the indoor classroom environment. The students' recess breaks were determined rather by Teacher Awards outlined in the Industrial Relations Act (Queensland Industrial Relations Commission, 1999) ensuring teachers had periodical breaks from their classroom responsibilities. A lack of policies underpinning the students' air-related healthcare needs during recess breaks is possibly why the issue of students sitting for an additional period of time to eat their lunches during recesses for safety reasons (Qld Health, 2005), or exclusion for behavioural reasons (NASPE, 2009), has not been considered.

The data findings highlighted a deficit in policy for assessing or monitoring student's postural practices at school and for determining students' requirements for accessing fresh air. Current research around the relationship between student postural practices, fatigue and technology is perhaps significant for pinpointing student air-related healthcare as a key area for policy consideration. Policy deficits around the students' 'rest' healthcare practices at school were also evident in the data.

Rest. The 7NP 'rest' curriculum was similarly used as criteria for sorting the case data. Acquiring adequate sleep, rest, or engaging in meditation practices for the promotion of physical healing, growth, learning and emotional health and wellbeing were identified as 7NP 'rest' curricula. Taking time to learn to relax or meditate as a regular healthcare practice were relevant in the school setting and justified in recent research (Barnes, et al., 2003; Carskadon, et al., 1998). Apart from rest practices highlighted in literature for pre-schoolers or early years' children (Qld DET, 2010), there were no school documents outlining rest healthcare practices for the remaining students at school.

A search through the school's key documents showed there were no policies for guiding the teachers to consider the students' rest healthcare practices whilst at school. The common practice throughout the school of 10-15 minutes silent reading or rest period after 'big play', however, was observed as a dominant school rest healthcare strategy. The Curriculum Coordinator explained that "the quiet time after lunch is encouraged by the Principal but is only mentioned on rare occasions at staff meetings." Afternoon rest practices in the school were seen as a positive strategy by the Year Six teachers to guard against the students' natural fatigue and vulnerability to lapses into poor concentration or uncooperative behaviours during the latter part of the day. Teacher 1 described her class's ritualistic 'rest' healthcare. She said, "We always listen to the 7NP meditation tracks or

relaxing music after big play. It just helps to calm them down before we start the afternoon session." This rest healthcare approach is supported by Barnes et al., (2003).

The Year Six classrooms provided ample space which enabled the students to lie on the floor for afternoon rest periods. The open classroom space with make-shift dividers, however, could on occasions also act as a physical barrier to the students' restful or relaxation opportunities. Teacher 1, highlighting issues around teacher stress (Howard & Johnson, 2004), explained she found it stressful at times working in the open space. She added, "Some of my students get really stressed when they are working quietly and the other class is being really noisy." I noted in my journal (28.11.08), "The two Year Six teachers worked independently and communications between them as to how the open space could be used appeared minimal." A lack of foregrounding or mentioning the importance of 'rest' as a healthcare practice in government or school policy documents perhaps contributed to positioning rest as a low priority on school healthcare agendas. Staff discussions around the way the open space could be shared cooperatively with respect to students' rest healthcare practices may have therefore been overlooked.

A lack of foregrounding 'rest' as an important healthcare practice in the HPE curriculum was highlighted by teachers. The teachers believed 'lack of rest or sleep', inferred in obesity and adolescent research studies (Batch & Baur, 2005; Carskadon, et al., 1998; Gau, et al., 2004; Owens, et al., 2010), was a dominant reason for some students' lack of focus in the morning sessions. Teacher 1 rationalised, "It's because they stay up late watching television or playing games or talking to their friends on the computer." Several students in the focus group interviews confirmed that media distractions could be a reason for them staying up late at night. Student 12 and Student 17 referred to technology as being a regular distraction. Student 17 said "I don't get enough sleep

because I usually stay up and watch TV." Teacher 1 explained that on rare occasions she had resorted to letting some students have a nap in class as they had been unable to focus.

The tendency also for students to show signs of fatigue at the end of the year is generally accepted amongst teachers (Patall, 2010). Teacher 2 referred to this notion in the final two weeks of the term in a casual conversation. She said "The kids are just exhausted." Student 11 linked his fatigue to end of the year Christmas parties. He said, "I feel so tired I don't even want to go outside to play." Whilst the teachers weren't able to or trying to influence the students rest healthcare practices at home they were, at times, struggling to manage the consequences of some student's lack of sleep. Lessons covering pace setting and problem solving to manage personal commitments over the duration of the school term or year may have been meaningful 'rest' healthcare curriculum for the students.

The gap in government healthcare promotions and school policies for the students' 'air, water and rest' healthcare contrasted significantly with the abundance of policy and resource supports for the student's 'attitude, nutrition, sunshine and exercise' healthcare practices. Relying on pedagogy and adult mentoring practices to help close potential gaps in children's healthcare education was highlighted in the literature (Brown et al., 2002; Yager and O'Dea, 2005). The data highlighting the Year Six teachers' pedagogy and mentoring practices shed light on interesting sociocultural influences impacting the Year Six students' holistic healthcare education and practices.

Teachers: world views and pedagogy. Effective pedagogy is underpinned by a concern for the wellbeing of the students, teachers and the school community (Lingard, et al., 2003). The case stories shed light on current literature about how teacher world views (Leahy and Harrison, 2008; McCuaig and Hay 2009; Wattchow and O'Connor, 2005), managing crowded curricula (Burrows, 2009; Penney, 2008), mentoring practices (Yager

and O'Dea, 2005), and healthism ideals (Hopwood, 2007; Kirk, 2006) may influence pedagogy. Importantly, the student's voice is featured as a part of this discussion highlighting how pedagogy was a significant sociocultural influence on the Year Six students' holistic healthcare practices.

Teacher world views influencing pedagogy: holistic or narrow? This discussion shows how the two Year Six teachers' were actively making efforts to help the students understand the synergistic impact of the 7NP healthcare elements on health and wellbeing. The two Year Six teachers' HPE pedagogy, however, reflected literature about how a teacher's principled position or world view may influence their pedagogy (Burrows, 2009 & Penney, 2008). Both Year Six teachers' planned HPE units reflected curriculum choices based on a biomechanist input/output ideals for controlling the body. Teacher 1 appeared to adhere closely to this ideal and relied predominantly on direct instruction type lessons with her students. Teacher 2 on the other hand, favouring a social constructivist approach to learning, designed a range of classroom and on-line activities that favoured a student-centred orientation.

Managing the crowded curricula and determining curricular priorities was perhaps where the teachers' choices for prioritising curricula was most apparent. The Curriculum Coordinator referred to the National Assessment Program for Literacy and Numeracy (NAPLAN) as an example of teacher stress when determining curriculum priorities. This was highlighted in the literature (Brown, et al., 2002). She explained "If we get a bad NAPLAN result we focus on that. We are all good at filtering, so when things get too much we tend to drop stuff off."

The students drew my attention to the teachers' contrasting curricular priorities in the classroom. Teacher 2's focus group told me that their teacher had explained to them the reason they did not go out for Smart Moves regularly was because improving the

student's literacy and numeracy skills was her higher priority. Teacher 1, on the other hand valued exercise and was committed to running and personally participating in daily Smart Moves with her students. Seven students (8, 9, 11, 13, 17, 23 and 38) in their written documents referred to notions around teacher dominance as a barrier to their not engaging in enough physical activity at school. Interestingly, Student 17 quoted the government as a supportive ally for her convictions about how teachers should comply with government expectations around students exercising at school. She said, "I follow the rules that the government says to everyone." A segregated approach by government departments, as raised in the literature (Leahy & Harrison, 2008; Leow, et al., 2009), appeared to have positioned teachers to make different choices around curricular priorities. Teacher world views appeared to underpin the teachers' curricular priority choices which subsequently determined the time the individual Year Six classes spent outdoors engaging in physical activities.

The way the Year Six teachers' world views and pedagogy may have shaped the students' thinking seemed apparent in the students' data. I noticed that Teacher 2's focus group often provided comments about their health in terms of 'others'. For example, it was this group (Students 2, 15 and 20) that talked at length about the quality of tuckshop foods in light of how that might impact all students in the school. These students also provided comments about how they perceived younger students were more inclined to follow the rules whereas older students may have been more inclined to make their own choices despite being aware of the consequences (Students 2, 3 and 4). Teacher 1's focus group students, on the other hand, reported more specifically on how they perceived the political, physical and economic influences in their environment shaped their personal strengths for developing health and wellbeing and in particular fitness (Students 7, 8, 9, 10 and 11). Student 8 summed up her healthcare experience in a focus group interview, "I

do a lot of running around and I go to the gym with my teacher and I do a lot of fitness." The teachers were also aware of this divide in the students' appreciation of how health is a shared, multidimensional concern which led to the teachers' collaborative decision concerning the writing and submission of the ninth and final article for the local newspaper.

Teacher 2's class, who had investigated the school students' community holistic healthcare practices, was given the responsibility of writing the final article for the newspaper. The teacher/student article (10.12.08, see Appendix O) concluded with this reflection:

> A number of other students commented on the fact that they had made small but significant changes. Some students were bringing their water bottles to school more regularly and drinking a lot more water. Others said they were making healthier food choices or exercising more… And one important thing we have learnt is that it is much easier to make healthy lifestyle choices when we do it all together!

Both classes appeared to be thinking holistically in terms of engaging in the range of 7NP healthcare practices. Teacher 2's class, however, appeared to be developing an awareness that healthcare is influenced by a range of personal, social, cultural and environmental factors. A closer look at Teacher 1's planning and HPE unit therefore seemed warranted.

Teacher 1's pedagogy illuminated a number of concerns raised in obesity literature. Teacher 1, using a government prepared unit, involved the students in writing persuasive text articles to encourage teenagers to 'get active'. An analysis of the government teacher guidelines for teaching the Be in it; stay in it' unit, with a HPE/literacy focus, provided evidence for shaping this 'obesity crisis, exercise panacea' thinking. The 'Be in it; stay in it' teacher guidelines (QSA, 2008, p 4) suggest the teacher

open the unit by discussing "current trends of obesity and inactivity - particularly among young people'. Further, it states, "Remind the students that it is a challenge for the government and health organisations to keep people active enough to maintain their health." The students were therefore encouraged to play a role in community health promotion and, as Burrows & Wright (2007) point out, adopt adult healthcare messages and responsibilities. Teachers using government documents uncritically, or not differentiating the content for their students, may be seen as reinforcing concerns raised in the literature about simplistic notions of 'diet/exercise' to address obesity (Gard, 2004, Kirk, 2006) or as Green (2004) suggests promoting the undisputed claim that young people today are more inactive than former generations.

The two Year Six classes' work documents data expressed contrasting views about their perceptions of students' engagement in exercise or physical activities. The six persuasive text articles that were analysed all reflected government assertions in obesity discourses of children being obese and underactive, and opinions that individuals had a collective responsibility to address this national health crisis (Qld Gov, 2006). Student 13 wrote in her persuasive text, "The amounts of unfit Aussie kids are rapidly increasing over the years. Suddenly over an amount of unfit children has increased to 50-60%. I want to get kids wishing, wanting and begging to play sport and get active." The concluding local newspaper article (10.12.08, see Appendix O), highlighting Teacher 2's class's collaborative perspective of students' physical activity levels, however, highlighted a contrasting viewpoint. This class perspective aligned more with Green's (2004) findings that modern children are active:

> Keeping active at our school isn't a problem. In fact the students at our school [my insertion] love being active so much that, at lunch break, it's a race to get a space in the under cover area to play one of the school's most popular games – handball.

In retrospect, this case study demonstrated how multidimensional environmental influences combined to shape pedagogy. The complex mix of teacher world views, crowded curricula, time pressures and the availability of government sanctioned resources appeared to have resulted in a narrowing of the intended holistic HPE curriculum. The consequential shaping of the students' thinking, was perhaps the most concerning outcome.

Teachers manage a crowded curricula and policy gap. Saving time was a high priority for the Year Six teachers and appeared to have inspired creative pedagogy. The data showed positioning physical resources, minimising teaching interruptions, teaching on the run and using 'Just do it' type pedagogies reflecting healthism notions were purposefully used by the Year Six teachers as strategies to manage their crowded curricular responsibilities. This was most apparent in pedagogy, where government healthcare policies and resources for 'air, water' and to a lesser extent 'rest' were lacking. The data also brought to light a morphing of a popular government healthcare program.

The Year Six teachers' reflective practice during the 7NP training session helped raise their awareness about the students' air-related healthcare practices at school. All 7NP training participants agreed 'posture and breathing' curricula were particularly relevant to students, yet were not foregrounded in the HPE essential learnings. The Curriculum Coordinator said in the teachers' defence, "If it isn't pointed out you tend to just focus on what is there, not what isn't." The Curriculum Coordinator also reflected on her former teaching practices of prioritising a disciplined healthcare approach to the body. She commented, "Teachers used to look for things like socks pulled up, neat uniforms, straight backs…Teachers just don't see these things anymore." Posture was highlighted as a specific chapter in the Queensland Health Education Council's (1948) Handbook for Health Education. Tinning & Kirk (1991) refer to changes in curricula as generally

reflecting shifts in the community's citizenship values. Creating a holistic 'Air' healthcare curriculum was therefore going to be a relatively new experience for the Year Six teachers.

Addressing the 'air' healthcare curriculum appeared to have particularly inspired the Year Six teachers' creative and 'Just do it' type pedagogies when managing time restraints. I noted in my journal (28.11.08, "The students gained an appreciation of the centrality of the 'air' curriculum via the teachers' frequent, circumstance-driven, impromptu lessons." For example, teachers referred to the 'fresh air' elements of the 7NP curriculum when releasing students at recess breaks. Lining up after play was a time teachers engaged students in focused postural and breathing practices in preparation for their next lesson. Student oral presentations were preceded by teacher reminders about the importance of good posture and breathing for enhancing voice production and articulation. Year Six students were also directed to the 7NP Managing my Emotions poster when they were emotionally charged. Doctor Inhale Exhale's deep breathing is the first suggested physical response for calming emotions. This list of observations of classroom pedagogies highlighted the common sense, contextual or 'taken for granted' aspects of the 7NP Air curriculum which may have accounted for why it was not explicit in the HPE curriculum.

The variety of the Year Six students' focus group interview comments and work documents highlighted students that had synthesised their holistic learnings around 'air' health. Clean air, stress management and the synergy of the 7NP approach were topics highlighted by the students. Student 18 referred to access to fresh air as being a healthcare practice when he remarked he was good at air "because I am always out of the house." Student 10 identified the breathing/attitude connection for 'air' health when she said, "I'm pretty good at breathing...I'm not really sad that much at home." And Student 1

demonstrated his understanding of integrating the 7NP to achieve healthcare outcomes. Student 1 explained "I have improved a bit more everywhere…like…mainly running faster. I can't slouch, otherwise it hurts." Students' differing responses to the same curriculum in this case study offered insights, as Burrows (2005) suggests, into the way students 'make meaning' of the curriculum.

An analysis of the Year Six teachers' 7NP/HPE units revealed, however, that both teachers had narrowed the 7NP Air curriculum by focusing on the mechanical elements for posture and breathing. The student's work books contained worksheets on the respiratory and musculoskeletal systems. The teachers' physical resources were also observed as being used to support pedagogy highlighting a biomechanist 'input/output' approach. Teacher 1 had hung large colourful anatomical posters of the brain and the musculoskeletal systems above her blackboard which she used as a teaching tool to remind students of the mechanical elements of posture and breathing. On several occasions Teacher 2 was also observed reminding her students to pause, check their posture, reposition themselves and take three deep breaths (Journal Notes, 28.11.08).

The teachers' frequent reminders to 'sit up straight' in place of engaging students in specific postural exercises may have also conveyed a simplistic message to the students indicating by merely thinking about it you could improve your posture. Student 15 reflected this healthism 'Think and do' notion (Kirk, 2006), when he responded to the interviewer's query asking how he thought he could go about improving his posture. Student 15 replied "Just remember to keep up straight and try and discipline yourself." The 7NP teacher's resource book does however, aligning with current research (Kellya, Dockrell and Galvin, 2009; Wescott, 2011), encourage engaging in daily strength training exercises to improve posture. Leahy and Harrison (2008) point out how teachers may be

challenged when trying to cover the breadth of a holistic HPE curriculum whilst also attending to additional school syllabi.

To ensure there was an uninterrupted flow of learning in the classroom the two Year Six teachers had developed some 'in class' policies and practices for 'water' healthcare practices. Both teachers appreciated the students' need for hydration when learning and encouraged the students keep a water bottle on their desks. Teacher 2 stated "On average about 50 per cent of students followed this encouragement." Student 12 explained how those who didn't have water bottles managed their thirst, "We are allowed to go out and get a drink if we need one." Teacher 1 allowed her class to have a brain snack around 10 o'clock if they needed it and on rare occasions would allow a student to rest in class. She explained "They're not going to get any work done when they are that tired." These staff initiatives to cater for the student's healthcare practices appeared to reflect citizenship 'care' principles and Education Queensland's (2002) productive pedagogies approach for creating safe learning environments.

Teacher 1's mandate, despite a lack of prescribed school policies, of bringing a water bottle to the Year Six Leadership Camp (See Appendix P) highlighted her personal commitment to the students' hydration healthcare practices. Teacher 1, also committed to Smart Moves, ensured her students drank water after engaging in physical activity. An examination of Smart Moves key literature revealed that there is no prompt to remind teachers to encourage their students to have a drink of water after their 30 minutes of aerobic activity (Qld Gov, 2007). It appeared the teachers were engaged in, as Clennett and Brooker (2007) infer, a practice of 'reading between the lines' of school and government policy guidelines.

Reviewing the teachers' and students' water data during the post-immersion phase I made several interesting discoveries about how educators managed gaps in government

healthcare promotions. Whilst analysing the students' 7NP health questionnaires, conducted at the beginning of Term Four, I discovered that 16 of the 23 students in Teacher 2's class and only three of the 20 students in Teacher 1's class, cited 'water' as a SunSmart practice. Teacher 2 in a follow up interview said "I've always taught water as a part of being SunSmart. You have to do that in North Queensland…. actually I wasn't aware it wasn't a part of the SunSmart campaign." It appears this blurring of message was promoted widely. Some organisations had creatively adapted the Cancer Council's (2008) popular 'Slip, slop, slap, wrap and slide' slogan to include 'slurp'(Flinders Primary School, 2009; Surf Life Saving Australia, 2008; Surf Life Saving Northern Territory, 2010; University of Canberra, 2010). I also came across another example of a school that preferred to depart from the AGHE's (Aus DHA, 2001a) recommendations outlined above and treated 'nutrition' and 'hydration' (water) as two distinct healthcare practices (Emerald State High School, 2008). These findings supported Sawka, Cheuvront, & Carter's (2005) observations that contemporary societies lack a cohesive community approach for foregrounding the importance of water as a daily nutrient for the body.

Finding consensus from government or professional authorities on how much water individuals should drink daily was a challenging task. The Victorian Government (2010) recommends drinking one and half to two litres of water each day. Analysis of the Year Six teachers' and students' interview comments, researcher journal notes and the 7NP pre-test results revealed that the vast majority of the Year Six students were aware of this government recommendation. Teacher 2's said, "We had lots of discussion about the government recommendations for how much water you should drink each day." The students efforts to improve their hydration healthcare practices were reflected in the final student/teacher composed local newspaper article (10.12.08, see Appendix O) which read, "Some students were bringing their water bottles to school more regularly and drinking a

lot more water." The Queensland Government Smart Choices (Qld Gov, 2007) and the Australian Guide for Healthy Eating (Aus DHA, 2001a) promote water as a nutritional element but do not provide recommendations regarding quantities. Kidney Health Australia (2008) similarly states, "There is no set amount to drink each day to avoid dehydration." A national government review of policies and promotions around students' hydration healthcare', particularly in hot climates, to promote uniform messages may warrant consideration. However, a review on water consumption may be seen as adding further to the complexities Kirk (2006) raises around healthism 'Think and do' healthcare messages.

Time pressures were observed as a strong physical influence that shaped the teachers' creative pedagogies for the students' 'air, water and rest' healthcare practices. The teachers' biomechanist interpretation and emphasis of these three healthcare practices reflected healthism notions (Hopwood, 2007). The students' data reflected their learned practices in responding to healthcare messages and highlighted challenges they experienced when applying the 'knowing' to the 'doing'. The Year Six students' tendency to look to their teachers and other adults as healthcare role models was observed in this study as integral to their HPE education.

Role models and healthism ideals. Role modelling of sound healthcare and citizenship practices is promoted in government literature as an important professional practice for teachers (QCT, 2006). In this study teacher role modelling/mentoring was used as a tool to establish teacher/student co-learner relationships in the classroom. Gender issues, such as girls identifying with female teachers and boys engaging with their dads, were evident in the data for enhancing this relationship. A series of challenges, however, around teacher stress, reflexive pedagogies, and unscrutinised personal healthcare practices were observed in the data as potential sociocultural barriers to the

students' healthcare practices. All of these issues further shed light on literature about healthism theories.

Healthism ideals assume that repeated exposure to healthcare messages will increase an individual's potential to adhere to sensible healthcare practices (Hopwood, 2007). Based on this assumption, teachers could be expected to be well equipped as good role models. The teachers' data at the beginning of term, however, showed that both Year Six teachers were not happy with their health status or their current healthcare practices. Both teachers indicated they were hoping to use the terms HPE focus to address some of their personal issues. Wright, Burrows & MacDonald's (2004) suggest collegiality practices and teachers acting as co-learners with their students are useful HPE pedagogies. Examples of these role-modelling practices were evidenced in the data.

Teacher collegiality and mentoring of hydration healthcare practices appeared evident in the teachers' and students' 'water' data. I noted in my journal (28.11.08) that, "Teacher 1 and Teacher 2 kept water bottles on their desks and were observed frequently sipping from them to satisfy their thirst." During an informal interview Teacher 2 spoke of how she and Teacher 1 supported one another in the classroom. "I drink a lot of water and our teaching situation was good because if I needed to go to the toilet Teacher 1 could look out for my students and vice versa." The teachers likewise offered the students the same courtesies. Teacher 2's class had particularly strong data showing only two of her students considered they needed to improve their water healthcare practices. The Year Six teachers' collegiality and role-modelling for promoting students' hydration healthcare practices also illustrated principles of 'care' and citizenship principles.

Co-learning strategies were evidenced in 'nutrition' data as pedagogy used to enhance the students' responses to their HPE curricula. Both Year Six teachers discussed with me, soon after Term Four had commenced, that they had openly shared their 7NP

healthcare shortcomings, goals and aspirations with their students. Teacher 2 told her class that she would work alongside her students in their holistic healthcare journaling task. She wrote as an exemplar for her students a confession of her nutritional challenges:

> This week has been junk food central. Far too much soft drink and 'other' foods. I haven't eaten enough fruit and veg or legumes. My eating habits are very irregular. I only ate dinner regularly, I need to consider eating more regular meals and not as much in between snack food.

Teacher 1 told me she had enlisted her class's support to keep honest in adhering to sensible 7NP practices throughout the term. In a private discussion Teacher 1 told me soon after she had seen her photo in the first newspaper article that she was disgusted with the photo of herself and intent on 'losing weight'. Teacher 1 also expressed her concern over other teachers' poor nutritional practices at school. Teacher 1's reference to "too much junk food and liquid diets" as the unhealthy elements she had observed in the staff's diets aligned with O'Dea and Abraham's (2001) research concern of teachers regularly engaging in poor nutritional healthcare practices. Teacher 1 also spoke of her commitment to being a 'healthy' role model in an informal interview in saying "I try to be an example to the kids; like most days I eat like a fresh salad for lunch."

The two Year Six teachers' abilities to role-model 7NP healthcare practices in a sustained way, and in particular nutrition, were apparently influenced by issues around motivation or stress. At the beginning of term weight loss had been a priority for Teacher 1. At the end of term she remarked on her success and commented that, "even the students have commented on the weight I have lost." Teacher 1's short-term weight-loss success, highlighted in the literature (Bellisle, 2004; Salmon, et al., 2005; Trost & Van der Mars, 2009), may have conveyed a message supporting healthism ideals about 'You can do it if you try'. Teacher 2, who had started the term intending to role-model healthy

eating practices had been unable to maintain her commitment. She isolated stress and the need for a reward and comfort as the reason for her indulgence in junk foods and explained "It's the end of term. This is my fix for the day!" Howard & Johnson (2004) also highlight this notion of how life situations and stress may be strong determinants influencing teachers' abilities to role-model short and long-term positive healthcare practices.

Mentoring students by helping them engage in discussions around sociocultural influences on health and wellbeing is inherent in the HPE curricula (QSA,1999). lisahunter (2009) suggests this approach is far more beneficial for the students than telling them 'how to be healthy'. The following story highlights a personal failure to follow this professional practice. During my contract in the final two weeks of term, Teacher 2 and I decided to follow the school's general practice for monitoring students' nutritional practices and told the students they were not to eat candy canes (a confectionary) before school. We explained to the class that this poor nutritional practice appeared to be detracting from a number of the students' behaviour and attentiveness in the classroom. This top-down approach, however, as the literature suggest (Griggs, 2007) was fairly ineffective. The students simply became careful not to be seen eating their candy canes before school. Mentoring problem solving strategies, as suggested by lisahunter (2009) may be by-passed when teachers are pressed for time or, as in this case, are in the habit of being reflexive when following standard school policies and procedures.

Adults erring when role-modelling SunSmart practices was evident in the 'sunshine' data. A significant incident at the school camp also highlighted a collective adult oversight for role-modelling sensible SunSmart practices. At camp, a male teacher chose to swim and join in student games on the beach bare-chested even though camp

regulations mandated that wearing a rashie (SunSmart shirt for swimming) or a T-shirt over bathers was compulsory (Appendix P: Year Six Leadership Camp Note). The male teacher earlier that day had drilled the students on their adherence to SunSmart practices so appeared perhaps hypocritical in not following or demonstrating his own teachings. The male teacher was also photographed with the students for the newspaper's Sunshine article without wearing a hat or a T-shirt (12.11.08, Appendix O). Three additional adults had been involved in organising the students and the male teacher for the SunSmart photo (myself included). None of the adults present picked up on the anomaly of the male teacher not portraying a strong SunSmart image. The data perhaps indicated there is a general acceptance in the community, as McCuaig & Hay (2009) suggest, that individuals after a certain age are supposedly responsible for their own healthcare practices. The tendency for adults to engage in risk behaviours despite possessing relatively high levels of knowledge is the flaw commonly identified in healthism theories (Kirk, 2006; Hopwood, 2007).

Teacher or gender role modelling issues, highlighted in Penney's (2002) writings, may have had some relevance in the data. For, example, it was the girls rather than the boys in Teacher 1's class who spoke of how they perceived their teacher influenced their motivation to engage in health promoting practices. Student 8 said, "She [Teacher 1] definitely has been an influence to me because she was my fitness instructor." Student 8 further explained why she thought Teacher 1 was a good role model. She explained, "She makes it fun and is always reminding us about what we have to do and why we have to do it. She makes us try harder." The boys generally referred to their fathers or community sports' coaches as influential for their healthcare motivations. This possibly reflected literature identifying low numbers of male teachers, hence mentors or role-models, in primary schools (Armstrong, Bauman & Davis 2002). Teacher 1's pedagogy,

commitment to working a second job after school as a fitness instructor and focus on losing weight may have, highlighted by Kirk (1985), conveyed value messages to the female students about the 'slender body'. The students' attitudes about 'slender bodies' or male role modelling is discussed in more detail later in this chapter.

Adults as role-models were highlighted in the case data for being potentially erratic in their persistence for adhering to sensible healthcare practices. Discontentment with healthcare status appeared to provide impetus and motivation for adherence to healthcare regimes in the short-term. Stress, forgetfulness or choice, however, appeared to be challenges to the motivation, thus highlighting complexities for adults as role-models or mentors and challenges to healthism ideals. The student data indicated that positive role-models could be associated with gender. Data highlighting issues and tensions around the influence of peers on the Year Six students' healthcare practices at school was collated for analysis.

Students: Peer pressures and perspectives. Students' role-modelling of holistic healthcare practices to one another was evident in the data. Positive or negative peer pressure; students' perspectives around leadership or citizenship values; teacher and peer surveillance; heat and access to physical supports were significant sociocultural and physical issues impacting the students' role-modelling of healthcare practices. These issues, highlighted as motivating (enabling) or de-motivating (barrier) themes in the data, were most evident in the students' 'nutrition and exercise' healthcare practices.

Citizenship values and role-modelling responsibilities appeared to be in the forefront of the students' thinking. The notion of 'learning from other people's mistakes' underpinned some Year Six students' comments about leadership and role-modelling. During a focus group interview a number of the Year Six students spoke critically of a group of Year Seven students who they believed role-modelled poor nutritional

healthcare practices. Student 2 referred to some Year Seven students buying Mother or Red Bull drinks from the local shops on their way to school. She said, “We worked out how much sugar is actually in a Red Bull or Mother’s drink; one thousand three hundred grams…. And there is the equivalent to 34 cups of coffee in one can.” Student 10 confirmed “It’s mainly the Grade Sevens buying the drinks”, and Student 2 added, “They’re a bit immature and they try to be cool.” The Year Sixes also blamed the Year Sevens for leaving their cans on the ground near the rear school gate and thought that was unfair as the groundsman was left to pick up the rubbish. The Year Six students’ voice in this discussion highlighted their support for the government documented (Qld DETA, 2007) and staff promoted education around ‘informed, democratic, healthy and eco’ citizenship values. A growing awareness of the younger school audience, particularly foregrounded in Teacher 2’s school health survey task, may have also been an impetus for the Year Six students’ concern about role-modelling positive healthcare practices to students in the lower grades.

‘Being watched’ or surveyed by teacher or peers, however, was not necessarily a pleasant experience for some Year Six students. Harris & Cale (2007) and Williams & Bedward (2002) discuss this issue. Ebbeling, et al., (2002) also talks about how students may develop low self-esteem based on weight issues and self-perception. Student 10 shared during a focus group discussion that she didn’t like exercise because “I get teased that I'm overweight and stuff.” Student 12 in a separate focus group echoed Student 10’s sentiments. He said, “I don't really feel comfortable about doing really hard stuff [exercises] because then people might make fun of me.” When asked why they would make fun of him he replied, “Because of the way that I look.”

Year Six students were observed offering one another motivational guidance. During the focus group interview a number of students tried to encourage Student 12 by

suggesting ways they had overcome their personal barriers for becoming physically active. They made suggestions such as playing with friends, setting up obstacle courses and following fitness routines similar to the ones they had learnt at school. Despite the encouragements Student 12 still felt his current weight, self-consciousness, lack of family support and interest in watching TV or playing computer games were stated as the 'real' barriers to his engagement in physical activities. This range of barriers is identified in obesity literatures (Batch & Baur, 2005: Catford & Caterson, 2003). Student sensitivity to peer observations of their performance when exercising was observed in both genders as a significant sociocultural barrier to their engagement in physical activity.

For students who were less threatened by surveillance and not in need of motivating the influence of 'peers and heat' were highlighted as sociocultural/physical barriers that could diminish their motivations to be active (exercise). Student 13 highlighted this barrier. She said, "It's pretty hot so you just want to sit down under a tree and talk with friends." Student 23, in a separate interview, offered a counter solution to this problem when asked by Pre-service Teacher 1, "What would help you get active?" Student 23 replied "For it not to be so hot and hang out with friends that exercise a lot." Responses like these were not necessarily the majority.

Traditions of play at school, on the other hand, appeared to have helped most students overcome their vulnerabilities to heat induced lethargy. The students' written documents and interview transcripts highlighted the way they played a variety of games and utilised a range of playground and sports equipment at school. These items included climbing frames, basketball courts, the oval, handball courts and the class colour coded Smart Moves' equipment. Failure to access highly sought after shaded areas to play games, was discussed earlier as driving students out onto the oval to engage in range of physical activities. Pre-service Teacher 4 also noted the students' desire to be active in the

heat, echoing Dollman et al., (2005) findings, as no deterrent for the students. She said, "It could be the hottest time of the day and they still want to go out and do their Smart Moves or run around the oval." In my journal (9.12.08), I also noted gender issues in the students' play. I wrote, "During play breaks many of the Year Six students, boys and girls, play cooperative games of football on the oval or basketball on the basketball courts." Peers, similar to Salvy, Bowker, Roemmich, Romero & Kieffer's (2009) findings, were observed in the data as being an influential sociocultural enabler in the students' exercise patterns at school.

The case school appeared to represent a richly resourced playground that offered some students a variety of physical opportunities to pursue their healthcare goals. For other students, the school was perceived as a place where peers and physical constraints such as heat and time of day may have created barriers, particularly to their exercise healthcare practices. Socialising with friends was observed in data as an influential 'enabler' or 'barrier' that highlighted determinants around students making healthy food choices and engagements in physical activity during recess breaks.

Reflections on students' holistic healthcare practices at school. Analysis of the case data provided interesting insights into the multidimensional environmental influences 'enabling or limiting' the students' opportunities to engage in holistic healthcare practices at school. There appeared, as expected in case study, no conclusive 'right or wrong' ways to go about providing healthcare education for students at school. However, what was illuminated in this study was that the magnitude and complexity of the task.

The students' perceptions and positive or negative reactions to the school's healthcare governance, observed in policy and pedagogy, highlighted literature about teachers' skills, positions of power, potential bias to world views and choices for

curricular priorities (Bernstein, 2000; Petrie, et al., 2007). Abstract physical elements such as heat and time and additional school organisational factors such as timetabling, classrooms, and access to and availability of resources represented a range of the political, economic and physical influences around the Year Six students' various 'lived' healthcare experiences at school. Beyond the classroom, concerned parents, evidenced in their commitment to the P&C and justified in the literature (Qld DET, 2000), were also viewed as playing an influential political, sociocultural and economic role in shaping the students' engagement in healthcare practices at school.

A look inside the students' world at home was considered important in this study to gain insight into how an additional set of multidimensional environmental influences may have shaped the students' holistic healthcare practices at home. Parenting practices were central to this review. There appeared to be a shared understanding amongst the school staff that parents in this community could benefit from the school's educational support.

At home

Governments appreciate there are multiple strategic interventionist sites that may be targeted for child healthcare (Qld DoH, 2008). The school staff, responding to broader government partnership policies for supporting families in their perpetual, holistic task of raising children (Australian Department of Families Housing Community Services and Indigenous Affairs, 2007), made efforts to communicate healthcare information to parents. Themes in the 'home' data highlighting parent healthcare priorities and rules and abilities to enforce those rules illuminated the contrasting financial (economic) and resource-related (physical) advantage some students had over their peers when living in LSE communities. As this section of the discussion unfolds, it is perhaps important to keep in mind teachers' concerns highlighted in the literature regarding the government

expectation to create change in students' healthcare behaviours through providing government interventionist HPE curricula in schools (Evans, Rich & Davies, 2007: Gard & Leahy, 2009; Wattchow & O'Connor, 2003).

The data collected from the students, the staff and parents who participated in this study were analysed to gain insight into the lives of the Year Six students at home. The two parents who were interviewed worked part-time or casually at the school. Parent 1 was employed on a short-term teaching contract and Parent 2 was working full-time as a Teachers Aide. In order to foreground the students' voice an emphasis of the analysis was placed on stories provided by the students. Where possible I made efforts to triangulate the students' stories within their work documents, school staff reflections, observations and comments made by students' in their focus group or informal interviews.

Attitudes at home. The students' home environment in many ways reflected the school setting. Parents were the principal carers responsible for responding to public healthcare messages and for creating and enforcing rules to govern their children's bodies. Parents were also educators who had their own world views and experiences which shaped their home healthcare curricular priorities and economic investments in health promoting resources. The students once again had their own perspectives about how issues at home could benefit or limit their engagement in healthcare practices. The significant difference between the school and the home was highlighted in sibling relationships, family structures and the students' capacities and autonomies for making personal healthcare practice choices.

Caring for the mental health and wellbeing of their children was evidenced in the data as a shared parent/school healthcare concern. The school had provided for parents a series of articles outlining practical tools for positive parenting in the school's weekly newsletters (13.5.08, 5.8.08, 2.9.08 and 9.9.08). Developing coping skills to deal with

negative emotions and stressful life events was information the school deemed important for empowering families wanting to build positive feelings and good relationships.The articles reflected the school's behavioural management procedures and provided strategies for parents to help their children recognise, accept and express their feelings appropriately. The chaplain, who represented a school/home liaison person, also advertised an opportunity for staff, teachers and parents to join a weekly prayer group in the newsletter (26.2.08). She explained in a semi-structured interview, "It is a non-denominational group where parents and carers can come and pray for things like the children's health or safety…friendships or struggles kids are having with learning." Parents' being home, having time and being consistent' were highlighted in the literature (Sanders, et al., 2002) and evident in the data for impacting the student's daily mental/emotional health and wellbeing.

Parent work commitments and parenting practices were additional reasons identified by the students and further justified in Stallman & Ralph's (2007) research for potentially creating emotional stress. Three of the students in the focus groups talked about their parents' occupation as impacting their stress levels. Student 51 referred to her mother's periodic absence as impacting her stress levels. She told Pre-service Teacher 1 "It's hard sometimes when you want someone to talk to. My mum goes away with the Army." Sometimes the students found they were frustrated by general competencies in their parents' parenting practices. Student 12 highlighted a 'shifting of the goal posts' phenomenon. He said "Mum says, 'No you can't ride around until you do your chores. And I've done all of them, but then she comes up with another reason why I can't ride around." A third (13 out of 39) of the Year Six students in a class written activity expressed a shared disappointment about their parents not having time to be more involved in their lives.

The Year Six students generally defined negative or stressed emotional states in terms of being ‘angry’ or ‘sad’. Conflict with siblings as a cause for ‘anger’ was a repeated theme in the students’ comments. For example, in a focus group interview, Student 13 recognised she was not good at attitude because “it has turned into a habit fighting with my brother.” Other students in the focus group agreed that sibling conflicts could be challenging. Student 8 stated an awareness of prolonged anger. She said “Sometimes I get really angry and it takes a while to calm myself down.” Student 12 in three of his focus group interviews indicated he was not really ‘happy’ at home. Davidson’s (2004) and Ornish’s (1999) research highlights in particular the deleterious impact of prolonged stress states on the body arising from negative emotions. Finding ways to calm emotions were therefore important mental or attitudinal healthcare practices for the students.

The Year Six students referred to relying on a range of physical supports, also noted in Stanley, et al., (2005) research, to assist them in self-managing their attitudinal states. During the focus group interviews, students referred to their bedroom, music, air-conditioning and trampolines as physical things they used to help temper their emotions when they were feeling angry or sad. Student 8 said “I go to my room and listen to music.” Student 20 suggested different options such as “I play on my trampoline or sit in air conditioning.” Opportunities to find places of solitude to rest or go outdoors in the fresh air and exercise highlighted the way a home environment may offer opportunities for the students to achieve synergism in their holistic healthcare practices. Affluence and space appeared to be enabling physical/economic elements at home that could potentially help the students’ achieve positive attitudinal states.

Contrastingly, lack of affluence and space, more definitive of LSE communities, were highlighted in the data for potentially creating adverse conditions for the students’

'rest' and consequential 'attitudinal' healthcare outcomes. Seven students out of 17 interviewed by the researcher said they were worst at attitude. Several of these students talked about sharing their bedroom with siblings. Technology was indicated as a significant barrier to rest and attitude in this mix. Student 19 spoke of the stress she experienced sharing her bedroom with two other sisters and a television set. "Sometimes at night when I am trying to sleep I yell at my sisters 'cause they really annoy me…I can't sleep in on the weekends because I am right next to the television." Student 19's situation reflects Moore, et al., (2002) and Van Cauter & Speigel's (1999) findings about how economic and physical environmental determinants experienced by those living in LSE communities may impact an individual's rest healthcare practices and opportunities to recover from sleep deprivation.

Crowded houses impacting family lifestyles were highlighted in this study and justified in the literature (Sawyer, et al., 2001). Five out of 39 students' written documents shed light on how family size could be a barrier to the students' attitude and rest healthcare practices. Student 24 highlighted this notion in both her written work and oral communications. She said, "I have to look after my two step brothers and two sisters. Sometimes I have to take them outside and organise games to stop the fighting." Student 25 summarised his experience when he said "I am not seeing dad as much, as mum is struggling with six kids in the house and a step dad." Stressed mental health and wellbeing states, indicated in the students' data, may have reflected their LSE status and step-blended or single parent family cultures.

Peers, siblings or parental support for managing family conflicts were discussed in the focus group. A number of these issues were examined in the literature (Macdonald, 2004; O'Higgins, Sixsmith & Nic Gabhainn, 2010; Ronalds & Allen-Craig, 2008). Macdonald (2004) highlighted friendships as valuable relationships that a boost personal

confidences and potentially fill a parenting gap. Student 23 reflected this notion when she said in the focus group "I have really good friends that encourage me." Sometimes the home setting represented a place where close friends could visit and peer counselling conversations could take place. In the focus group discussion, most students acknowledged their parents fulfilling a dominant counselling role, particularly around helping the students make responsible decisions when they were upset. Student 21 told the researcher, "If I get angry with my brother she [Mum] always comes and helps me to think of the positives." Student 21 highlighted how attitude may work synergistically with a range of healthcare practices. She defined an attitude/air/exercise/sunshine connection when she explained "Mum encourages me and my brother to get outside or go for a swim or play with the dog."

Parents mediated ways for their children to try and sustain positive attitudes on a daily basis. Many of the parents' suggestions involved encouraging their children to engage in a variety of holistic health promoting activities. The collection of data identifying healthcare practices at which the students thought they were 'best or worst' were helpful for providing students with insights into these additional healthcare practices.

Enablers for holistic healthcare practices at home. Home represented an environment where students had greater autonomy and opportunities to make healthcare choices and build strengths in their commitment to holistic healthcare practices. Parents were, in some instances, observed as dominant strategists and role models who were concerned about fostering their children's holistic health and wellbeing. Gender, flexible parenting approaches and relying on government health promotions were key themes in the students' stories highlighting enablers to them engaging in 'air, nutrition, sunshine,

water and rest' healthcare practices at home. 'Exercise' is addressed separately and later in this discussion as a significant home/community healthcare priority.

The P&C activities discussed earlier highlighted how parents expected the schools to be proactive in promoting their children's health. Parent 1 stated her appreciation of the school's HPE curriculum by saying, "I guess it just enforced what I'd been trying to say. I think when they're taught it at school, they believe it more." In relations to safeguarding children again a range of potential risks were highlighted in the school's weekly newsletters. There were articles covering issues such as riding bikes (15.4.08), use of playground equipment (5.8.08), cyber bullying (19.8.08), eating breakfast (22.7.08), accessing fresh foods (25.3.08), being SunSmart (15.8.08) and hygiene (18.3.08, 15.7.08). 'Safety' was a word commonly used in these articles. Parents, according to parent and student data, appeared to rely on a range of government policies, school healthcare promotions and their personal medical histories to help justify their holistic healthcare 'safety' rules at home.

Practicing SunSmart rules at home was a prime example of families relying on government healthcare messages. Student 8 highlighted her family's recent education about risk-taking and SunSmart healthcare practices. She said, "Since getting a pool my whole family and I learnt about safety. We all learnt about not being allowed in the pool at certain times like before 3pm." Parent 1 and Parent 2 agreed that encouraging their children to wear hats, long sleeve shirts and apply sunscreen were routine practices they were accustomed to following through their engagement of working within the school environment. Fear of the consequences of poor SunSmart healthcare practices was also highlighted in the students' data as an 'enabling' sociocultural influence. Student 19 explained, "My mum was teased when she was young because she wasn't completely sun safe most of the time and yeah she has freckles all over her body like her arms and face."

SunSmart safety and social inclusion, highlighted in O'Higgins, et al., (2010) research, may have underpinned the students' motivation to adhere to sensible health promoting practices.

Family members using 'scare tactics' to educate their children about air-related healthcare practices were observed in the data. For example, three students in the focus groups talked about their families using strong warnings to encourage them to practise good posture. Student 23 was warned of the medical consequences. She said, "My older sister says 'sit up straight' or you will get scoliosis." Student 6 was cautioned about the irreversible consequences of poor postural practices, "Dad encourages me. He says, 'sit up straight or else you're going to have a crooked back forever'." Scare strategies, such as the 1970's anti-smoking advertisements featuring the grim reaper, were highlighted in the literature by Germov (2002) as having some success. The students' 'air' data gathered at the end of Term Four was reviewed in light of how these three students' postural practices were developed over the term. Only one of the three students (Student 11) rated himself as having good posture. He said "If I slouch, my mum, like, she pushes my back." Perhaps his mother's 'scare' strategy coupled with a physical prompt was impetus for raising his awareness.

Regularly adhering to bedtimes was reported by the Year Six students as generally being dependent upon parent supervision. The majority of the students indicated they had fairly strict bedtime rules and associated rituals. Student 21 "I've got strict sleeping times." Parent 2 was firm about her household bedtime rules which were "in bed by eight-thirty and lights out at nine o'clock." There were occasions, however, when the students indicated parents may extend bedtimes. For example, Student 2 explained, in a focus group session, "I have a bedtime rule unless I am watching a TV show with mum, or sometimes I am given an extra half hour to read." Other students in the focus group

shared similarly that there were times when they were allowed to stay up later. Trade-off such as this reflected literature (Sanders, et al., 2002) about the influential role of parents for making daily decisions based on their value judgements about their children's health or academic priorities.

Nutrition healthcare practices in the home reflected parent values, rules and access to healthy foods. Coastal tropical regions are generally renowned for having quality soils and an abundance of reasonably priced fresh fruit and vegetables (Qld DoH, 2008). Growing vegetables at home was a family pastime mentioned by Parent 2 [mother] and the triplets. Student 7 also talked about her family working actively in their garden that had fruit trees. The school used the newsletter (25.3.08, 25.10.08) to help raise the parents' awareness of where fresh foods could be accessed in the communities. The chaplain was also a part of a combined church community outreach which was involved in strengthening families by providing families with basic food items (bread, milk, meat parcels fresh fruit and vegetables) on a weekly basis. The data did not indicate if any of the Year Six students' families accessed this service. Having access to a variety of foods in the home, however, was highlighted in the students' data. Student 27 stated that she was good at nutrition because "I eat lots of vegies, fruit, meat, nuts and grains." Other students referred to variety. Student 13 said, "I like the fruit that Mum gets because she gets variety and we usually have stir fries every now and then, and she makes yummy healthy foods." Opportunities to access healthy foods did not appear to be a significant barrier to families living in this community.

Gender roles highlighting a mother's influence on their child's nutritional healthcare practices were apparent in the data. Norton, et al., (2003) and Macdonald et al., (2004) discuss this gender issue. Mothers were generally identified in the data as being good cooks, role models and associated with surveillance of the students' daily nutrition

and water healthcare practices. For example, student 10 said, "Me and my mum like healthy food", Student 20 said, "My mum cooks healthy food", and Student 24 shared, "Mum checks my lunch box to see that I have put in healthy food." Student 9 spoke about her mother's moderate practice for allowing soft drink treats which is an Australian Guide to Healthy Eating message (Aus DHA, 2001b), "Mum says if I drink water during the day I could have a little bit of cordial with my dinner." Mothers were also highlighted for providing physical supports such as bowls of fruit and jugs of water which the students could access at any time. Mothers were featured as first aiders and educators using natural healthcare remedies. Student 10 explained her mother had taught her to drink water to manage her migraines. In my journal (9.12.08) I also noted that the two parents interviewed and their four children in Year Six were regularly observed with water bottles at school.

This data has shown how government and school healthcare messages may be taken up by parents and students in the home context. Some parents appeared to make decisions about a range of healthcare governance issues and financial investments into physical items to help promote their children's health. This collective data also reflected positive parenting literature (Sanders, et al., 2002) particularly around mothers playing a central political and sociocultural role in health promotion in the home environment. The students' data highlighted how the focus group discussions provided a unique opportunity for students to speak openly about the positive and negative impact of their family's healthcare parenting practices.

Barriers to holistic healthcare practices at home. A number of gaps or inconsistencies in families' healthcare regulations or practices at home were highlighted in the students' stories. The case stories sometimes portrayed the students as victims who were limited by family relationships, communication issues, maturity factors and

autonomies in the home. Avoidance and lack of success in self-determined efforts for making positive healthcare choices at home were also illuminated in the students' data.

Students avoiding healthcare practices at home or blaming parents for not regulating their healthcare practices were highlighted in the students' 'rest' stories. Biggs and Dollman (2007) and Dodd, et al., (2008) research raised a number of the students' concerns. Going to bed late was an issue raised by 11 students in interviews. Students 6, 11, 12 and 19 all blamed their parents for their tiredness Avoidance was discussed in the focus groups. Student 12 said "My bedtime is nine o'clock but sometimes mum doesn't know I am staying up late." And a lack of rules, highlighted by Students 12, 17, 19 and 29, were often linked with technology distractions.

The topic of 'sleeping in', particularly on weekends, generated a lot of head nodding, animation and smaller group discussions. The desire to 'sleep in' appeared to be a shared preference. Student 16 referred to his pleasure at 'sleeping in' when he said, "On the weekends I sleep in until ten o'clock." Student 15 said in reference to a normal school day, "I sleep in and I don't really get to eat breakfast." Others students echoed similar comments about sleeping in and skipping breakfast. Eating breakfast was highlighted in the literature as a positive outcome for a delayed starting time for schools for students during their teenage years (Wahlstrom, 2002). Biodiversity and physical maturation were feasible considerations, given these students were approaching their teenage years. Parent 2's observation of the relevance of biodiversity in sleep needs amongst her triplets was also justified in the literature (Gau, et al., 2004). Parent 2 explained to me that one of her triplets, compared to the other two, "needs a little bit extra time to sleep." These students' collective 'rest' stories perhaps reflected a gap in public healthcare messages for promoting understanding about the importance of sleep for

enhancing children's learning capacities and the development of their biopsychosocial health and wellbeing.

Student perspectives around fatigue impacting posture were discussed earlier in this chapter. Two of the three students, who talked about their parents using 'scare tactics' to improve their posture, identified 'air' as the physician they were worst at by the end of term. This finding, similar to the healthism pedagogy at school, indicated verbal prompts and simplistic educative processes are perhaps insufficient to correct postural practices. Government health curricula (Queensland Health Education Council, 1948) in the past had emphasised a more holistic approach to promoting good posture through daily exercise, being outdoors and developing positive attitudes. A gap or current lack of focus in government healthcare messages may have created a barrier to achieving these types of more holistic healthcare approaches and outcomes. The complexity of this issue, however, is highlighted by Burrows and Wright (2007) when interventionist healthcare promotions are underpinned particularly by emotive messages of moral panic. Parenting healthcare practices responding to these types of prompts may translate to a series of surveillance and regulation tasks aimed at achieving prescribed healthcare outcomes.

In some instances parents were blamed for the students' poor water practices at home. Seven students in the interviews and seven out of 31 students in written work said they were 'worst' at water. Three of these students indicated they preferred sweet drinks. Student 18 stated, "I drink Coke and a lot of other stuff… coffee, V, Mother... I like sugar." Student 2 and Student 10 indicated sometimes these purchases were made without their parents' consent. Some Year Six students saw their parents may have been at fault for some of their deleterious 'water' healthcare practices. For example, two students in the focus groups rationalised their 'not being good at water' due to their parents not providing them with water bottles or having jugs of water regularly available at home.

However, preference for sweet drinks and lack of motivation, highlighted in the literature (Broberger, 2005), appeared to be the more relevant issues in these students' water stories.

The most significant 'water' story in the data highlighted a student 'making an unhealthy choice' based on preference. I observed Student 42's dehydration experience at the Leadership Camp. Student 42 was stung by a stinger when swimming in the ocean not long after he had completed a two hour bush walk. Teacher 1 told me later that evening he became nauseous and was vomiting. It came to light that during the bush walk, against the teachers' instructions, Student 42 had avoided drinking any water. The ambulance officer who attended the case explained to the staff that the student's chronic dehydration had exacerbated his condition. Teacher 1 explained his mother's response was, "I can't get him to drink water at home. He will only drink cordial." The dehydrating impact of sugary drinks on the body are understood by health professionals but probably less understood by the general public. Again, these students' stories perhaps reflected a gap in public healthcare messages that are significant, as Nutbeam (2000) explains, for the development of health literacy in a family or community context.

The following students' SunSmart story illustrates further how children's avoidance antics may develop in the family setting. A breakdown in communication and parent dominance appeared to be barriers to this student's sunshine healthcare practices. Student 6 responded to the researcher's probing questions in a semi-structured interview.

Pre-service Teacher 1: Why don't you wear sunscreen?

Student 6: Because I say, I already put it on and Mum says, are you sure .and I say, yes.

Pre-service Teacher 1: So you lie to her?

Student 6: Because I've got a sensitive face.

Pre-service Teacher 1: Why don't you tell her to buy sensitive stuff?

Student6: We did [indicating her brothers and sisters], but my face stings.

The complexity of this issue lays in two contrasting healthcare concerns; one, the stinging caused by a reaction to the sunscreen and two, the skin not being protected from ultraviolet rays. Avoidance behaviour based on the Cancer Council's (2008) SunSmart risk healthcare messages, however, may have significant long term deleterious healthcare implications.

'Making healthy choices' was a topical theme in the data. 'Choice' determined whether students or their families took advantage of the healthy foods available to them at home or in the community. The Principal raised a concern highlighted in Dollman et al., (2005) and Hart, et al., (2003) research about family influences on children's dietary practices. The Principal stated that whilst the local shops provided a variety of health choices her observations of some parents' supermarket trolleys highlighted their choices for soft drinks, bread and processed foods. Student 22 provided the students' perspective in this scenario when she said in the focus group, "My sisters don't like healthy stuff. Normally they have chips and that kind of stuff so it's kinda [sic] hard to eat healthy." Student 19,shared her challenge, highlighting a lack of autonomy, which was raised in the literature (Harrison & Leahy, 2006). She explained, "My Dad brings home fat foods and all sorts of takeaway." Parent 1 explained that working full time had meant that afternoon walks with her children were not as regular and the quality of their meals at night were more frequently compromised. She said, "Sometimes we get take-away and I use frozen vegetables now. I would never have done that before but I don't have the time." The data showed when some students perceived a gap in family support they appeared to resort to self-determined efforts to bolster their engagement in holistic healthcare practices.

Students self-determined efforts for improving nutrition healthcare practices at home appeared to be elusive. Student 12, who had shared in the focus group that he had tried dieting, said "I am not good at nutrition because I don't eat healthy food at home." Making consistent healthy food choices at home wasn't always easy, even when there were health foods in the house. Student 6's reflections in the focus group illuminated neuroscientists' explanations for high levels of failure around managing healthy food choices based on primeval drive for salts, sugars and fats (Broberger, 2005; O'Rahilly & Farooqi, 2006). Student 6 shared her dilemma about being hungry at home and unsupervised. She said, "You find yourself searching through the cupboard looking for the next chocolate biscuit." Her method for solving this was "Next time think about rules. I can only have 'so many' biscuits a day, then its fruit." Student 6's approach for overcoming junk food and binge eating challenges at home perhaps reflected, as Kirk (2006) suggests, her exposure to simplistic healthism ideals inherent in school curricula and government obesity interventionist programs.

This data illuminated how some of the Year Six students perceived their parents' lack of support in some instances may have created barriers to their holistic healthcare practices at home. Lack of economic investment for health promotion, unsupervised access to technology or breakdowns in communication around negotiating emotionally challenging issues were raised by the students as key barriers to their holistic healthcare practices. Students' biodiversity and preference factors were also identified as significant influences underpinning the students' avoidance behaviours or their choices not to engage in holistic healthcare practices. The data showed that families may have benefited from gaining further education about the students' posture (air), sleep (rest) and hydration (water) healthcare practices. Critical health literacy, as opposed to healthism, approaches

could possibly be inferred in the data for guarding families against ineffective reflexive surveillance and regulatory type responses.

Appreciating synergism and multidimensional influences on holistic healthcare practices is central to a critical literacy approach. Exercise stories were a dominant theme in all the students' data which highlighted the way families created and enacted their healthcare priorities. Compromises in healthcare synergistic outcomes were observed when parents made decisions around exercise priorities that impacted the students' opportunities to engage additional holistic healthcare practices perceived as important to them at that time.

Families get active. Government obesity prevention healthcare promotions highlighted in 'Eat Well, Get Active' campaigns are targeted at whole families (Aus DHA, 2004; 2008; Aus Gov, 2005; Qld Health, 2008). Obesity discourses, Kirk (2006) and Burrows and Wright (2007) suggest, carry emotive messages about families moral responsibilities to reduce healthcare risks by making healthy food choices and being active. The data indicated that parents appeared to be aware of the physical, psychological and social benefits associated with exercise and promoted in health campaigns. A family's priorities for being active, however, could create barriers for some Year Six students' rest healthcare practices.

This case study supported Gard's (2004) suggestion that families, and in particular children, are already active. Whole families choosing to stay out late 'exercising' were referred to by four of the twelve students in the focus groups. Student 6's recount, perhaps extreme, was more illustrative of the busy pulse in families' lives when endeavouring to meet the family's various sporting commitments. In a focus group Student 6 shared:

> Everyone plays a game. Mum plays three netball games a week, dad plays cricket, I play soccer and my sister does gymnastics. The routine is very messy. I go to my game, then I might ring dad and say 'I have gone home to eat something' or I eat at the game. Then dad picks me up and we go to watch mum's game. Then we go to dad's game and watch him. Sometimes his game doesn't start until around 10 o'clock.

Student 6 explained that her family had to change the routine outlined above as she and her sister were having trouble getting up in time for school. Parent 1 and Parent 2 also alluded to their busy schedules including 'juggling acts' and re-prioritising to meet their family's engagement in community sports.

Families purchasing physical resources to help their children 'be active' or exercise at home were referred to in focus group interviews and a variety of the Year Six students' written data. The quantity of students who identified having resources for engaging in the physical activities is cited in the brackets: playing football (21); basketball/netball (8); swimming (8); dancing (4) and riding bikes (19). Independent activities such as playing with the dog (10), running around the yard, stretching or doing obstacle courses (10) were additional examples of students being physically active at home. Six of the 12 students in the focus groups agreed having a swimming pool at home was a great investment (if you had the money) when living in a hot climate. Research highlights children's engagement in sports may reflect a family's changing resources, finances and time commitments (Dollman, et al., 2005). The students talked about how these physical resources could be used interactively with family members.

Siblings were noted for potentially creating a range of both positive and negative challenges around the Year Six students' 'exercise' healthcare practices at home. Eleven out of thirty-nine students in their written work referred to positively engaging in physical

activities with siblings. These engagements sometimes reflected stories about students creatively mentoring their younger siblings. Student 10 shared in the focus group how she created an obstacle course for her young brother and sister to do at home after school. This story illuminated a students self-determined efforts possibly based on a transfer of her HPE learnings at school into the home setting. Ebbeling, et al., (2002) discussed how name calling and stereotyping may impact self-esteem. Student 12 shared how he felt that his sister's comments were partly why he lacked motivation to exercise. He explained in a focus group interview "My sister is really skinny and I tell her not to call me fat." Student 12's response resonated with stereotypical obesity-related messages, as highlighted in the literature (Burrows & Wright, 2007; Kirk 1990), around lean is desirable and fat is bad. The students' discussions in the focus groups highlighted their personal responsibilities for managing their leisure activities in the home setting.

Managing busy timetables were considerations when parents were making decisions around family members engaging in organised sports. Finances, preferences, skills and abilities to offer physical support were key concerns. Student 34 highlighted a preference issue when she said, "We have enough money for me to play sport. I just haven't found one I like." Student 4, on the other hand had to compromise her preference. She said, "I wanted to do swimming lessons but my brother and sister wanted to play tennis." Parent 2, as a parent managing multiple siblings and their sport preferences provided her perspective. She explained, "In the past the girls went swimming and Student 3 played soccer. I think having two parents is good in case it clashes. Now I encourage one sport. Any more than that and it gets a bit hectic."

Parents' influential role in shaping their children's sociocultural world views may have reflected literature about parents wanting their children to be happy and adopt citizenship values (Qld Gov, 2006: McCuaig & Hay, 2009). Student 13 said in an

interview “Sport is a priority for mum.” Parent 1 confirmed this when she spoke about her financial investments in sport. Parent 1 said:

> I pay eleven dollars on Monday nights and eleven dollars on Tuesday nights. I know it’s expensive. Then I pay fifteen dollars a week for gym. So when you add it up that’s thirty-five dollars. But it’s better than spending it on clothes.

Parent 1 also highlighted her sociocultural perspective underpinning her children’s responsibility for team activities. Parent 1 said, “I’ve always said this to my kids even if they’re grounded: ’You still have to play your sport because you can’t let the team down’.” Parent 2’s data highlighted her sociocultural perspective. She said when the family used a ‘majority rules’ approach to decide which sport the triplets would play she then had to manage a concern over skills differences and comparisons amongst her children. Parent 2 said she spent time encouraging her daughter to approach playing tennis in a more positive light. Parent 2 said, “I think she’s seeing now, for her, playing tennis is more social. It has become more about acceptance, getting along with other people.” Parent 2 added, “It’s good that she’s worked it out. She’s obviously really happy and she’s made some good friends from other schools.” ‘Getting along’, highlighted in the school’s ‘You Can Do It!’ program, appeared to be an important priority for these two families.

Gender/role-modelling stories were prevalent throughout the case data. Wright, et al., (2003) observations of how location, family relationships and community culture can play a central role in determining children’s engagement in physical activity were also reflected in the students’ gender/role-modelling stories. The student data showed that boys frequently referred to their fathers as encouraging them to be physically active. Student 3 said, “My dad put in a basketball hoop at my house. I enjoy exercising now.” Student 16 referred to his dad being the coach which meant he went over to the football

club “lots of times.” Student 12 indicated that surveillance and pleasing his father were important aspects of his commitment to the game. He said “Every time he [his dad] coaches I just have to put in another 100 per cent more.” Girls exercising with their mothers were recurrent themes in the data. Parent 1 said in her interview, “I play netball and touch football with my kids. My daughter (Student 13) and my friend’s daughter sometimes fill in for us when we are a few players short on our netball team.” This meant the age range on the court was somewhere between 11 years and 40 years. Student 10 talked about going to the local gym with her mother. Dollman et al., (2005) findings discuss a decline in gender role-modelling of organised sport’s practices in families. The data showed that gender role-modelling of exercise practices in these families was significant for encouraging the students to be active.

Grandparents are highlighted in current literatures for consideration of their important or changing role they may play in the lives of their grandchildren (Backhouse, 2009; Mitchell, 2008). Changes in family structure and social conditions may position some grandparents in roles that have been traditionally assumed by parents such as full time childcare. The significant role of their grandparents was acknowledged by several Year Six students for their influential role in encouraging them to both ‘Eat Well and Be Active’. Smibert, et al., (2010) recent study investigated how school, community and family can work together to address child health issues. Contrastingly, in a focus group interview Student 2 talked about her grandparents’ supportive role in dropping her off and picking her up from her martial arts classes. Student 6 shared in the focus group that she thought it was good the way both her grandmothers “went to the gym together and were helping each other to stay healthy.” Grandparents were also spoken of for their practical support in washing sports’ uniforms and bringing fruit for the players to eat at the half-time break during their game. Student10 in her written data highlighted engaging in

family cricket matches at Grandad's place as an exercise pastime she really enjoyed. This study highlighted a students' perspective of grandparents as being highly visible community players who could provide important messages about the benefit of sustained holistic healthcare practices.

In retrospect, the case data illuminated the complex and interactive relationship between a host of multidimensional environmental variables that impacted the Year Six students' holistic healthcare practices at home. The family members' healthcare values, gender role-modelling practices, work schedules and financial abilities to provide physical resources collectively represented a range of the enabling or barrier influences on the students holistic healthcare practices. The case data also highlighted how gaps in government healthcare messages may have impacted in particular the students' air, water and rest healthcare practices at home. 'Exercise' appeared to be a 'highly valued' and 'accommodated for' healthcare practice in daily lives of families in this study. Data highlighting the students' access to community resources and organisations were analysed to see how they may have built upon or detracted from the students' holistic healthcare education experiences at home and at school.

Community

The Year Six students' community was enlarged or constrained by issues of physical access and affordability. Whether a child was good at a sport or not was not necessarily the main determinant for choosing a sport. Decisions around playing sport or accessing local sports clubs were largely determined by family finances and abilities to transport their children to and from sporting or community venues. The way government health promotions may be used to unify healthcare messages throughout a community was evident in this study. The Year Six students' data, however, shed light on an interesting contrary generational perspective around the use of technology and media.

The Queensland Government's initiatives for Healthy City Plans highlight recreational resources and sports' personnel as key enablers for developing healthy citizens (Townsville City Council, 2003). Utilising community resources, including local parks, bikeways, skate bowls, local pools and dance and sports clubs, were highlighted in both the students' written and oral data as physical 'enablers', affording the students opportunities to exercise. Hobbies, and playing with pets, identified in research literature (Allen, et al., 2001; Laws et al., 2008) as useful rest and relaxation healthcare practices, were also commonly linked to the Year Six students' cost-free exercise activities. Student 21 highlighted this notion when she said, "My brother and I are always taking the dog for a walk down to the dam." Bike riding with friends or going to the skate park were other examples of making the most of community resources. Exercising outdoors with family or friends also highlighted the synergistic potentials for the students' 'attitude, air, sunshine and exercise' healthcare practices.

Providing recreational facilities to promote community health and wellbeing is a universal community action practice (WHO, 2004). The local area had a number of council parks and cost-free recreational facilities. RiverPark, approximately five kilometres from the school, was a significant council maintained park offering a combination of residential, commercial, cultural, sports and leisure activities. Some students said they didn't go to RiverPark, however, as distance was an issue and you had to drive there. In the written data 'not having a car' (Student 11, and 46) or 'no money for fuel' (Student 9 and 19) were reflections noted as barriers for the students engaging in physical activities in the community. These physical and economic barriers, preventing students from accessing some of the local recreational parks, as Johns (2005) states, were issues beyond the Year Six students' control.

Location and safety were constraints that highlighted the students' limited autonomies. Teacher 1's focus group cooperatively agreed that living close to parks where there were walking and bike tracks made them more aware of the need to be healthy. Perceived safety issues however, commonly referred to in obesity discourses (NSW DHS, 2002: Qld Gov, 2006), were highlighted as a sociocultural/physical barrier to being physically active either alone or with their friends. Student 9 said, "Mum doesn't like me roaming around the streets." Student 10 highlighted, how in some instances, utilising local resources was reliant on adult supervision. For example when the researcher asked Student 10 what she did to stay healthy she replied "Well living close to RiverPark helps. I can go swimming there and when its winter can still do the walk around the pool. There is a sign at the RiverPark pool that says young children swimming in the pool must be under adult supervision." Factors influencing parents 'being available' or 'not being available' to engage in these recreational activities were discussed earlier in this chapter.

Participating in local sporting clubs' activities was impacted predominantly by family finances and/or distance factors. Combined costs for club registration fees, sports' equipment, weekly fees to play the game, spectators' fees for the family and transport fees were all noted as 'economic' considerations that enabled or created barriers for students participating in their local sports clubs. Wright, et al., (2003) found similarly in their study amongst Australian teenagers, that poverty and family commitments were issues that significantly constrained their choices and opportunities to participate in local sports and leisure activities. Parent 2 said that it cost her family around thirty-five dollars a week for their organised sports activities. Student 10 shared in a focus group interview: "I would like to do ballet but it is too expensive", and she explained there were other siblings to consider. Two students shared in Teacher 2's focus group that they would like

to do multiple sports or attend more martial arts classes but as Student 1 explained, "It's not just because your parents think it is too expensive, but they may have spent all the money in the last season." Despite the expense of engaging in sporting activities and living in a low socio-economic community there were eight examples in the focus group where whole families played sport. Choice to engage in physical activity in this study appeared to reflect family cultures, which were defined by their personal values, economic status and where they lived.

Students who did participate in community sports observed resounding, prominent government healthcare messages (ADH&A, 2001; 2008). For example, a local cricket club mandated their players engage in sensible SunSmart practices (Cancer Council Queensland, 2007) by wearing long sleeve shirts and hats as a part of their uniform (Wanderers Cricket Club, 2009). Student 6, during a focus group interview, talked about her sports club's nutrition healthcare practices, reflecting the Queensland Government's (2007) Smart Choices campaigns. She said, "When we have sausage sizzles or fund raisers at soccer you can only buy one can of soft drink." Pre-service Teacher 2 responded to Student 6's comment by talking about her experiences as a coach. She said, "Some coaches, like me, dictate what the kids can and can't eat or drink before a game. Warm up sessions are interrupted for water breaks." Healthcare as a 'duty of care' was observed in the data as a priority practice in many of the sports clubs accessed by the students.

Community sports organisations in this study were also observed as being helpful for reinforcing or closing gaps in the Year Six students' school or home based healthcare education. Stokes-Guinan, et al., (2011) suggest bringing professionals from the community to the school has merit for offering the students these types of experiences. Exercising to develop core strength muscles to improve posture was referred to by some students as being addressed by their coaches at their local sports clubs. Student 4 said, "I

can't sit up for long. My back gets too tired. I need to strengthen my back. Our coach makes us do push ups." Coaches' objectives, similar to the teachers at school, appeared also to be aimed at achieving prescribed outcomes.

The need for self-determination and maintaining motivation to improve personal exercise healthcare practices is commonly cited in government literature (Qld Gov, 2006; Aus Gov, 2005). The students in focus groups shared stories about how their engagement in community sports helped them extend themselves or maintain their motivation. Two students shared similar stories about how being asked to lead the warm up session in their martial arts classes had raised their self-esteem. Student 1 said, "It makes me feel good and important and makes me want to try harder." Student 2 highlighted using competitiveness as a method for extending her skills. She said, "I look at other people and try and beat them or look for better techniques." Another student talked about his goal-setting strategy. Student 3 said, "Every time I play a tournament I try to win at least two matches." Student 4 saw the social aspect of playing sport as a source of motivation. She explained, "You're actually like getting out there having fun while getting fit and also making new friends." The Year Six students' positive experiences around leadership roles, socialising, being resourceful and goal setting appeared to be integral to building on their strengths and perpetuating their self-determined healthcare efforts.

Fun, supported by the humour element of the 7NP program, was highlighted in the data as an innovating enabler providing opportunities for whole families and health professionals to engage in health promoting activities. Macdonald, Rodger, Abbot, Zivani, and Johns (2005) found that 'fun' was key factor in students wanting to be active and join in team games. This study showed having 'fun' could be integral to a range of healthcare learning and practices. Student 13 explained how the 'fun' element of the 7NP program underpinned her motivation for learning. "It [the 7NP] has made me focus a lot

more because it is really fun." Parent 1, Student 13's mother, highlighted her response to the 7NP program. She said, "It was also really exciting because I became interested in it, saying, 'Which doctor's that?'" My husband, naturopath, co-puppeteer and 7NP facilitator, observed that:

> If I arrived in my ordinary clothes the children would say, 'Oh. You're that guy who does the doctor's stuff'. But if I came in my clowning gear they would say, 'Oh do that voice again….you know Dr Inhale Exhale or the food doctor.' The children were inviting me to go over the material again. They were learning the facts.

Brady and Kennedy (2007) emphasise the importance of a collective voice when constructing curriculum. In this instance, the adult or community voice may have been overlooked in indentifying a 'draw card' to encourage community partnerships for supporting the students' healthcare education. My literature search revealed, similar to Macdonald, et al., (2005) findings, the child or a family's perspective about the use of humour in modern HPE curricula or pedagogy is a topic generally overlooked.

It wasn't fun and games, however, for all students. Unfortunately, discriminatory behaviour as an unhealthy sociocultural condition (Munns, 2004) was also brought to light in this case study. Teacher 1's reflective comments supported Sawyer et al., (2001) findings, which stated that exclusion based on racial prejudice could be linked to violent behaviours and was symptomatic of poor mental health. Teacher 1 noted whilst taking an Indigenous student to an after school sports event that when she stopped to get petrol on the way she was treated with less respect than usual. This experience prompted her to reflect on how Indigenous students may be treated regularly in the local community. It helped her understand why Student 18 sometimes said, "I wish I was white…because you get treated differently." Teacher 1 also considered this student's personal sense of social

exclusion in the community as a possible link to his frequent outbursts of rage and violence amongst his peers.

The Year Six students' positive experience around leadership, socialising, self-motivation and goal setting were integral themes in their community sports data. All of these practices are highlighted as key Year Seven HPE essential learnings (QSA, 2007). Students, however, who were unable to engage in community sports due to economic disadvantage or were poorly positioned in terms of accessing parks appeared to have a diminshed 'world'. These students were chiefly reliant on their self-determined efforts for being resourceful at home or looking to schools to provide them with opportuinties particularly in terms of being physically active. The use of media and technology were identified by the students as important resources for potentially closing gaps in personal health promotion.

Media. The final theme in the discussion of the data draws attention to perhaps one of the most controversial and complex healthcare concerns for contemporary students. This concern is the impact of the technology acting as a distracting digital 'message stick' and the media for popularising health trends. Adults are generally portrayed in the media as being critical of the impact of technology on the younger generations' health and wellbeing. This discussion highlights the Year Six students' contrasting generational perspective.

The media has repeatedly raised a concern that modern children are lazy and inactive (Gard, 2004). Technology is commonly cited as contributing to this alleged generational decline in children's activity levels (Green, 2004; WHO, 2006). The students' engagement with the government 'Be in it, stay in it' HPE curricula (QSA, 2008) was cited earlier as shaping the students' thinking by considering these types of government perspectives on the multidimensional influences about teenagers' current

levels of inactivity. It was interesting to find, however, a misalignment in the data between the students' persuasive text articles that were submitted for assessment at school and their personal stories about 'exercise' healthcare practices in the family and community context. Central to this dissonance were data reflecting government obesity health promotions (Aus Gov, 2009) and a possible oversight in pedagogy encouraging students to be critical readers of the media (Tinning, et al., 2001).

The Year Six students' engagement with 'Be in it, stay in it' (QSA, 2008) required them to consider current trends such as obesity and inactivity. Engaging with technology is generally correlated to laziness/lack of physical activity and cited as a prime cause for obesity (Swinburn, et al., 1999; van Zutphen, et al., 2007). There were only two students who reflected this view in the focus groups. Student 12 (male) said, "I feel lazier this year, probably because I am playing too much PS2" and Student 7 (female) said "Mum always says, why don't you go for a jump on the trampoline but I always just rather watch TV." These students appeared to be in a minority group in this study as only three students (including Student 12 and Student 7) of the 31 students who completed the 7NP healthcare questionnaire at the end of term stated they were worst at exercise. Seventeen students, over half of the total, said they were best at exercise. The majority of the Year Six students' lived experiences appeared to contest the highly publicised 'technology + laziness = obesity' equation. Blame and responsibility for childhood obesity, highlighted in the Year Six students' persuasive texts, appeared to be relocated and mythicised to a more human element.

The students' persuasive text articles were underpinned with strong opinions about a potentially negative role parents may play in shaping their children's attitudes to exercise. Gard (2007) suggests not only children but parents also are portrayed negatively in the media as poor role models for nutrition and exercise healthcare practices. The

students' persuasive texts blamed parents for potentially being responsible for their child's obesity. Student 10 wrote, "Everyone! Who are those people that pass their weight to their kids?" Student 16 wrote, "If parents are not encouraging kids will stop playing." These comments also carried an undertone highlighted in Gard's (2007) writings about the community being 'at war on obesity' and having a collective responsibility to seek out those who are not helping combat the problem. Parents were also portrayed by Student 9 as people who 'yelled at their children at sporting events' or who 'tried to live their sports dreams through their own children."

The students' data, highlighted earlier, did not portray the Year Six students' real parents in a negative light at all. The adopted type of thinking in the Year Six students' persuasive text articles seemed to pinpoint children as victims and parents as offenders who were morally obligated to rectify their misdemeanours. The persuasive text articles suggested parents could help by being observers of their children's sporting activities, as taxi drivers who ferried them around and beneficiaries who paid the bills. Student 13 wrote, "Parents and family have the ability to get kids interested in sport. Parents can travel with children; pay for them and encourage children." Parents portrayed in these contexts appeared to be people who did not have healthcare needs of their own. Media-stereotyping and government healthcare messages appeared persuasive in influencing the students' perceptions around healthcare priorities for children in the family setting.

Unscrutinised, prioritised diet/exercise government healthcare messages promoted in the school may have distracted the Year Six students from thinking more holistically about whole families and balanced holistic healthcare lifestyles. The following example in a students' written data shows how potentially entrenched children's 'diet and exercise' thinking may be around priority healthcare practices. Student 48 said "My dad would rather play his guitar than come out and play with us." Engaging in a hobby like music is

highlighted in the literature (Allen, et al., 2001; Laws et al., 2008) as an alternative healthcare practice to promote mental health and wellbeing. This data highlighted how the student overlooked relaxation for improving 'attitude' as a significant healthcare practice. The data also highlighted how parents making decisions based on choice and personal healthcare priorities may impact their child's potential healthcare priorities. Developing a holistic healthcare perspective may be important for families in their creative tasks of catering for individual members' varying and dynamic daily healthcare needs.

Technology and media may hold potentials for helping children adopt a holistic healthcare perspective. Acknowledging minority voices is central to this claim. For example, researchers who claim that modern children are physically active are a minority group (Dollman, et al., 2005; Green, 2004). These researchers also argue that technology is not the distraction or barrier to children's health as propagated in the media. The Year Six students', also identified as a minority voice, supported this claim. A range of the students' data, highlighting their perceived and real world, magnified the positive role of the media and technology.

The role of the media as potentially a positive influence on children's healthcare practices is generally marginalised in obesity summit discourses (NSW DHS, 2002; Qld Gov, 2006). All six persuasive text articles portrayed the media as a positive medium for 'getting kids active'. Student 17 referred to the breadth and positive potentials of media influences. She wrote, "The print media (e.g. magazines, ads, catalogues, media, radio, TV, etc) influences children to be active. Famous people such as Olympians and celebrities influence more people to get active everyday." The focus group data verified how technology and media were used to inspire physical activity in their homes. Student 11, whose family was unable to finance his engagement in community organised sports, said in a focus group discussion "I play with my Wii Sports

game." (Wii Sports is a Nintendo interactive sports game offering five different sports experiences). Student 10, who also talked about economic restraints preventing her from playing a community sport, wrote in her student work that "Listening to music on the CD or on the radio is good because it will get you up dancing."

Reflecting on the case data, I considered Gard (2007) and Kirk's (2006) surmise that declining levels of physical activity amongst children is a socially constructed myth may have held some validity. Unscrutinised pedagogy appeared to influence the students adopting popular government media promoted healthcare perspectives, contrary to their lived experiences. Generational issues may have been central to this media/technology and healthcare discourse. Gard (2005) suggests that adults' nostalgic references to life being better in their day, particularly around opportunities to be physically active, are inherent in Western patterns of thinking, where the older generations tended to look unfavourably upon the younger generations. Students in this study, however, appeared to be adapting positively to their digital world, which was ironically constructed by adults. It is the adults who invented the technologies and generated much of the content of the digital discourses. The students, often portrayed poorly in these discourses, were perhaps moving more laterally and finding advantageous ways to use technology to close gaps in their healthcare education and restricted opportunities to be physically active.

Conclusion

Governance and issues of power were key observations in this students' holistic healthcare practice study. The way government public healthcare messages dominated the discourses, policies, curricula and practices across the students' school, home and community environments was highlighted in the data. Communication links, particularly between school staff, families and students in the school and home setting, further reflected the way adult top-down models of practice positioned the child as a victim or

the central agent to be worked upon to create personal healthcare change in the interest of national prosperity. Adult decisions about health curricula and policies in the school were dominant and economic investments, based on a collective view of what adults perceived were important for student citizenship and healthcare needs, were ratified into physical resources. This corporal governance approach was evident in the data for potentially contributing to dominance in thinking around 'diet and exercise' as being priority healthcare practices. This narrowed approach worked against the students developing a more balanced and broadened understanding of healthcare as a holistic practice.

The Year Six teachers acknowledged there were significant challenges resulting in a theory/practice gap in their personal HPE pedagogy. Heavy teaching loads and professional responsibilities to prioritise, construct and implement curricula were identified by the teachers as significant challenges. Narrowing the content of the 7NP holistic curricula by emphasising the biomechanist elements was the most pronounced modification made by the teachers. Teachers' accountabilities to role-model, assess and report on student progress were compounding sociocultural factors evidenced in this study that highlighted the pressures and complexities teachers may face when delivering HPE in modern classrooms. In North Queensland a range of physical issues around time and temperatures were also observed as further adding to this pedagogy challenge. The two teachers did look for ways to develop teacher/student co-learner relationships in their pedagogy. However, one of the teacher's practices of soliciting her students help her in a personal commitment to weight-loss may have conveyed healthism messages about how individuals can control or manage the body through simplistic 'learn and do' processes.

The students' data indicated their marginalised voice or lower position of power in the hierarchy was a significant sociocultural barrier to their healthcare practices. This was particularly evident in disparities between the adults' and the students' shared healthcare

goals, perspective, priorities and language used to express those ideas. In the home or community context there appeared to be a range of physical opportunities to encourage students to ‘be healthy’. However, access or parent presence and support was often determined by an individual family’s physical location, economic capital and cultural values underpinning family healthcare practice priorities.

The Year Six students in general appeared to have positive outlooks toward ‘being healthy’ and were motivated to find creative ways of utilising friends, family, home resources and technology to build on their strengths and maintain their engagement in a range of holistic healthcare practices. Resilience, creativity and natural inclinations to ‘be active’ were traits identified in these Year Six students that were important for them overcoming multidimensional environmental barriers thus allowing them to commit to a range of holistic healthcare practices. What appears evident here is that students adopted a more positive, strengths-based approach to their healthcare practices (AIHW, 2011), in contrast to the adult-centric view of victim or agent to be worked on.

Chapter 5 Conclusion

The chapter provides a synthesis of the case study findings highlighting the significance of this research and future considerations. Researcher reflections of the research process and the study conclude this chapter.

Reflections

This case study was shaped by the overarching research question: 'What environmental (physical, political, sociocultural and economic) enablers or barriers are identified when two Year Six classes interact with an innovative holistic healthcare program?' Data analysis, illuminated by the ANGELHH framework, suggests there are key enablers and barriers to Year Six students interacting with an innovative holistic healthcare program.

In essence, enablers can be assemblages of government policies, mandates and health promotions around 'attitude, nutrition, exercise and sunshine' healthcare practices. Sociocultural influences, as enablers, were evident in pedagogy and mentors across the school, home and community sites. Families, including extended families, that 'get healthy together' and those having economic capital for purchasing physical resources or providing opportunities to engage in community organised sports were most advantaged. Mutual channels of communication between students and their teachers, parents, carers, extended family and health professionals were also important for enhancing these enabling influences.

Barriers to holistic healthcare practices were chiefly highlighted in governance issues. Top-down approaches used by governments and schools for promoting healthism 'know and do' type curricula in schools, effectively worked against the students

developing an understanding of the complex and broad multidimensional influences on health and wellbeing. Marginalisation of student and parent voice in the school were significant socio-cultural barriers, particularly when opportunities to negotiate or differentiate curricula could have been available. Poor role models, a lack of family support and a lack of economic capital for providing opportunities to purchase physical resources or engage in community organised sports were additional socio-economic barriers. Presenting these enablers and barriers as a list, however, does not highlight the complexities contained in each, nor their interrelatedness as discussed in Chapter Four.

There were potential findings raised from this small-scale study, particularly for a diverse range of participants and community stakeholders. For students, investigating and speaking openly about their health perspectives, values and experiences appeared to help raise their levels of awareness and engagement in holistic healthcare practices. In some instances, the students creatively modelled their healthcare activities at home on those they had learned at school, thus highlighting the potential positive influence of the HPE curricula and pedagogy. Students' feedback indicated that, given the opportunity, whole families engaging in healthcare education at home may be important for reinforcing important sustainable holistic healthcare messages. For teachers, trialling a holistic healthcare curriculum approach highlighted on the one hand how teacher world views could constrain the HPE curriculum but on the other hand, how creative pedagogies could help foreground overlooked healthcare practices in the curriculum. 'Air and water and rest', with sleep in particular, were highlighted as healthcare practices that teachers believed warranted discussion with the students at school and may have relevance to teachers, parents and guardians. Policy consideration for a holistic approach to highlight an appreciation of synergism in holistic healthcare practices would also be central to this discussion.

Whilst enablers and barriers can be identified, and significance considered, data analysis raised insights into common assumptions about health practices. This case study evidenced both an 'acceptance of' and 'fracture' in assumptions.

Assumptions: Accepted and fractured

Data analysis showed there were a number of assumptions that were accepted and enacted in the holistic healthcare practices. There were also assumptions that can be analysed as fractured or broken. Challenged assumptions in this study were important for identifying areas that may be significant for future research.

Data analysis suggested that the following assumptions are enacted in holistic healthcare practices. Diet and exercise, as identified in the literature (Wattchow & O'Connor, 2005; Leahy & Harrison, 2008), were dominant healthcare practices in the school and prioritised in the HPE curriculum. Top-down approaches (Macdonald, 2003) were also used by the school and community groups to unify government healthcare messages. These socio-political influences were seen as strong determinants for justifying the school's economic investments into physical resources considered important for enabling students to commit to sustainable 'nutrition and exercise' healthcare practices. The school's structure thus created positive environments and ease for teachers to commit to diet/exercise type curricula.

Fractured or broken assumptions were highlighted in pedagogy and student issues. Assumptions of teachers' world views influencing pedagogy and notions of crowded curriculum as being a possible cause for a narrow delivery of the HPE curriculum were evident in this study. The teachers' daily HPE lessons focused on simplistic biomechanist, healthism pedagogies emphasising 'what to do', contradicting the notion of healthcare

synergism and the multidimensional environmental influences on holistic healthcare practices. Hence, choice for the students was minimised (Gard & Leahy, 2009).

Student maturity and autonomy factors were raised in the literature (Harrison & Leahy, 2006; Hopwood, 2007; Kirk & Colquhoun, 1989) and highlighted in case stories. The issue of poor healthcare practices being associated with age and maturity was challenged in this study. Healthcare practices often associated with youthful immaturity, such as forgetting to put lunches in the school fridge, choosing not to wear sunscreen, covering up when playing outdoors or making poor choices when selecting foods, were also evident amongst some of the adults in this study. Some parents' poor healthcare practices were observed as creating significant barriers to the students who were attempting to practice the 7NP healthcare messages at home but were limited by their lack of autonomy. Students making choices particularly about how much rest they may have needed each night or how much time children might spend engaging with technology, however, were perhaps the most obvious healthcare areas where students could fall into poor healthcare practices if not governed by parents.

Assumptions around the students' 'air, water and sleep' healthcare practices were additionally challenged in the data. Teachers saw a gap for 'air' healthcare education in the modern HPE curriculum and suggested a need for a revival of the 'posture' health curriculum, which was previously visible in the Queensland Health Education Council's (1948) health syllabus. Teachers also suggested there was a need to raise parents' or carers' awareness of children's sleep needs particularly as families have sole governance of this healthcare practice. Teachers and students both identified 'getting enough sleep' as a student healthcare priority. An assumption that messages around water consumption are embedded in the HPE curriculum was also highlighted as being broken in this study.

Teachers and community organisations were observed taking liberties in popular government health campaigns to find a place for this displaced water curriculum.

The significant role of grandparents in students' lives was raised in this study Supporting more recent research (Backhouse, 2009; Mitchell, 2008), grandparents were portrayed by the students as strong supports to the students' healthcare practices and organised sports experiences by providing transport, resources and moral support. Grandparents were also perceived by the students as potential exemplars of lifelong learners of sustainable holistic healthcare practices. The assumption that parents are key family representatives to their children's health practices needs further consideration.

Technology, as a perceived barrier to health practices, is a common assumption. Data from the Year Six students, contrary to these adultcentric perspectives in obesity discourses, perceived the media and technology as a threshold into a community where they could pursue health goals. Technology afforded the students' capacities to be transported into digital worlds beyond their home environment. This digital world could potentially act as an interface simulating virtual sporting experiences for the students and providing them with sociocultural supports such as an exemplary role-model for health and wellbeing. The use of technology as a viable, alternate economic investment for health promotion for children, following Lapere, et al., (2008) lead, may be a significant area for review.

Contrary to media highlighting children as fat, lazy and distracted by technology, the students valued exercise (Gard, 2004). The data revealed the students perspectives of the way the school authorised or controlled opportunities for them to engage in physical activity to manage their behaviour at school. At home the students were portrayed as frequently drawing on their creative self-determined efforts for engaging, not only themselves but siblings as well, in exercise circuits modelled on those in which they had

been participating in at school. Renouf (Qld, Gov, 2006, p.43) advocated personal responsibility and self determination as fundamental for healthcare for children living in LSE communities stating, "Opportunities to exercise can come cheaply in the form of that bit of green outside and a tennis ball." The students in this study demonstrated skills in self-determination, persistence and creativity.

The determinants for health are very complex. Practising healthcare in contemporary societies involves responding to multiple levels of influences. These influences possibly stem from dynamic socio-economic and socio-political relationships that are buffeted or supported by external physical constraints. Burke, et al., (2009, p. 64) suggest that "individuals pursue goals within the constraints, opportunities and resources available in their local environments and, by doing so, recreate somewhat imperfectly the social structures of these local environments." Given the breadth of relationships between the student, parent, extended family, teachers, school and community, the frames for investigating holistic healthcare practices may limit or constrain our research.

ANGELHH as a framework

The ANGELHH, used in this study, is an analysis framework adapted to reflect a biopsychosocial/environmental approach to holistic healthcare model. The adaptation was aimed at broadening the narrow obesogenic approach with diet and exercise in the ANGELO (Swinburn, et al., 1999). Use of the ANGELHH framework appeared was both revealing and restrictive to my research aims and analysis.

The ANGELHH appeared to be a flexible and useful tool for gathering and analysing data around students' holistic healthcare practices across multiple sites. In general, I found the economic, physical and political influences were significantly easier to identify, collate and analyse as were 'air, nutrition, sunshine, water, exercise and rest' healthcare practices. However, to be consistent with the biopsychosocial/environmental

approach, I needed to ensure that the healthism 'know and do' messages were not reinforced in the definitions of these six healthcare practices and subsequent analysis of the data. The 'attitude' data and 'sociocultural' environmental influences, on the other hand, were far more complex and represented multiple layers involving many individuals whose values, actions and opinions were underpinned by issues of control and unpredictability.

The breadth of information I tried to cover in this research perhaps reflected my commitment to holistic healthcare and my inexperience as a teacher researcher practitioner. In retrospect, following the Swinburn, et al., (1999) model, focusing on less in terms of one or two healthcare practices would have been possibly more practical. This reductionist approach, however, would not have enabled me to capture the depth of understanding of the complex issues determining health, and potentially reinforce the 'healthism' approach.

The ANGELHH, similar to the ANGELO, was helpful in foregrounding the notion that there was no single crude environmental factor significant for influencing healthcare but rather multiple layers and levels of complex inter-related environmental influences. The framework also provided an opportunity, as Kremers, et al., (2006) suggests to probe into issues highlighting the when, how, why and who was affected by these environmental influences. The way individuals behave, consciously or unconsciously, in context with their multidimensional environments, highlights the complexity (breadth and depth) of investigating individual health.

Rethinking behavioural theory, and considering how cognitive characteristics are largely influenced by social context, is of current interest (Burke, et al., 2009). A move away from viewing the individual as an object that is not influenced by external forces, to appreciating that an individual's actions will reflect their health beliefs, values and

understandings in context with their daily lives, is central to this reflection. The unidirectional forces of social contexts are highlighted for their potential as modifying agents, mediating mechanisms or risk regulators. Departing from the idea of the 'norm', where health is associated with cultures or economic status, highlighted in critical health literacy approaches (Nutbeam, 2008), is also integral to this shift in thinking. Both of these appreciations are important for helping understand how healthism ideals (Hopwood, 2005), or relocating disease to specific socio-economic classes or cultures (Evans, et al., 2008; Munns, 2004), may obscure the way health is classified, perceived or politicised. Understanding better how patterns in cultures emerge or the way individuals respond to cultural expectations in context with socio-political constraints or access to resources in their local environments is important for considering options for health reform.

The ANGELHH may therefore be useful in a classroom context, where students may have the opportunity to investigate their personal prioritised healthcare practices in context with a range of environmental influences. Governance (political), demographic (physical), resources (economic) habit, strength, personality, awareness involvement and peers (sociocultural) can be used as guiding topics for student investigations. Identifying these multidimensional environmental healthcare issues may be helpful for managing the more dynamic influences around 'attitude' and the broad 'sociocultural' influences on holistic healthcare practices (Gard, 2006; Wright, et al., 2003). This would align with a critical health literacy approach, where individuals are required to rely on higher cognitive processes to manage the broad social determinants of health (Nutbeam, 2000, 2008). Rodriguez (2011, p. 1047) challenges "the assumption underlying most education reforms that constructivism is politically neutral and intrinsically democratic." Recognising issues of power that may impact the 'formation and dissemination of' and

'access to' healthcare information in a community, is an important critical health literacy insight.

An appreciation of the synergistic affect of healthcare practice would also be central to a holistic healthcare investigation. Documenting the extent of broad environmental influences on synergy in healthcare practices may also be useful for adding to the growing body of research underpinning children's holistic healthcare practices, particularly mental healthcare. For example, the way multidimensional environmental influences on (1) sleep and attitude evident in student participation at school and (2) exercise and postural practices impacting learning could be considered as areas for future research.

Researcher reflections

The case study approach proved to be and useful methodology for gathering data. I valued the opportunity to spend a prolonged period of time listening to the students' voices and considering their perspectives around their healthcare experiences. Listening to both the students and the teachers' voices helped to emphasise key issues around HPE pedagogy and professional practice in the classroom. Gaining greater insight into the way students are constantly adapting to cope and transition between their multiple 'worlds' (the school, the home and the community) has been important. Analysing how each of their worlds was impressed upon by a host of stable/unstable, predictable/unpredictable, political, physical, economic and widespread, far-reaching sociocultural influences has influenced my pedagogy. Thinking of ways to possibly differentiate the curriculum, select appropriate teaching styles or negotiate curriculum with students are all areas that have become pivotal for ongoing reflection.

Vulnerability to bias was a significant concern for me as a researcher. Disconnecting emotionally from the personal aspects of my collegial relationships with the teachers involved in the study and overcoming my personal bias as a researcher/author of the holistic healthcare program did present challenges during the course of the research journey. The supervisory relationship was certainly integral for checking this vulnerability to bias and assisting me to gain alternate perspectives in order to remain pragmatic about the analysis of the data.

Conclusion

The research study intentions were to uncover a range of environmental influences on students' holistic healthcare practices. Political dominance, governance and social constructivism were clearly prominent issues underpinning the students' healthcare educational experiences and practices at school, home and in the community. Citizenship rights and obligations to self and others for health and wellbeing are fostered by governments to promote national commercial growth and prosperity. The results of this study aligned with Gard & Leahy's (2009, p. 195) concern that neo-liberal political attempts such as this "force public health agendas into classrooms encouraging contradictory and unsatisfactory curricula and classroom practice." At the heart of this health curriculum dilemma is the notion of whose voice is being heard, whose knowledge is being presented and whose objectives are being met. The philosophical underpinning of a holistic health approach, may not have not been possible in such neoliberal managerialist times where schools, teachers and students are viewed as organisations or individuals who are expected to transform themselves in order to achieve government health objectives.

Creating opportunities for students to make meaning of their curriculum by catering for their varying capacitates to learn and problem solve is underpinned in

contemporary curricula. This is considered a democratic method for students to 'construct' their own learning. Many of the regulations imposed on the school resulted from strong political and public debate and the dominant voices were not those of the students. Again these study findings align with Macdonald and Penny's (2009, p. 251) concern that "the challenge for health and physical education educators is to reveal and contest significant silences in political and popular commentaries on schooling, health and physical education." Providing opportunity for students to have a voice about what is relevant to them in the HPE curriculum and for families to take action about their child's learning experiences is perhaps the most challenging issue for developing HPE curricula in neoliberal times.

References

Aagaard, J., & Storr-Paulsen, A. (1995). A comparative study of three different kinds of school furniture *Ergonomics. 38*(5), 1025-1035.

Abbott, R. A., Macdonald, D., Mackinnon, L., Stubbs, C. O., Lee, A. J., Harper, C., & Davies, P. S. W. (2007). Healthy Kids Queensland Survey 2006 Summary Report. Queensland Health, Brisbane 2007.

Abel, P. (2006, 14.9.06). [Personal Communications - Feedback from a school Principal following a James Cook University Pre-Obesity Forum Meeting 14.9.06].

Ader, R., Felten, D. L., & Cohen, N. (2000). *Psychoneuroimmunology Third Edition*. New York: Academic Press.

Armstrong, T., Bauman, A., & Davies, J. (2000). *Physical activity patterns of Australian adults Results of the 1999 National Physical Activity Survey: Catalogue No CVD 10.* Canberra. Retrieved from http://www.aihw.gov.au/publications/cvd/papaa/papaa.pdf.

Australian Bureau of Statistics. (2007). *Australian Social Trends: Overweight and Obesity. Catalogue No. 4102.0* Canberra. Retrieved from http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/4DE3C28315518DCECA25732C002074E4?opendocument#12%20Australian%20Bureau%20of%20Statis

Australian Bureau of Statistics. (2008). *Overweight and Obesity - Aboriginal and Torres Strait Islander people: A snapshot, 2004-05. Catalogue No. 4722.0.55.006*. Retrieved from http://www.abs.gov.au/ausstats/abs@.nsf/mf/4722.0.55.006.

Australian Department of Families Housing Community Services and Indigenous Affairs. (2007). *Mental Health Community Based Program: Program Guidelines*. Retrieved from

http://www.fahcsia.gov.au/sa/mentalhealth/pubs/mhcbp_program_guidelines/Documents/program_guidelines.pdf

Australian Department of Health & Ageing. (2001a). *Australian Guide to Healthy Eating: Australian Government*, Last modified 2001. Retrieved from http://www.health.gov.au/internet/main/publishing.nsf/Content/health-pubhlth-strateg-food-guide-index.htm

Australian Department of Health & Ageing. (2001b). *Get up and grow: The importance of drinking water*. Retrieved from http://www.health.gov.au/internet/main/publishing.nsf/Content/79CB815FACB35B5FCA25762E000AEAB6/$File/gug-hw10.pdf.

Australian Department of Health & Ageing. (2004). *Healthy and active school communities: A resource kit for schools. Building a healthy, active Australia.* Retrieved from http://www.health.gov.au/internet/healthyactive/publishing.nsf/content/schoolcommu_resourcekit.pdf/$File/schoolcommu_resourcekit.pdf

Australian Department of Health & Ageing. (2008). *Go for 2&5 Campaign.* Retrieved from http://www.healthyactive.gov.au/internet/healthyactive/publishing.nsf/Content/2and5

Australian Department of Health & Ageing. (2011). *Medicare Locals.* Retrieved from http://www.yourhealth.gov.au/internet/yourhealth/publishing.nsf/content/medilocals-lp-1

Australian Department of Health and Ageing. (2001). *Kids Matter*. Retrieved from http://www.kidsmatter.edu.au/primary/

Australian Department of Health and Ageing. (2008a). *Education and Prevention: Child and Youth Health/ Nutrition and Physical Activity.* Retrieved from http://www.health.gov.au/internet/main/publishing.nsf/Content/Education+and+Prevention-2

Australian Department of Health and Ageing. (2008b). *Towards a National Primary Health Care Strategy: A Discussion Paper from the Australian Government. Commonwealth of Australia ACT.*

Australian Government. (2005). *Get Moving: good ideas for fun ways to get moving*. Retrieved from http://www.healthyactive.gov.au/getmoving

Australian Government. (2009). *Weighing it up: Obesity in Australia. House of Representatives: Standing Committee on Health and Ageing*. Department of House of Representatives. Retrieved from http://www.aph.gov.au/house/committee/haa/obesity/report/front.pdf.

Australian Government. (2012). *Children's Health.* Retrieved from http://australia.gov.au/topics/health-and-safety/childrens-health

Australian Health Promoting Schools Association. (1994). *A national framework for heatlh promoting schools: The Aims of AHPSA*. Retrieved from http://www.ahpsa.org.au/

Australian Health Promoting Schools Association. (2008). *Australian Health Promoting Schools Association: Home webpage* Retrieved from http://www.ahpsa.org.au/

Australian Institute of Health and Welfare. (2009). *A picture of Australia's children 2009.* Cat. no. PHE 112. Canberra: AIHW. Retrieved from http://www.aihw.gov.au/publications/index.cfm/title/10704

Australian Institute of Health and Welfare. (2011). Health Priority Areas. Retrieved from http://www.aihw.gov.au/health-priority-areas/

Australian Sustainable Schools. (2008). *Sustainable School's Project.* Retrieved from http://www.sustainableschoolsproject.org/schools/

Backhouse, J. (2009). *Grandparents raising their grandchildren: impact of the transition from a traditional grandparent role to a grandparent-as-parent role.* Southern Cross University, Lismore, NSW. Retrieved from http://epubs.scu.edu.au/cgi/viewcontent.cgi?article=1081&context=theses

Barnes, V. A., Bauza, L. B., & Treiber, F. A. (2003). Impact of stress reduction on negative school behavior in adolescents. *Health and Quality of Life Outcomes, BioMed Central Ltd. ,* (23 April). Retrieved from http://hqlo.com/content/1/1/10#

Batch, J. A., & Baur, L. A. (2005). Management and prevention of obesity and its complications in children and adolescents. *Med J Aust, 182*(3), 130-135.

Baur, L. A. (2001). Obesity: definitely a growing concern: Time to implement Australia's strategy for preventing overweight and obesity *MJA, 174*, 553-554.

Baur, L. A. (2002). Child and adolescent obesity in the 21st century: an Australian perspective *Asia Pacific Journal of Clinical Nutrition Vol. 11*(Issue 3 Dec), 524.

Berg, B. L. (2004). *Qualitative Research Methods; Fifth Edition*. Boston: Pearson Education, INC.

Bernstein, B. (2000). *Pedagogy, Symbolic Control and Identity, Revised Edition*. Maryland, USA: Rowman & Littlefield Publishers Inc.

Biggs, J. B., & Collis, K. F. (1982). *Evaluating the Quality of Learning - the SOLO Taxonomy*. New York: Academic Press.

Biggs, S. N., & Dollman, J. (2007). Association between sleep length, BMI and waist girth in children and adolescents: A retrospective analysis. *Acta Paediatrica, 96*, 1839-1843.

Blair-West, G. (2007). Tantalus, Restraint Theory, and the Low-Sacrifice Diet: The Art of Reverse Abstraction. *Medscape General Medicine, 9*(4), 18.

Booth, M. L., Chey, T., Wake, M., Norton, K., Hesketh, K., Dollman, J., & Robertson , I. (2003). Change in the prevalence of overweight and obesity among young Australians, 1969–1997. *American Journal of Clinical Nutrition*, *77*(1), 29-36.

Bouchard, C. (2000). *Physical Activity and Obesity*. USA: Human Kinetics.

Bracken, P., & Thomas, P. (2002). Time to move beyond the mind-body split. *British Medical Journal December* (32), 1433-1434.

Broberger, C. (2005). Brain regulation of food intake and appetite: molecules and networks. *J Intern Med, 258* (Issue 4: October), 301-327.

Brown, M., Ralph, S., & Brember, I. (2002). Change-linked work-related stress in British teachers. *Research in Education, 67*(May), 1-12.

Burke, N. J., Joseph, G., Pasick, R. J., & Barker, J. C. (2009). Theorizing Social Context: Rethinking Behavioral Theory. *Health Education And Behaviour, 36*, 55-70. doi: 10.1177/1090198109335338

Burrows, L. (2005). *Proposed Key Competencies and Health and Physical Education in the New Zealand Curriculum: New Zealand Ministry of Education*. Retrieved from http://nzcurriculum.tki.org.nz/content/download/461/3645/file/key-competencies-hpe.doc

Burrows, L., & Wright, J. (2007). Prescribing practices: shaping healthy children in schools. *International Journal of Children's Rights 15*, 1-16.

Buss, R., Donati, R., Rattigan, P., DiGregorio, T., Abbadessa, E., & Richardson, K. P. (2009). Physical activity used as punishment and/or behaviour management. Position statement for the National Association for Sport and Physical Education, Reston, V.A.

Byrne-Armstrong, H., Higgs, J., & Horsfall, D. (2001). *Critical Moments in Qulitative Research*. Oxford: Butterworth Heinman.

Cale, L., & Harris, J. (2006). School-based physical activity interventions:effectiveness, trends, issues, implications and recommendations for practice *Sport, Education and Society: 11:4, 401 - 420*. London: Routledge.

Cancer Council Australia. (2005). *Being SunSmart - a guide for primary schools*. South Australia: Retrieved from http://www.actcancer.org/downloads/File/Being%20sunsmart%20a%20guide%20for%20schools%2022%2011%2005.pdf.

Cancer Council Australia. (2008). *Preventing Skin Cancer*. Retrieved from http://www.cancer.org.au/cancersmartlifestyle/SunSmart/Preventingskincancer.htm

Cancer Council Queensland. (2007). *Sporting Organisation SunSmart policy guidelines*. Retrieved from http://www.cancerqld.org.au/icms_docs/60244_SunSmart_Policy_Guidelines_-_Sport_and_recreation.pdf.

Carlson, S. M., Davis, A. C., & Leach, J. G. (1998). Less is More: Executive function and symbolic representation in preschool children. *Psychological Science, Vol 16*, 609-615.

Carr-Gregg, M., & Scott, J. (1993). Health messages on alcohol advertising: a positive or a counterproductive measure? *N Z Med J., 106*(54), 163-164.

Carroll, W., & Hackett, R. (2006). Democratic media activism through the lens of social movement theory. *Media Culture Society 28*(1), 83-104. doi: 10.1177/0163443706059289

Carskadon, M. A., Wolfson, A. R., Acebo, C., Tzischinsky, O., & Seifer, R. (1998). Adolescent sleep patterns, circadian timing,and sleepiness at a transition to early school days. *Sleep Journal, 21*(8), 871-881.

Carter, M. A., & Swinburn, B. (2004). Measuring the 'obesogenic' food environment in New Zealand primary schools, © Oxford University Press *Health Promotion International, 19*(March), 15-20.

Catford, J. C., & Caterson, I. D. (2003). Snowballing obesity: Australians will get run over if they just sit there. *MJA 179*(Issue 11/12), 577-579.

Clennett, A., & Brooker, R. (2007). *Teaching Health and Physical Education in contemporary school education: Rethinking teachers curriculum and pedagogical work.* Paper presented at the Proceedings of the AARE Conference, November 2006, Adelaide, SA EJ ISBN 1342-9320 (2007) [Non Refereed Conference]

Cliff, K., Wright, J., & Clarke, D. (2009). What Does a 'Sociocultural Perspective' Mean in Health and Physical Education Curriculum? In M. DinanThompson (Ed.), *Health and Physical Education: Contemporary Curriculum Issues for Australia and New Zealand* Melbourne: Oxford University Press

Cohen, L., Perales, P., & Steadman, C. (2005). The O Word: Why Focus on Obesity is Harmful to Community Health *Californian Journal of Health Promotion, 3*, 154-161.

Connelly, F. M., & Clandinin, D. J. (1990). Stories of experience and narrative inquiry. *Educational Researcher, 19*(5), 2-14.

Conrad, L. I., Neve, M., Nutton, V., Potter, R., & Wear, A. (1995). *The Western Medical Tradition*. New York: Cambridge University Press.

Cooper, R. (2007). An investigation into constructivism within an outcomes based curriculum. *Issues in Educational Research, 17*, 15-39.

Craven, R. F., & Hirnle, C., J. (2007). *Fundamentals of Nursing: Human Health and Function. 5th Edition*. Philadelphia: Lippincott Williams & Wilkins.

Creswell, J. W. (1998). *Qualitative Research and Research Design: Choosing Among Five Traditions*. London: Sage Publications.

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative and Mixed Method Approaches 2nd Edition*. California: Sage Publications.

Cross, D., Burns, S., & King, S. (2001). *The Aussie Lunchbox Project Formative Evaluation.* Western Australia. Centre for Health Promotion Research, Curtin University. Retrieved from http://wachpr.curtin.edu.au/html/consult/consultancy_detail_AussieLunch.html

Dani, J., Burrill, C., & Demmig-Adams, B. (2005). The remarkable role of nutrition in learning and behaviour. *Nutrition & Food Science*, *35*(4), 258 - 263.

de Bono, E. (1985). *Six Thinking Hats*. London: Little, Brown, & Company.

Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of Qualitative Research: Second Edition*. Thousand Oaks, California: Sage Publications.

Denzin, N. K., & Lincoln, Y. S. (2003a). *Collecting and Interpreting Qualitative Materials*. London: Sage.

Denzin, N. K., & Lincoln, Y. S. (2003b). *Strategies of Qualitative Inquiry*. Thousand Oaks, California Sage Publications.

Deurenberg-Yap, M., Schmidt, G., Van Staveren, W. A., & Deurenberg, P. (2000). The paradox of low body mass index and high body fat percentage among Chinese, Malays and Indians in Singapore. *Journal: Int J Obes Relat Metab Disord*, *24*(Issue 8), 1011-1017.

DinanThompson, M. (2009). *Health and Physical Education: Contemporary Curriculum Issues for Australia and New Zealand*. Melbourne: Oxford University Press.

Dodd, G., Biggs, S., Agley, D., Dollman, J., & Lushington, K. (2008). Rethinking the youth weight debate: The 24 hour day. *ACPHER Healthy Lifestyles Journal, 55*(1), 5-10.

Dollman, J., Norton, K., & Norton, L. (2005). Evidence for secular trends in children's physical activity behaviour. *Journal of Sports Medicine, 39*, 892-897.

Ebbeling, C. B., Pawlak, D. B., & Ludwig, D. S. (2002). Childhood obesity: Public-health crisis, common sense cure. *Lancet, 360*(August), 473-483.

Eckersley, R. M. (2001). Losing the battle of the bulge: causes and consequences of increasing obesity. *Medical Journal Australia 174*, 590-592.

Edith Cowan University Western Australia. (2012). *Child Health Promotion Research Centre.* Retrieved from http://www.chprc.ecu.edu.au/research/index.php

Education Queensland. (2007a). *Health and Safety Fact Sheet: Heavy school bags.* Retrieved from http://education.qld.gov.au/health/pdfs/healthsafety/factsheet_hevbags.pdf

Education Queensland. (2007b). *Health and Safety Fact Sheet: Influenza and Flu Hygiene*. Retrieved from http://education.qld.gov.au/health/pdfs/flu.pdf.

Emerald State High School. (2008). *HPE 091: Peak Performance, Middle School Yr 8-9.* Retrieved from http://emeraldshs.eq.edu.au/

Evans, J., Davies, B., & Rich, E. (2008). The class and cultural functions of obesity discourse: our latter day child saving movement. *International Studies in Sociology of Education, 18, No. 2*(June), 117-132.

Evans, J., & Penney, D. (2002). Talking Gender. In D. Penney (Ed.), *Gender and Physical Education Contemporary Issues and Future Directions*. London: Routledge.

Evans, J., Rich, E., & Davies, B. (2007). *The Rise and Rise of the Child Saving Movement. Resisting Class and Cultural Rehabilitation?Paper EVA 07035*. Paper presented at the Australian Association of Researchers in Education Annual Conference Freemantle 25-29th November.

Flinders Primary School. (2009). Flinders Primary School Newsletter; Term 1, Week 7: Miss Newley's 2/3 Class Assembly. Retrieved from http://www.flindspkps.sa.edu.au/Newsletters2009/Term1Wk7.pdf

Florence, M. D., Asbridge, M., & Veugelers, P. J. (2008). Diet quality and academic performance. *Journal of School Health, April 78*(4), 209-215.

Fulder, S. (1996). *The handbook of alternative and complementary medicine 3rd edition*. London: Vermilion.

Gard, M. (2004). Desperately seeking certainty: Statistics, physical activity and critical inquiry (Chapter 13) In D. M. J. Wright, & L. Burrows, L. (Ed.), *Critical inquiry and problem solving in physical education*. London: Routledge.

Gard, M. (2005). What does "Relevant" Physical Education Mean? *Journal of Physical Education New Zealand, 38*(1), 30-40.

Gard, M. (2006). HPE and the 'obesity epidemic'. In R. Tinning, L. McCuaig & lisahunter (Eds.), *Teaching Health and Physical Education in Australian Schools* (pp. 70-87). Frenchs Forest: Pearson Education Australia.

Gard, M. (2007). Is the War on Obesity also a War on Children? *Children's Issues, 11*(2), 20-24.

Gard, M., & Leahy, D. (2009). Dicing with Death: Tensions, Contradictions and Awkward Positions in School Health Education. In M. DinanThompson (Ed.), *Health and Physical Education: Contemporary Curriculum Issues for Australia and New Zealand*. Melbourne: Oxford University Press.

Gardner, H. (1993). *Frames of the Mind: The Theory of Mulitple Intelligences*. New York: Basic Books.

Gau, S., Soong, W. T., & R, M. K. (2004). Correlates of sleepwake patterns among children and young adolescents in Taiwan. *Sleep Journal, 27*(3), 512-519.

Germov, J. (2002). *Second Opinion: An Introduction to Health Sociology (2nd Edition)*. Australia Oxford University Press.

Ginsburg, H. P., & Opper, S. (1988). *Piaget's Theory of Intellectual Development. Third Edition*. New Jersey: Prentice Hall.

Glasby, T., & Macdonald, D. (2004). Negotiating the curriculum: Challenging the social relationships in teaching In J. Wright, J. D. MacDonald & L. Burrows (Eds.), *Critical inquiry and problem solving in physical education*. London: Routledge.

Glasser, W. (2004). A new vision for counselling. *Family Journal. Alexandria, Oct.Vol.12*(4), 339.

Grant, R., & Sugarman, J. (2004). Ethics in Human Subjects Research: Do Incentives Matter? *Journal of Medicine and Philosophy, 29*(6), 717 - 738.

Green, K. (2000). Exploring the Everyday 'Philosophies' of Physical Education Teachers from a Sociological Perspective. *Sport, Education and Society, 5*(2), 109 -129. doi: 10.1080/713696029

Green, K. (2004). *Physical Education*, Lifelong Participation and the 'Couch Potato' Society. *Physical Education and Sport Pedagogy, 9*(1), 73-86.

Griggs, G. (2007). Physical Education: primary matters, secondary importance. *Education 3-13, 35*(1), 59-69. doi: 10.1080/03004270601103350

Harrison, L., & Leahy, D. (2006). Pursuing HPE outcomes through health education In R. Tinning, L. McCuaig & Iisahunter (Eds.), *Teaching Health and Physical Education in Australian Schools*. New South Wales: Pearson Education Australia.

Hart, H., Herriot, A., Bishop, J. A., & Truby, H. (2003). Promoting healthy diet and exercise patterns amongst primary school children: a qualitative investigation of parental perspectives. *Journal of Human Nutrition and Dietetics, 16*(2), 89-96.

Hay, P., & Macdonald, D. (2009). Evidence for the social construction of ability in physical education. *Sport, Education and Society, 15*(1), 1-18.

Herald Sun. (2010). TV makes kids fat, lazy, less academic; May 4. Retrieved from http://www.heraldsun.com.au/news/breaking-news/tv-makes-kids-fat-lazy-less-academic/story-e6frf7k6-1225861826968

Holick, M. F. (2002). Vitamin D: the underappreciated D-lightful hormone that is important for skeletal and cellular health. *Current Opinion in Endocrinology & Diabetes, 9*(1), 87-98.

Holick, M. F. (2004). Sunlight and vitamin D for bone health and prevention of autoimmune diseases, cancers, and cardiovascular disease. *American Journal of Clinical Nutrition, Vol 80*(6: Dec), 1678S-1688S.

Hopkins, D., & Levin, B. (2000). Government Policy and School Development. *School Leadership & Management, 30*(1), 15-30.

Hopwood, M. (2007). *Globalisation, Healthism and Harm Reduction: Responsibility, Blame and Cultures of Care*. Paper presented at the National Centre in HIV Social Research Consortium Workshop Cockle Bay, Sydney. http://www.gendercentre.org.au/74article4.htm

Howard, S., & Johnson, B. (2004). *Resilient Teachers: Resisting Stress and Burnout.* University of South Australia. Retrieved from http://www.aare.edu.au/02pap/how02342.htm

International Obesity Task Force and the European Association for the Study of Obesity. (2005). Joint response to the Commission of the European Communities Green

Paper *"Promoting healthy diets and physical activity: a European dimension for the prevention of overweight, obesity and chronic diseases"*. Brussels, March 2005. Retrieved from http://www.easoobesity.org/temp/report82.pdf

International Union for Health Promotion and Education. (2006). *Achieving Health Promoting Schools: Guidelines for promoting health in schools.* Retrieved from http://www.ahpsa.org.au/media/Guidelines_for_HPS_26-08-08.pdf

International Union for Health Promotion and Education. (2010). *Promoting Health in Schools: From Evidence to Action*. Retrieved from http://www.iuhpe.org/?page=516&lang=en#sh_advevid

James Cook University. (2007). *Code for the Responsible Conduct of Research*. Retrieved from http://www.jcu.edu.au/policy/allatoh/JCUDEV_009786.html.

Johns, D. P. (2005). Recontextualizing and delivering the biomedical model as a physical education curriculum. *Sport, Education and society, 10:1,69-84*. London: Routledge.

Jourdan, D., McNamara, P. M., Simar, C., Geary, T., & Pommier, J. (2010). Factors influencing the contribution of staff to health education in schools. *Health Education Research, 25*(4), 519-530 doi: doi:10.1093/her/cyq012

Jutel, A. (2005). Weighing Health: The Moral Burden of Obesity. *Social Semiotics, 15*(2), 113 - 125. doi: 10.1080/10350330500154717

Kelly, B., Chapman, K., King, L., Hardy, L., & Farrell, L. (2008). Double standards for community sports: promoting active lifestyles but unhealthy diets. *Health Promotion Journal of Australia, 19*(3), 226-228.

Kelly, G., Dockrell, S., & Galvin, R. (2009). Computer use in schools: Its effect on posture and discomfort in schoolchildren. *Work: A Journal of Prevention, Assessment and Rehabilitation 32*, 321-328.

Kidney Health Australia. (2008). *Kidney Health Australia website*. Retrieved from http://www.kidney.org.au/

Killen, R. (2007). *Effective Teaching Strategies*. South Melbourne, Victoria: Thomson: Social Science Press.

Kirk, D. (1998). *Schooling bodies: school practice and public discourse, 1880-1950*. London: Leicester University Press.

Kirk, D. (2006). The 'obesity crisis' and school physical education. *Sport Education and Society, 11*(2), 121-133.

Kirk, D., & Colquhoun, D. (1989). Healthism and Physical Education. *British Journal of Sociology of Education, 10*(4), 417-434.

Kirk, D., & Macdonald, D. (2001). Teacher voice and ownership of curriculum change. *Journal of Curriculum Studies, 33*(5), 551-567.

Kopec, J. A., & Esdaile, J. (1990). Bias in case-control studies: A review. *Journal of Epidemiology and Community Health, 44*, 179-186.

Krauss, S. E. (2005). Research Paradigms and Meaning Making: A Primer. *The Qualitative Report, 10*(4 December), 758-770.

Kremers, S. P., de Bruijn, G., Visscher, T., van Mechelen, W., de Vries, M., & Brug, J. (2006). Environmental influences on energy balance-related behaviors: A dual-process view. *International Journal of Behavioral Nutrition and Physical Activity 3*(9). doi: 10.1186/1479-5868-3-9

Kristoffersson, M. (2009). Parental Involvement All the Way Through Local School Boards. *International Journal about Parents in Education 3*(1), 37-41.

Lapere, D. A., Mummery, W. K., & Yates, K. (2008). Identifying Cross Curricular Linkages of a Class-Based Walking Challenge: An Exploratory Study. *Australian Council for Health, Physical Education and Recreation, 55*(11-17).

Lather, P. (1986). Issues of Validity in Openly Ideological Research: Between a Rock and a Soft Place. *Interchange, 17*(4), 63-84.

Leahy, D., & Harrison, L. (2008). Weighing it up: Thinking about the implications of school based obesity prevention initiatives. *ACHPER Healthy Lifestyles Journal, 55*(1), 19-22.

Leow, A., Macdonald, D., & McCuaig, L. (2009). *The implementation of the Eat Well Be Active policies: Stories from the ground*. Paper presented at the AARE International Education Research Conference 2009: Inspiring Innovative Research in Education, Canberra. http://www.aare.edu.au/09pap/leo091208.pdf

Lichtenburg, P. (2003). Shame and the making of a social class system In R. Lee & G. Wheeler (Eds.), *The Voice of Shame: Silence and Connection in Psychotherapy* (pp. 269-288). Cambridge, USA: Gestaltpress Book.

Lincoln, Y., & Guba, E. (1985). *Naturalistic Inquiry*. California: Sage.

Lindau, S. T., Laumann, E. O., Levinson, W., & Waite, L. J. (2003). Synthesis of Scientific Disciplines in Pursuit of Health: the Interactive Biopsychosocial Model. *Perspective of Biological Medicine, 46*(3), 74-86.

Lingard, B., Hayes, D., & Mills, M. (2003). Teachers and productive pedagogies: Contextualising, conceptualising, utilising. *Pedagogy, Culture and Society, 11*(3), 397-422.

Lingswiler, V. M., Crowther, J. H., & Stephens, M. A. P. (1987). Emotional reactivity and eating in binge eating and obesity. *Journal of Behavioral Medicine, Volume 10, Number 3*(June).

lisahunter. (2006a). Young people, embodied learning and HPE. In R. Tinning, L. McCuaig & lisahunter (Eds.), *Teaching Health and Physical Education in Australian Schools* (pp. 118-126). Frenchs Forest: Pearson Education Australia.

lisahunter. (2006b). Young People, Embodied Learning and HPE. In R. Tinning, A. McMurray & Iisahunter (Eds.), *Teaching Health and Physical Education in Australian School*. New South Wales: Pearson Education Australia.

lisahunter. (2009). Should Kids 'Be Seen and Not Heard'?: Where Are the Students in HPE Curriculum? In M. DinanThompson (Ed.), *Health and Physical Education: Contemporary Curriculum Issues for Australia and New Zealand*. Melbourne: Oxford University Press.

Lock, S., Last, J. M., & Dunea, G. (Eds.). (2001). *The Oxford Illustrated Companion to Medicine*. New York: Oxford University Press.

Lohrmann, D. K. (2010). A complementary ecological model of the coordinated school health program. *Journal of School Health, January 80*(1), 1-9.

Lowe, M., & Fisher, E. B. (1983). Emotional reactivity, emotional eating, and obesity: A naturalistic study. *Journal of Behavioral Medicine Volume 6, Number 2*(June,), 135-149.

Macdonald, D. (2003). Curriculum change and the post-modern world: Is the school curriculum-reform project an anachronism? *Journal of Curriculum Studies, 35*(2), 139-149.

Macdonald, D. (2004). *Understanding learning in physical education. In J. Wright. D. MacDonald, & L. Burrows (Eds.), Critical inquiry and problem solving in physical education*. London: Routledge.

Macdonald, D., Rodger, S., Abbot, R., Zivani, J., & Jones, J. (2005). I could do with a pair of wings: perspectives on physical activity, bodies and health from young Australian children. *Sport, Education and Society 10*(2), 195-209. doi: 10.1080/13573320500111762

Macdonald, D., Rodger, S., Ziviani, J., Jenkins, D., Batch, J., & Jones, J. (2004). Physical Activity as a Dimension of Family Life for Lower Primary School Children. *Sport, Education and Society, 9*(3), 307-325. doi: 10.1080/1357332041233130241 2

Magarey, A. M., Daniels, L., & Boulton, T. J. C. (2001). Prevalence of overweight and obesity in Australian children and adolescents: reassessment of 1985 and 1995 data against new standard international definitions. *The Medical Journal of Australia, 174*, 561-564.

Marcus, L., & Baron, A. (2010). *Childhood Obesity: The Effects on Physical and Mental Health*. Retrieved from http://www.education.com/reference/article/Ref_Childhood_Obesity/

Marshall, B. J., Sheehan, M. M., Northfield, J. R., Maher, S., Carlisle, R., & St. Leger, L. H. (2000). School-Based Health Promotion Across Australia. *Journal of School Health 70*(6), 251.

Mays, N., & Pope, C. (2000). Assessing quality in qualitative research *BMJ, 320*, 50-52.

McCuaig, L., & Hay, P. (2009). Positioning the Physical in Health and Physical Education. In M. DinanThompson (Ed.), *Health and Physical Education: Contemporary Curriculum Issues for Australia and New Zealand*. Melbourne: Oxford University Press

McCuaig, L. A. (2006). HPE in the health promoting school. In R. Tinning, L. McCuaig & Lisahunter (Eds.), *Teaching Health and Physical Education in Australian Schools* (pp. 56-69). Frenchs Forest: Pearson Education Australia.

McLaren, N. (2002). The myth of the biopsychosocial model. *Australian and New Zealand Journal of Psychiatry 35*(5), 701-703.

McMahon, J., & DinanThompson, M. (2008). A Malleable Body - Revelations for an elite Australian Swimmer. *Australian Council for Physical Health Education and Recreation: Healthy Lifestyles Journals, 55*(1), 23-28.

McMurray, A. (2007). *Community Health and Wellness, a Sociological Approach (3rd Edition)*. Marrickville, New South Wales: Elsevier.

Mitchell, W. (2008). The role played by grandparents in family support and learning: considerations for mainstream and special schools. *Support for Learning, 23*(3), 126-135.

Mohammadi, N. K., Rowling, L., & Nutbeam, D. (2010). Acknowledging educational perspectives on health promoting schools. *Health Education And Behaviour, 4*(110), 240-251. doi: 10.1108/09654281011052619

Morris, H. A., Need, A. G., & Nordin, C. (1999). The Hip Fracture Threat: Fighting back with a cheap, safe and neglected weapon -- vitamin D with calcium. *MJA 170*, 459-460.

Mukona, W., & Flisher, A. (2004). Evaluations of health promoting schools: a review of nine studies. *Health Promotion International, 19*(3), 357-368. doi: 10.1093/heapro/dah309

Munns, G. (2004). *A sense of wonder: Student engagement in low SES school communities: Paper presented at the Australian Association for Research in Education, Annual Conference 2005*. http://www.aare.edu.au/04pap/mun04498.pdf

Nathan, S. A., Develin, E., Grove, N., & Zwi, A. B. (2005). An Australian childhood obesity summit: the role of data and evidence in 'public' policy making. *Australia and New Zealand Health Policy, 2*, 17.

National Health and Medical Research Council. (1997). *Effective School Health Promotion: Towards Health Promoting Schools*. Canberra: Australian Government Publishing Services.

National Health and Medical Research Council. (2007a). National Health and Medical Research Council: Australian Government Publications. Retrieved from http://www.nhmrc.gov.au/publications/index.htm

National Health and Medical Research Council. (2007b). *National Statement on Ethical Conduct in Human Research*. Retrieved from http://www.nhmrc.gov.au/PUBLICATIONS/synopses/e72syn.htm.

Neel, J. V. (1962). Diabetes mellitus: a "thrifty" genotype rendered detrimental by "progress"? *American Journal of Human Genetics, 14*, 352-353.

Neuman, W. L. (2007). *Basics of Social Research: Qualitative and Quantitative Approaches, Second Edition*. Boston: Allayn & Bacon.

New South Wales Department of Human Services. (2002). *The New South Wales Childhood Obesity Summit Report 2002.* Retrieved from http://www.health.nsw.gov.au/obesity/adult/summit/summit.html

Norton, D. E., Froelicher, E. S., Waters, C. M., & Carrieri-Kohlman, V. (2003). Parental influence on models of primary prevention of cardiovascular disease in children. *European Journal of cardiovascular Nursing, 2*(4), 311-322.

Nutbeam, D. (1998). *Health Promotion Glossary*. Switzerland: World Health Organization: Division of Health Promotion, Education and Communications.

Nutbeam, D. (2000). Health Literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International, 15*(259-267). doi: 10.1093/heapro/15.3.259

Nutbeam, D. (2008). The evolving concept of health literacy. *Social Science and Medicine, 67*(272-278).

O'Connor, J. (2006). Making sense of teaching skills, games and sport. In R. Tinning, L. McCuaig & lisahunter (Eds.), *Teaching Health and Physical Education in Australian Schools* (pp. 192-199). Frenchs Forest: Pearson Education Australia.

O'Dea, J. (2007). Everybody's different: A positive approach to teaching about health, puberty, body image, nutrition, self-esteem and obesity prevention. Retrieved from http://search.informit.com.au.elibrary.jcu.edu.au/fullText;dn=666196975388714;res=IELHSS

O'Dea, J. (2008). Gender, ethnicity, culture and social class influences on childhood obesity among Australian schoolchildren: implications for treatment, prevention and community education. *Health Social Care in the Community 16*(3), 282.

O'Rahilly, S., & Farooqi, I. S. (2006). Genetics of Obesity. *Philosophical Transactions of the Royal Society of Biological Sciences, 361*(1471), 1095-1105.

O'Higgins, S., Sixsmith, J., & Nic Gabhainn, S. (2010). Adolescents' perceptions of the words 'health' and 'happy'. *Health Education Behaviour, 110*(5), 367-381.

Owens, J. A., Belon, K., & Moss, P. (2010). Impact of Delaying School Start Time on Adolescent Sleep, Mood, and Behavior. *Archives of Pediatrics and Adolescents Medicine, 164*(7), 608-614.

Parizkova, J., & Hills, A. (2005). *Childhood Obesity: Prevention and Treatment*. Florida USA: CRC Press.

Patall, E. A. (2010). Extending the School Day or School Year: A Systematic Review of Research (1985–2009). *Review of Educational Research 80*(September), 401-436.

Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods, Third Edition*. London: Sage Publications

Penney, D. (2002). *Gender and Physical Education Contemporary Issues and Future Directions*. London: Routledge.

Penney, D. (2008). Playing a political game and playing for position: Policy and curriculum development in health and physical education *European Physical Education Review, 14*(1), 33 - 49. doi: 10.1177/1356336X07085708

Penney, D., & Evans, J. (1999). *Politics, Policy and Practice in Physical Education*. London: E & FN SPON.

Petrie, K., Jones, A., & Anne, M. (2007). Evaluative research on the impact of effective professional learning in curricular and co-curricular physical activity in primary schools. Commissioned by the Ministry of Education. New Zealand: The University of Waikato

Phillips, E. D. (1973). *Greek Medicine*. London: Thames and Hudson.

Piaget, J. (1972). *Psychology and Epistemology: Towards a Theory of Knowledge* Harmondsworth: Penguin.

Pinaquy, S., Chabrol, H., Simon, C., Louvet, J. P., & Barbe, P. (2003). Emotional Eating, Alexithymia, and Binge-Eating Disorder in Obese Women. *Obesity Research 11*, 195-201

Queensland College of Teachers. (2006). *Professional Standards for Queensland Teachers.* Retrieved from http://www.qct.edu.au/Publications/ProfessionalStandards/ProfessionalStandardsForQldTeachers2006.pdf

Queensland Department of Education and Training. (2010). *Rest and Relaxation: Managing the risk of serious injury*. Retrieved from http://deta.qld.gov.au/earlychildhood/pdfs/tip-sheets/tip-sheet-rest-relaxation.pdf

Queensland Department of Education and Training. (2000). *Parent and Citizens' Associations*. Retrieved from http://education.qld.gov.au/corporate/pandc/

Queensland Department of Education and Training. (2002). *Productive Pedagogies: About Productive Pedagogies? Education Queensland*. Retrieved from http://education.qld.gov.au/public_media/reports/curriculum-framework/productive-pedagogies/html/about.html

Queensland Department of Education and Training. (2006). *Behaviour Management* Retrieved from http://education.qld.gov.au/schools/about/behaviour.html

Queensland Department of Education and Training. (2010). *Queensland Department of Education and Training: home page.* Retrieved from http://education.qld.gov.au/

Queensland Department of Education Training and the Arts. (2005). *Schoolwide Positive Behaviour Plan*. Retrieved from http://education.qld.gov.au/studentservices/behaviour/swpbs/

Queensland Department of Education Training and the Arts. (2007). *What State Schools Value: Active and Informed Citizens for a Sustainable World.* Retrieved from http://deta.qld.gov.au/

Queensland Department of Education Training and the Arts. (2008). *The Research and Development Plan* (2008-2011).

Queensland Department of Housing. (2008). *Community Renewal*. Retrieved from http://www.communityrenewal.qld.gov.au/

Queensland Government. (2005). *Eat well, be active - healthy kids for life: The Queensland Government's first action plan 2005-2008*. Retrieved from http://www.health.qld.gov.au/ph/documents/hpu/29187.pdf.

Queensland Government. (2006). *Queensland Obesity Summit Report: Transcript from The Obesity Summit: Queensland Government Two-day Summit at Parliament House in Brisbane on 3-4 May 2006.* Retrieved 16.8.06, from http://www.thepremier.qld.gov.au/news/initiatives/obesitysummit/summit.shtm

Queensland Government. (2007a). *Planning for Smart Moves Guidelines: Department of Education, Training and the Arts; Local Government, Planning, Sport and Recreation & Queensland Health*.

Queensland Government. (2007b). *Smart Choices: Healthy Food and Drink Supply Strategy for Queensland Schools*.

Queensland Health. (2005). *Healthy Eating Policy Development: a guide for schools*. Retrieved from http://www.health.qld.gov.au/ph/documents/caphs/27301.pdf.

Queensland Health. (2007). Ecolgoical Model Retrieved from http://www.health.qld.gov.au/chipp/what_is/ecological.asp

Queensland Health. (2008). *A Better Choice Tool Kit*. Retrieved from www.health.qld.gov.au/ph/documents/abetterchoice/toolkit_2getstarted.pdf

Queensland Health. (2010). *Queensland Health home page*. Retrieved from http://www.health.qld.gov.au/about_qhealth/default.asp

Queensland Health Education Council. (1948). *Subject: Health: A Handbook for Health Education*. Brisbane: Queensland Health Education Council in collaboration with Department of Public Instruction.

Queensland Parliamentary Counsel. (1995). *Workplace Health and Safety Act*. Retrieved from http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/W/WorkplHSaA95.pdf

Queensland Studies Authority. (1999). *Health and Physical Education Curriculum. Queensland Government.* Retrieved from http://www.qsa.qld.edu.au/

Queensland Studies Authority. (2007a). *Health and Physical Education: Essential Learnings*. Retrieved from http://www.qsa.qld.edu.au/assessment/3160.html

Queensland Studies Authority. (2007b). Studies of Society and Environment: Essential Learnings. Retrieved from http://www.qsa.qld.edu.au/7298.html

Ramstetter, C. L., Murray, R., & Garner, A. S. (2010). The crucial role of recess in schools. *Journal of School Health, 80*(11), 517-526.

Rist, R. C. (1994). Influencing the policy process with qualitative research. In In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp. 545-557). London: Sage Publications.

Robbins, M., Johnson, I. P., & Cunliffe, C. (2009). Encouraging good posture in school children using computers *Clinical Chiropractic 21*(1), 35-44.

Robertson, E. M., Pascual-Leone, A., & Press, D. Z. (2004). Awareness Modifies the Skill-Learning Benefits of Sleep *Current Biology, Volume 14*(Issue 3, February), 208-212

Rodriguez, E. (2011). Constructivism and the Neoliberal Agenda in the Spanish Curriculum Reform of the 1980s and 1990s. *Educational Philosophy and Theory, 43*(10), 1047-1064. doi: 10.1111/j.1469-5812.2009.00613.x

Ronalds, L., & Allen-Craig, S. (2008). Preventing family and educational disconnection through wilderness-based therapy targeting youth at risk. *ACHPER Healthy Lifestyles Journal, 55*(4), 5-14.

Rowling, L., & Jeffreys, V. (2006). Capturing complexity:integrating health and education research to inform health-promoting schools policy and practice. *Health Education Research, 21*(705-718).

Salvy, S., Bowker, J., Roemmich, J., Romero, N., & Kieffer, E. (2009). Peer Influence on Children's Physical Activity: An Experience Sampling Study. *Journal of Paediatric Psychology, 34*(2), 217-225.

Sanders, M. R., Turner, K. M. T., & Markie-Dadds, C. (2002). The development and dissemination of the Triple P-Positive Parenting Program: A multi-level, evidence-based system of parenting and family support. *Prevention Science, 31*, 173-198.

Sanigorski, A., Bell, C., Kremer, P., & Swinburn, B. (2005). Lunchbox contents of Australian school children: room for improvement. *European Journal of Clinical Nutrition 59*, 1310-1316.

Sanigorski, A., Bell, C., Kremer, P., & Swinburn, B. (2007). High childhood obesity in an Australian population. *Obesity, 15*(8), 1908-1912.

Sanigorski, A., Bell, C., & Swinburn, B. (2007). Association of key foods and beverages with obesity in Australian school children *Public Health Nutrition 10*(2), 152-157.

Sawyer, M. G., Arney, F. M., Baghurst, P. A., Clark, J. J., Graetz, B. W., Kosky, R. J., . . . Zubrick, S. R. (2001). The mental health of young people in Australia: Key findings from the child and adolescent component of the national survey of mental health and well-being. *Australian and New Zealand Journal of Psychiatry, 35*(806-814).

Scollo, M. M., & Winstanley, M. H. (2008). *Tobacco in Australia: Facts and Issues. Third Edition.* Melbourne: Cancer Council Victoria. Retrieved from http://www.tobaccoinaustralia.org.au/

Shankar, D. (2010). Conceptual framework for new models of integrative medicine. *Journal of Ayurveda Integrated Medicine 1*, 3-5.

Simmons, A., Sanigorski, A. M., Cuttler, R., Brennan, M., Kremer, P., Mathews, L., & Swinburn, B. A. (2009). Nutrition and physical activity in children and adolescents. Report 6: lessons learned from Colac's be active eat well project (2002-6). *Department of Human Services Victoria, Melbourne, Vic*.

Smibert, A., Abbott, R., Macdonald, D., Hogan, A., & Leong, G. (2010). School, community and family working together to address childhood obesity: Perceptions from the KOALA lifestyle intervention study. *European Physical Edcuation Review, 16*(2), 155-170. doi: 10.1177/135633610381307

Smith, K. (2007). Descartes' Life and Works: University of Stanford Encyclopedia of Philosophy. Retrieved from http://plato.stanford.edu/entries/descartes-works/

Spence, J. C. (2005). Understanding Influences of the Media on Physical Activity and Nutrition: An Ecological Approach. Retrieved from http://www.power.ualberta.ca/media.cfm

St Leger, L. (1998). The opportunities and effectiveness of the health promoting primary school in improving child health - a review of the claims and evidence *Health Education Research, 14*(1), 51-59.

Stake, R. E. (1995). *The Art of Case Study Research*. London: Sage Publications.

Stallman, H., & Ralph, A. (2007). Reducing risk factors for adolescent behavioural and emotional problems: A pilot randomised controlled trial of a self-administered parenting intervention. *6*(2), 125 - 137.

Stanton, R. A. (2006). Nutrition problems in an obesogenic environment. *MJA, 184* (2), 76-79.

Stice, E., Presnell, K., & Shaw, H. (2005). Psychological and Behavioral Risk Factors for Obesity Onset in Adolescent Girls: A Prospective Study. *Journal of Consulting and Clinical Psychology, 73*(2), 195-202.

Stokes-Guinan, K., London, R., Mallonee, L., Westrich, L., & McLaughlin, M. (2011). Playworks: Supporting Play and Physical Activity in Low-Income Elementary Schools. John W. Gardiner Center for Youth and their Communities, Stanford University. Retrieved from http://www.rwjf.org/files/research/4632.63651.playandphysicalactivity.pdf

Stokes, H., & Mukherjee, D. (2000). The nature of health service/school links in Australia. *Journal of School Health, 70*(6), 255-256.

Surf Life Saving Australia. (2008). *Surf Play 2 (U7) Age Guide.* Retrieved from http://www.mybeach.com.au/files/under%207%20age%20guide.pdf

Surf Life Saving Northern Territory. (2010). *Sun Smart*. Retrieved from http://www.lifesavingnt.com.au/main/boating--aquatic-safety/sun-smart

Swinburn, B. A., Caterson, I. D., Seidell, J. C., & James, W. P. T. (2004). Diet, nutrition and the prevention of excess weight gain and obesity. *Public Health Nutrition, 7*(1A), 123-146.

Swinburn, B. A., Egger, G. J., & Raza, F. (1999). Dissecting obesogenic environments: the development and application of a framework for identifying and prioritising environmental interventions for obesity. PubMed. *Prev Med, 29*, 563-570.

Thomas, T. (2008). *The 7 Natural Physicians webpage*. Retrieved from http://www.7nps.com.au/

Tinning, R., & Kirk, D. (1991). *Daily Physical Education: Collected papers on health based Physical Education in Australia*. Geelong, Victoria: Deakin University Press.

Tinning, R., & lisahunter. (2006). New kids in new times and new spaces. In R. Tinning, L. McCuaig & lisahunter (Eds.), *Teaching Health and Physical Education in Australian Schools* (pp. 109-117). Frenchs Forest, N.S.W: Pearson Education Australia.

Tinning, R., Macdonald, D., Wright, J., & Hickey, C. (2001). *Becoming a Physical Education Teacher*. Frenchs Forest, N.S.W: Prentice Hall.

Tinning, R., & McCuaig, L. (2006). Whose responsibility is HPE anyway? In R. Tinning, L. McCuaig & lisahunter (Eds.), *Teaching Health and Physical Education in Australian Schools* (pp. 49-55). Frenchs Fores: Pearson Education Australia.

United Kingdom House of Commons Health Committee. (2004). *Obesity:Third Report of Session 2003-4*. London: The Stationery Office Limited. Retrieved from http://www.publications.parliament.uk/pa/cm200304/cmselect/cmhealth/23/23.pdf

United States Department of Health and Human Services. (2010). *Prevention: Eat smart, exercise regularly, and get routine health screening.* Retrieved from http://www.hhs.gov/safety/index.html

University of Canberra. (2010). *Sun Safety: International Student Support.* Retrieved from http://www.canberra.edu.au/seasu/intl-student-support/living-in-aust/safety-security/sun

University of Queensland. (2010). *The University of Queensland: The School of Medicine home page*. Retrieved from http://www2.som.uq.edu.au/som/Pages/default.aspx

Van Cauter, E., & Spiegel, K. (1999). Sleep as a Mediator of the Relationship between Socioeconomic Status and Health: A Hypothesis. *Annals of the New York Academy of Sciences, 896*, 254-261. doi: 10.1111/j.1749-6632.1999.tb08120.x

van Zutphen, M., Bell, C., Kremer, P., & Swinburn, B. (2007). Association between the family environment and television viewing in Australian children. *Journal of Paediatrics and Child Health 43*(3), 458-463.

Victorian Government. (2010). Water a Vital Nutrient: Better Health Channel

Wahlstrom, K. (2002). Changing times: findings from the first longitudinal study of later high school start times. *National Association of Secondary School Principals Bulletin, 86*(633), 3-21.

Walker, M. P., Brakefield, T., Morgan, A., Hobson, J. A., & Stickgold, R. (2002). Practice with sleep makes perfect: Sleep-dependent motor skill learning. *Neuron 35*, 205-211.

Wanderers Cricket Club. (2009). *SunSmart Tips for Cricketers.* Retrieved from http://www.wandererscricket.com/sunsmart.html

Wang, G., Volkow, N., Thanos, P., & Fowler, J. (2001). Similarity between obesity and drug addiction as assessed by neurofunctional imaging. *Journal of Neurochemistry, 78*, 1094-1103.

Wang, G. J., Volkow, N. D., Logan, J., Pappas, N. R., Wong, C. T., Zhu, W., . . . Fowler, J. S. (2001). Brain Dopamine and Obesity. *Lancet, 357(9253)*(Feb 3), 354-357.

Warner, S., Murray, G., & Meyer, D. (2008). Holiday and school-term sleep patterns of Australian adolescents. *Journal of Adolescence, 31*(5), 595-608.

Wattchow, B., & O'Connor, J. (2003, 29 November 3 December). *Re(forming) the Physical in a Curriculum / Pedagogy for Health: A socio-ecological perspective* Paper presented at the New Zealand Association for Research Education and Australian Association for Research Education Joint Conference, Hyatt Regency Hotel & University of Auckland.

Webb, L., & Macdonald, D. (2007). Dualing with gender: Teachers' work, careers and leadership in physical education. *Gender and Education, 19*(4), 491-512.

Weinshenker, N. (2002). Adolescents and Body Image: What's Typical and What's Not. *Child Study Centre, 6 No4,* 1-4.

Widmaier, E. P., Raff, H. R., & Strang, K. T. (2004). *Vander, Sherman and Luciano's Human Physiology. The Mechanisms of Body Function*. New York: McGraw Hill.

Wilkenfeld, R., Pagnini, D., Booth, M., Booth, S., & King, L. (2007). The Weight of Opinion: Perceptions of school teachers and secondary students on child and adolescent overweight and obesity: New South Wales Centre for Overweight and Obesity.

World Health Organization. (1948). *Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948. (October 23, 2006).* Retrieved from http://www.who.int/about/definition/en/print.html

World Health Organization. (1986). *Ottawa Charter for Health Promotion. First International Conference on Health Promotion, Ottawa, Geneva, 1986*. Retrieved from http://www.who.int/healthpromotion/conferences/previous/ottawa/en/index.html

World Health Organization. (1997). *The Jakarta Declaration on Leading Health Promotion into the 21st Century: The Fourth International Conference on Health Promotion*. Retrieved from http://www.who.int/hpr/NPH/docs/jakarta_declaration_en.pdf

World Health Organization. (2003). *Global Strategy on Overweight and Obesity: Fact sheet.* Retrieved from http://www.who.int/dietphysicalactivity/publications/facts/obesity/en/

World Health Organization. (2004). *Global strategy on diet, physical activity and health. Produced by World Health Organization Fifty-Seventh World Health Assembly, 2004.* Retrieved from http://www.who.int/dietphysicalactivity/strategy/eb11344/en/index.html

World Health Organization. (2006). *Obesity and overweight: What are overweight and obesity? World Health Organization Fact Sheet.* Retrieved from http://www.who.int/mediacentre/factsheets/fs311/en/index.html

Wright, J., Macdonald, D., & Burrows, L. (2004). *Critical Inquiry and Problem Solving in Physical Education: Working with Students in Schools*. London: Routledge.

Wright, J., Macdonald, D., & Groom, L. (2003). Physical Activity and Young People: Beyond Participation. *Sport, Education and Society, 8*(1), 17-33. doi: 10.1080/1357332032000050033

Yager, Z., & O'Dea, J. A. (2005). The role of teachers and other educators in the prevention of eating disorders and child obesity: What are the issues? Eating Disorders. *The Journal of Treatment and Prevention, 13*(3), 261-278.

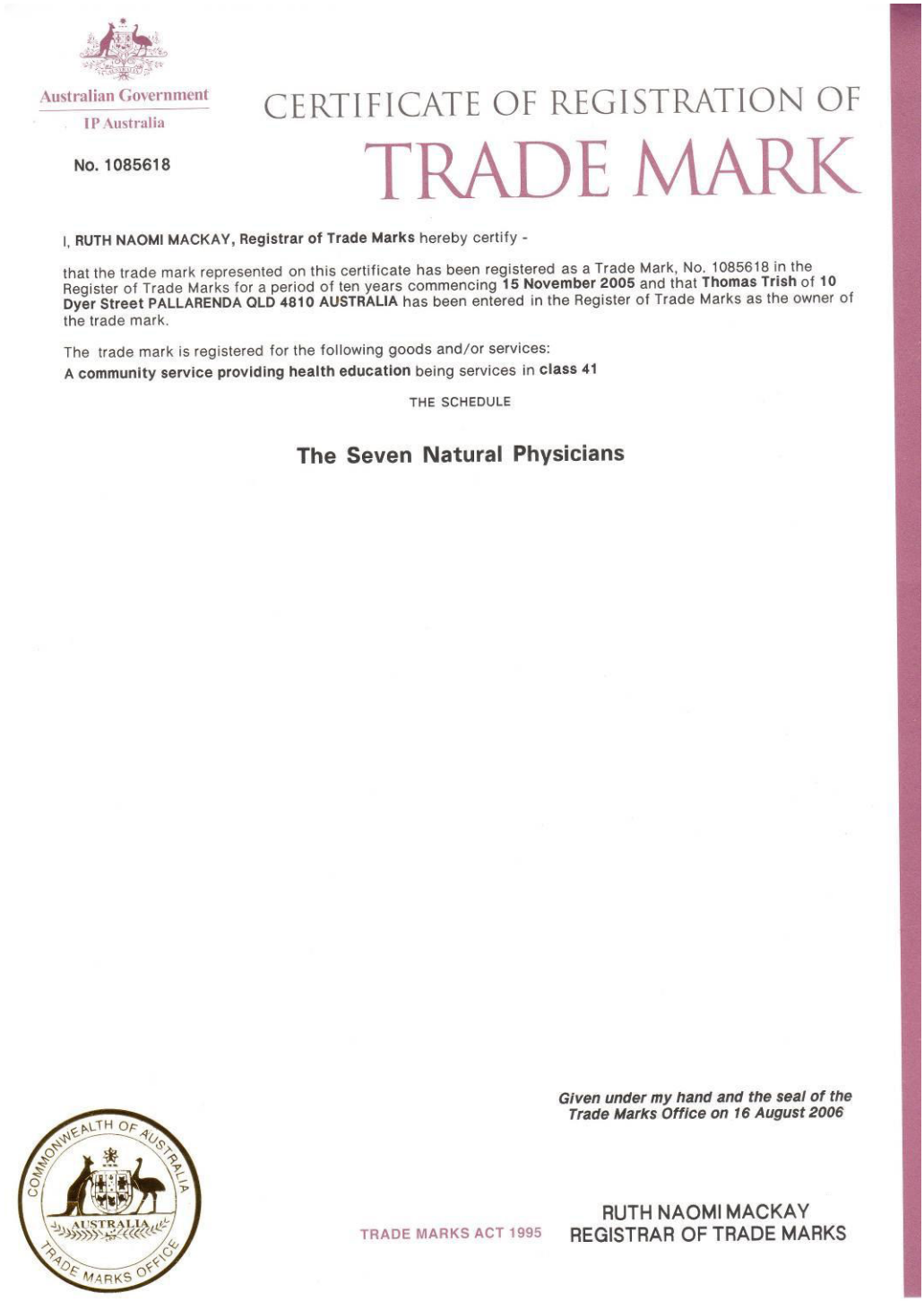
Yin, R. K. (1989). *Case Study Research: Design and Methods: Revised Edition*. London: Sage.

Yin, R. K. (1994). *Case Study Research: Design and Methods, Second Edition*. Thousand Oaks: Sage Publications.

Zhang, J., Li, A. M., Fok, T. F., & Wing, Y. K. (2010). Roles of parental sleep/wake patterns, socioeconomic status, and daytime activities in the sleep/wake patterns of children. *Journal of Pediatrics, 154 April*(4), 606-612.

Appendices

Appendix A. 7NP Australian Government trademark authorisation



Australian Government
IP Australia

No. 1085618

CERTIFICATE OF REGISTRATION OF
TRADE MARK

I, **RUTH NAOMI MACKAY, Registrar of Trade Marks** hereby certify -

that the trade mark represented on this certificate has been registered as a Trade Mark, No. 1085618 in the Register of Trade Marks for a period of ten years commencing **15 November 2005** and that **Thomas Trish** of **10 Dyer Street PALLARENDA QLD 4810 AUSTRALIA** has been entered in the Register of Trade Marks as the owner of the trade mark.

The trade mark is registered for the following goods and/or services:
A community service providing health education being services in **class 41**

THE SCHEDULE

The Seven Natural Physicians

Given under my hand and the seal of the Trade Marks Office on 16 August 2006

COMMONWEALTH OF AUSTRALIA
AUSTRALIA
TRADE MARKS OFFICE

TRADE MARKS ACT 1995

RUTH NAOMI MACKAY
REGISTRAR OF TRADE MARKS

Appendix B. Permission to use Queensland Health image

9.8.11

To whom it may concern,

I am a Masters of Education Honours student from James Cook University in North Queensland and am requesting to us the 2 fruit and 5 veg image below in my thesis.

Yours truly,

Trish Thomas

James Cook University
Douglas Campus
Angus Smith Dr Douglas
QLD 4814
trish.thomas@my.jcu.edu.au

Administrative documentation has been removed

Appendix C. 7NP health questionnaire (Pre-Test)

4. Lindy isn't sure how much exercise she should you do every day.

   20 mins 60 mins or 3 hrs ?

5. Why do people say exercise is so good for you?

   _____
   _____
   _____

Water

6. Can you tell Sam how much water he needs to drink each day?

   1 cup 6-8 cups 12 cups / 1½ litres 2 litres 5 litres

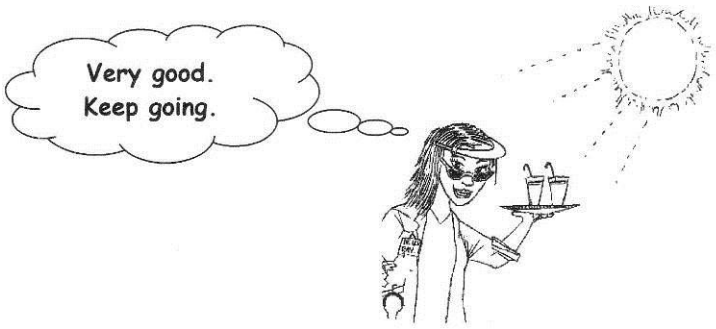
7. When should Sam take care to drink more water?

   _____
   _____

Sunshine

9. Imagine you were going outside to play with Sam and Lindy and it was a very sunny day. What are some of the things you need to remember to do, so that you could protect your skin from the sun?

   1. _____
   2. _____
   3. _____
   4. _____
   5. _____



2

Nutrition

10. Name 2 fruit that you think Sam and Lindy would like best?
_____

11. Can you name 5 vegetables that would be good for Sam and Lindy to eat?
_____
_____

12. There are some foods we should eat
'a lot of' **'some of'** and **'a little of'**.

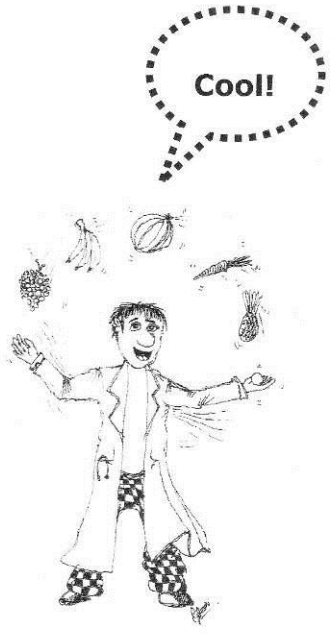
Sam and Lindy have put some foods from the list into the **Food Groups Table** below. They have ticked those foods. Can you do the same with some of the other foods in the list?

LIST

apples √
fish √
carrots √
biscuits √
bread
meat
cheese
milk
potatoes
lollies
cake
cornflakes
watermelon
noodles
eggs

Food Groups Table

A lot	Some	A little
apples	fish	biscuits
carrots		



13. Neither Sam or Lindy knew the 5 food groups?
Do you know any of them?
Write down the ones you know.
_____
_____
_____
_____
_____

3

Air

14. Lindy and Sam liked this experiment. Put your pen down, sit up straight, close your eyes and focus on your breathing. After you have done that for awhile, write down which are the parts of the body that help you to breathe?

_____
_____
_____
_____

15. Now try sitting up straight and breathing in and out 3 times.
Then slouch over and breathe in and out 3 times. Does slouching over affect your breathing?

. Yes No

16. If you said 'Yes', then how?

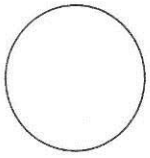
_____
_____

Rest

17. Tell Sam and Lindy how much sleep they need each night?

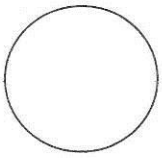
4 hrs 6 hrs 8 hrs 10hrs 15hrs

18. If Sam didn't get enough sleep at night how might he feel the next day?



Draw a face and describe it _____

19 When Sam gets a good sleep at night, how does that make him feel the next day?



Draw a face and describe it _____

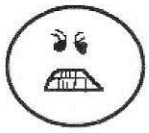
20. Lindy and Sam wanted to know if you knew of any other ways to rest your body other than sleeping?

_____

_____

Attitude

21. Describe how these children are feeling.




_____ _____ _____ _____

22. At playtime Sam and Lindy had an argument over who should get to play with the class basketball. One of the children ended up feeling very angry and the other one felt very sad. What could the child who felt angry do?

_____
_____
_____
_____

23. What could the child who felt sad do?

_____
_____
_____
_____

24. Do you think this health survey was.....?

fun boring OK easy hard silly interesting don't know

25. How could you make it better?

_____
_____
_____

Table C1. *7NP health questionnaire (Pre-test) results*

Q	Content	Yr 6 Teacher 1 (20 Students)	Year 6 Teacher 2 (23 Students)	Combined Results (43 Students)
	EXERCISE			
1.	**How do you get to school?**			
	Active (bike, walk)	10	10	20
	Non- active (car, bus)	10	12	22
	Other		1 (no comment)	1
2a)	**Do you engage in sporting activities after school?**			
	YES	18	21	39
	NO	2	2	4
2b)	**List the activities**			
	Tennis	3		3
	Swimming	3	4	7
	Football	7	4	11
	Basketball			
	Netball			
	Marital Arts		1	1
	Dance	3		3
	Horse Riding		1	1
	Coxing			
	Gym/Fitness	5		5
	Bike Riding	4	1	5
	Cheer Leading		1	1
	Fitness with Technology		1	1
	Own Activity	10	3	13
2c)	**How often do engage in these activities?**			

	0		2	
	1		4	
	2		7	
	2+		3	
	4+		7	
3.	**How much exercise should you do each day?**			
	20 minutes	12	7	19
	60 minutes	6	16	22
	2 hours	1		1
	Other	1 (Crossed our 20 mins and wrote 30 mins)		1
	WATER			
4.	**How much water should you drink each day?**			
	Correct	10 students stated either 6-8 or 12 cups 13 students stated 1½ to 2 litres	1 student stated 6-8 cups 19 students stated 2 litres	43
	Incorrect			
4b)	**When should you drink more?**			
	Hot		16	
	Exercising		15	
	Sick		10	
	Outdoors		2	
	Dehydrated		2	
	Tired		1	
	Air Conditioning		1	
	Nonsensical			

	No Answer		2	
	Total Answers		19	
	Range		1 Correct Answer (7)	
			2 Correct answers (11)	
	SUNSHINE			
5	**Name 5 SunSmart rules**			
	1	1		1
	2			
	3	1	3	4
	4	4	7	11
	5	14	13	27
	Hat	21	23	43
	Shirt	18	22	40
	Cream	19	23	42
	Water	3	16	19
	Time	0	1	1
	Glasses	15	15	30
	Shade	13	3	16
	NUTRITION	**21**	**23**	**44**
6a)	**Teacher 1 Identify foods according to which food group they belong:**	Number of students who identified correct category		
	A lot	20		
	Some	18		
	A Little	20		

6b)	Teacher 2 Sort food into their correct food groups:		A lot	Some	A little
	A lot	Bread	**2** ✓	20	
	Some	Meat	13	**10**✓	
	Some	Cheese	3	**14**✓	6
	Some	Milk	9	**13**✓	1
	A lot	Potatoes	**16**✓	6	1
	A little	Lollies			**23**✓
	A little	Cake			**23**✓
	A lot	Cornflakes	**3**✓	11	8
	A lot	Watermelon	**17**✓	5	
	A lot	Noodles	**2**✓	10	11
	Some	Eggs	13	**9**✓	

7	**Name the 5 food groups**	**Correct (6L)**	**Correct (6J)**	
	Cereals	1	1	
	Meat	14	16	
	Dairy	12	20	
	Fruit	14	20	
	Vegetables	16	20	
	Range of correct answers	**1-4 (6L)**	**0-5 (6J)**	**0-5**
		0 correct (3)	0 correct (0)	0 correct (3)
		1 correct (1)	1 correct (1)	1 correct (2)
		2 correct (2)	2 correct (1)	2 correct (3)
		3 correct (4)	3 correct (8)	3 correct (12)
		4 correct (9)	4 correct (13)	4 correct (22)
		5 correct (1)	5 correct (0)	5 correct (1)

	AIR			
8	**Name the organs of the respiratory system:**			
	0	1		
	1	1		
	2	1	1	
	3	1	7	
	4	5	15	
	5	11		31
8a)	**Does bending over affect your breathing?**			
	YES	19	18	37
	NO	1	5	6
8b)	**If Yes, How?**			
	(See additional notes 3.1.1)			
	REST			
9	**How much sleep do you need each night?**			
	6 hours	1		1
	8 hours		1	1
	10 hours	18	21	39
	15 hours		1	1
	ATTITUDE			
	Not collated			

Appendix D. 7NP health questionnaire (Post-Test)

7NP's Post Test **Yr 6 Term 4 2008**

1. Since the start of this term – have you changed the way in which you come to school? Yes or No……..if Yes – write down before and after

2. Have you increased your involvement in physical activity? – if so how (did you join a club; are you walking after school/ or playing more like on the trampoline; riding your bike)

3. Do you know the answers to these questions
a) How much sleep do you need each night?
b) How much exercise should you do each day?
c) How much water should you drink each day?
d) When should you drink more?
e) Name 5 SunSmart rules
f) Ice-cream, lollies, chips, biscuits – Eat a lot? Some? A little?
g) Meat, eggs, milk, beans – Eat a lot? Some? A little?
h) Bananas, apples, lettuce, carrots, potato – Eat a lot? Some? A little?

4. Preparation for interview questions
Write down the 7NP's
Attitude
Air
Nutrition
Sunshine
Water
Exercise
Rest

Which 2 are you best at? Put a tick and number beside them.
What are the things that help you to be so 'on the ball' or 'do well' with these 2 physicians?

Which 2 are you worst at? Put a cross and a number beside them.
What are the things that are working against you from 'doing well' with these 2 physicians?

Table D1. *7NP health questionnaire (Post-test) results*

Number	Question	Teacher 1 16 Students	Teacher 2 15 Students	Combined Results (31 students)
	EXERCISE			
1a)	**Since the start of this term – have you changed the way in which you come to school?**			
	YES	4	5	9
	NO	12	10	22
1b)	**If Yes….. write down before and after**			
	Active (bike, walk)	2 Walk (2 did not state the change)	6 (3 bike + 3 walk because I walk and ride)	
	Non- active (car, bus)			
	Other			
2a)	**Have you increased your involvement in physical activity?**			
	YES	15	11	26
	NO	1	4	5
2b)	**If so…. how? List the activities**			
	Tennis			
	Swimming		4	4
	Football	1		1
	Basketball		1	1
	Netball	1		1
	Marital Arts		1	1

	Dance			
	Horse Riding			
	Coxing			
	Gym/Fitness	3		3
	Bike Riding		1	1
	Cheer Leading			
	T/Ball	1		1
	Home Play	5	7	12
	REST			
3a)	**How much sleep do you need each night?**			
	6 hours			
	8 hours		2	2
	10 hours	15	13	28
	15 hours			
	No Answer	1		1
	EXERCISE			
3b)	**How much exercise should you do each day?**			
	30 minutes	7	7	14
	60 minutes	8	6	14
	2 hours	1	1	2
	Other			
	No Answer		1	1
	WATER			
3c)	**How much water should you drink each day?**			
	Correct (1 ½ - 2 litres)	16	14	30
	Incorrect			
	No Answer		1	1

3d)	**When should you drink more?**			
	Hot	4	6	10
	Exercising	9	6	15
	Sick	4	1	5
	Outdoors	1	3	4
	Dehydrated		1	1
	Tired			
	Air-conditioning			
	Nonsensical	2		2
	No Answer	3	2	5
	Total Answers	23	19	42
	SUNSHINE			
3e)	**Name 5 SunSmart rules**			
	0 answers	1	1	2
	1 answer			
	2 answers	1		1
	3 answers	1	1	2
	4 answers		2	2
	5 answers	13 (4 slip, slop, slap, seek, slide)	11	24
	NUTRITION			
	Identify foods according to which food group they belong:			
3f)	A lot	12	13	25
3g)	Some	12	11	23
3h	A Little	12	14	26

		Teacher 1 Class				Teacher 2's Class	
4	Which 2 are you best at? Which 2 physician are you worst at?	Best	Worst			Best	Worst
	Attitude	2	3		Attitude	5	1
	Air	1	6		Air	1	5
	Nutrition	3	0		Nutrition	6	1
	Sunshine	3	2		Sunshine	1	8
	Water	2	2		Water	5	7
	Exercise	10	1		Exercise	7	2
	Rest	6	3		Rest	3	3
		27	17			28	27

4	Which 2 are you best at? Which 2 physician are you worst at?	Combined Results	
		Best	Worst
	Attitude	7	4
	Air	2	11
	Nutrition	9	1
	Sunshine	4	10
	Water	7	9
	Exercise	16	3
	Rest	9	6
		53	44

Appendix E. Permission to adapt ANGELO

Permission to adapt ANGELO from Professor Boyd Swinburn, Deakin University

Administrative documentation has been removed

The attachment sent to Professor Boyd Swinburn ANGELHH_TrishThomas November 3rd 2011 read as follows:

> The Analysing Grid for Environments Linked to Obesity (ANGELO) (Swinburn, et al., 1999) was adapted to allow for the examination of the student's 7NP holistic healthcare practices investigated in this study. The reformatted analysis grid was called the Analysing Grid for Environments linked to Holistic Healthcare (ANGELHH). Permission was sought and received from Deakin University to use the ANGELO in this study (See Appendix…).The environmental aspects of the ANGELHH, based on ANGELO, included: political (what are the rules); sociocultural (what are the attitudes and beliefs); physical (what is available) and economic (what are the costs). The holistic healthcare practices to be analysed were those highlighted in the 7NP program: attitude; air; nutrition; sunshine; water; exercise and rest.
>
> Retrieval charts were used to collate the data during the analysis process. Table 4 below is a retrieval chart showing how all the data was collated for analysis. For example information about the students' attitudinal healthcare practices was collated according to issues that highlighted the political, physical, sociocultural and economic environmental influential enablers or barriers. The shaded area in Table D1 (see below) is discussed in 'Coding of Data'.

Table E1. *ANGELHH retrieval chart for collating data*

Healthcare Practice	**Political**		**Physical**		**Sociocultural**		**Economic**	
	Enabler	**Barrier**	**Enabler**	**Barrier**	**Enabler**	**Barrier**	**Enabler**	**Barrier**
Attitude School Home Community								
Air School Home Community								
Nutrition School Home Community								
Sunshine School Home Community								
Water School Home Community								
Exercise School Home Community								
Rest School Home Community								

Appendix F. Data and coding samples

Table 5: *Colour coding strategies used for highlighting multidimensional environmental influences on 7NP healthcare practices*

Interview transcript	**Environmental coding**	**7NP coding**
S2: (Reference to kids buying junk food from the local shop around the corner from the school) "A lot of kids are riding their bikes to school and they think, oh, I've got money in my bag. Yeah, cuz I'm hungry, why don't I get some food."	Mentioned/inferred Physical – bike riding; local shops, junk food Economic – students are financial: they own bikes and have money to purchase food Sociocultural – inference that riding bikes and possibly buying junk food before school is a socio-culutral activity Political – regulation issue for students purchasing foods on the way to school	Exercise – riding their bikes Nutrition – hunger and junk food Attitude – peer influences, choice of foods, attitudes to peers

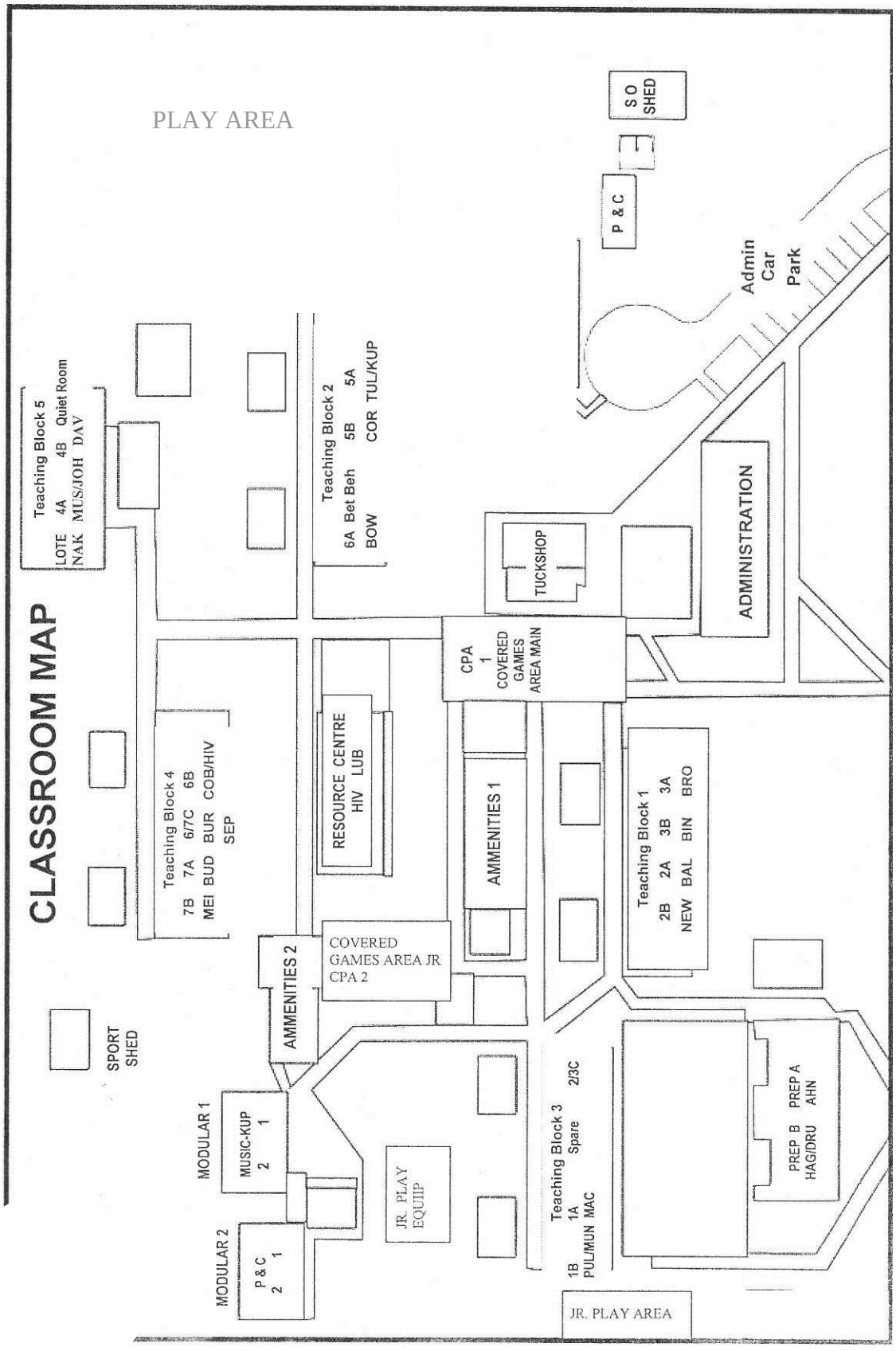
Table 6: *Data collected and collated using ANGELHHH. This table provides some examples of data highlighting political, physical, social, sociocultural and economic influential 'barriers' and 'enablers' for student Nutritional healthcare practices.*

School	HPE curriculum Essential Learnings (QSA, 2007) Canteen – Smart choices Health Food and Drink (School Hand book, p 21) Quality of food at school - No soft drinks on sale or encouraged to be brought to school on sports day (Newsletter, 17.6.08)	Potential barrier – Lack of systems to check quality of food sold at the tuckshop	Tuckshop – healthy food choices available (Tuckshop List) Removal of junk foods from the canteen (School Hand book, p. 21) Fridges in classrooms to store student lunches (Teacher 1, Student 1, Journal notes 9.12.08)	Tuckshop foods - not necessarily healthy - (Tuckshop list, Smart Choices, Qld Gov 2007, Focus Group 3.11.08) School Concert– soft drinks and deep fried foods on sale (Newsletter, 25.11.08)	Teacher pedagogy – (Journal notes 2.10.08 – 5.12.08) Teacher surveillance of lunches (Journal notes, Teacher world views (Journal notes 2.10.08 – 5.12.08) Newsletter (p 14, 18) Parent education on healthy food choices for student lunches	Student understanding of government health programs (Teacher 7NP Questionnaires, Journal notes 2.10.08, Focus Group interviews, Newspaper article 5.11.08) Students exchanging sugary foods (Journal notes 5.12.08) Communication breakdown advertising free breakfasts/lunches (Teacher 2, Newsletter 29.11.08)	Free breakfast and lunches available at school (Interviews: Curriculum Coordinator, Teachers) Finances to purchase healthy food (Student 13, Journal Notes 5.12.08)	Students had their own finances to purchase junk foods on the way to school (Student 2, 10) Canteens are non profit organisation (Student 2, Newsletter 19.2.08)

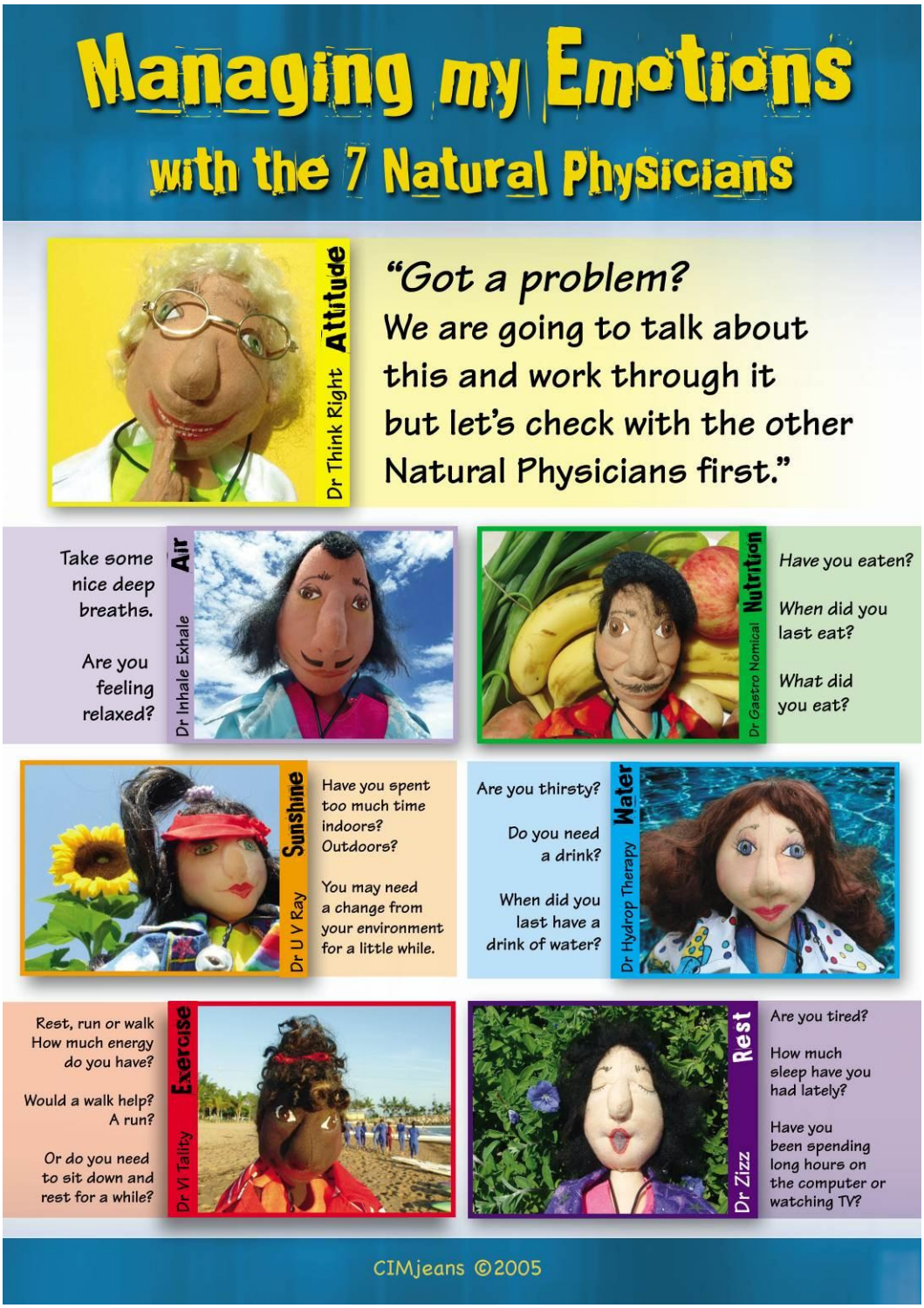
Appendix G. Ethics approval number H 2360 (Part 1 and Part 2)

Administrative documentation has been removed

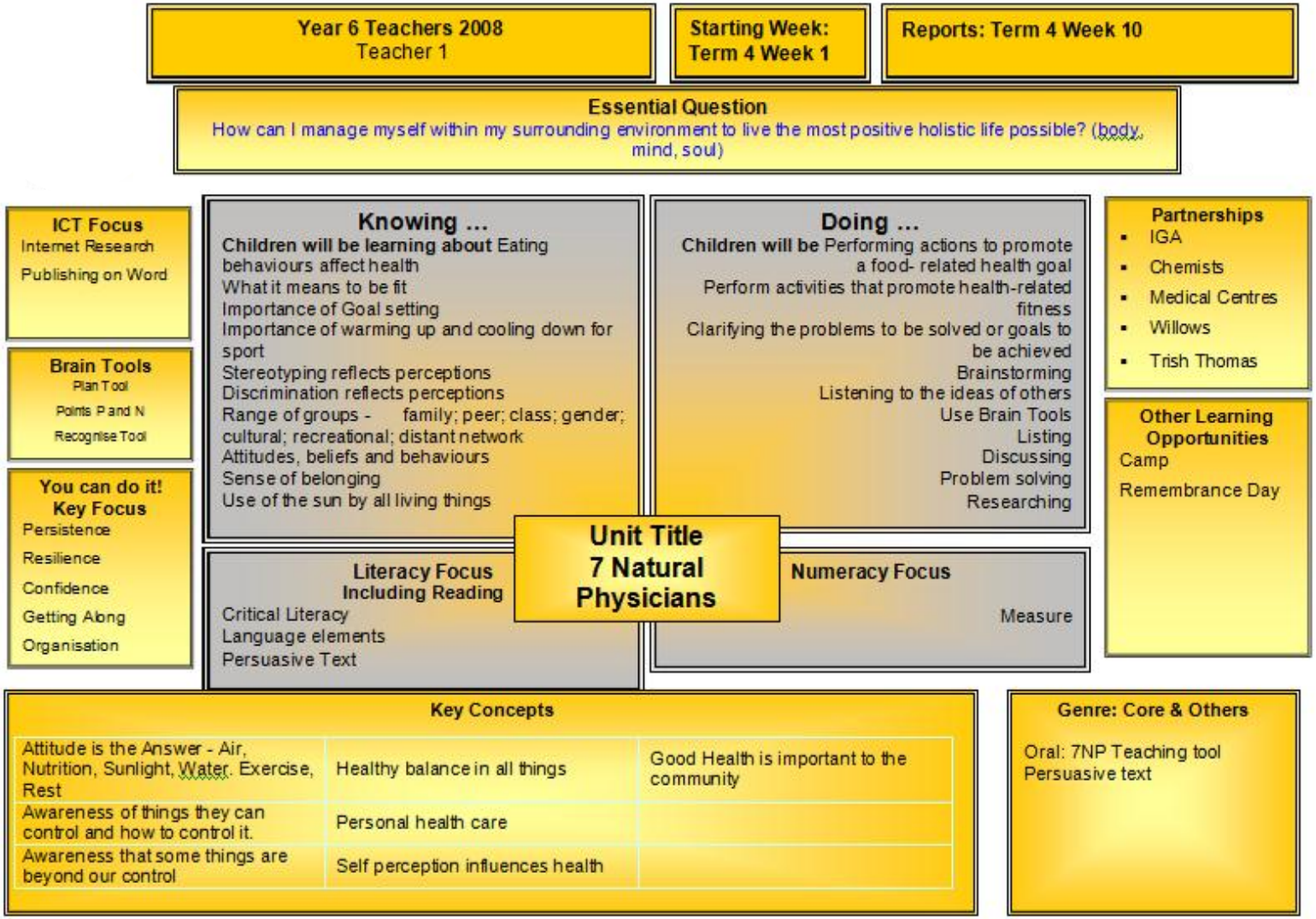
Appendix H. School map



Appendix I. 7NP Managing my Emotions poster



Appendix J. Teacher 1 7NP unit plan and student work samples



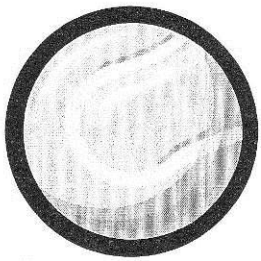
Environmental influences on health practices - Student 8

This piece of work demonstrates a rubric devised by the researcher for Teacher 1's students in preparation for their persuasive text task.

	Physical	Socio/Cultural	Economic	Political
ENABLER	Big Oval Interschool sport GAKS P.E Playing sport with friends	Skilled Teachers	money shortage	30 minutes of activity
BARRIER	Distance-too far Traffic hazard Safety			Teachers have to focus on important school work.
POI	Running/walking Trampoline Dog Chasing Swimming Bike riding Going to kidzfit classes with Miss [illegible] Walk up and down the road. Running around with my friend.	Confidence Friends		I like sport.

Persuasive Text - Student 17

KIDS GET ACTIVE



Most problems start with age. Some children want to play sport and others don't. Most children want to play sport but their friends think it's uncool, so they don't play it.
KELSO IS GOING TO
Some families might play sport or you grew up with a sport. You might have role models in the family.
To get fit and healthy just do your '30'.

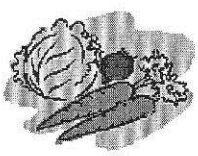
Parents supporting their children can make them feel encouraged. Their parents might have role models.
Their parents might influence that role model on to their child /children. Peers and classmates might like the sport so others will follow. It's not hard to get fit, the more you gain the more you have to loose.

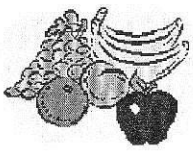
The print media (e.g. magazines, ads, catalogues, media, radio, TV, ECT) influences children to be active. Famous people such as Olympians and celebrities influence more people to get active everyday. McDonalds' and fast food
Ads are not allowed to be shown while kid's programmes are on.

Sometimes kids don't want to do fitness because of the climate. When it's too hot, too cold, rainy, warm ECT)
They say they'll exercise later or tomorrow then they don't end up doing it because they're too busy or don't feel like it.

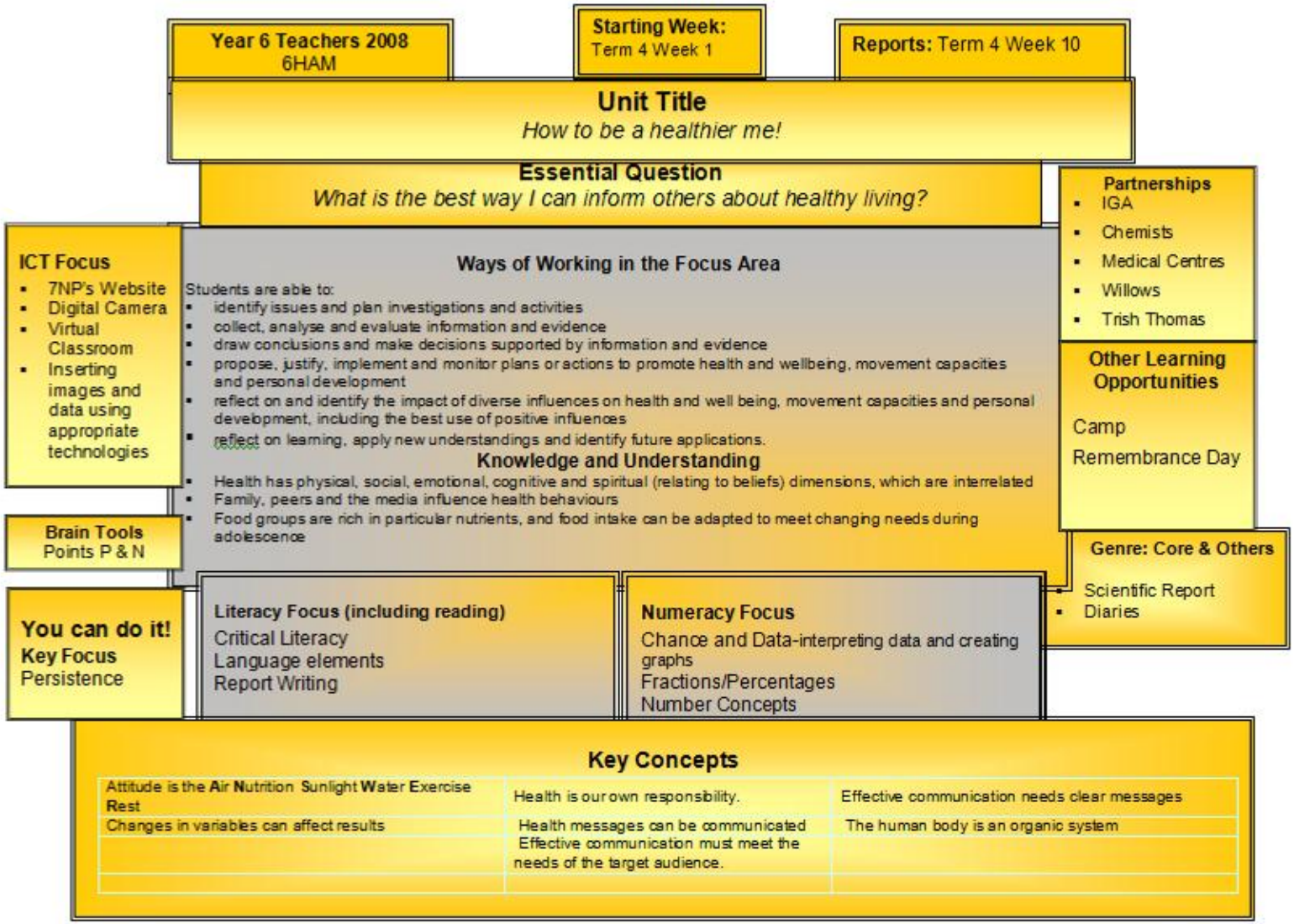
The kids of 6Bow are changing the way people think about sports and making it positive thinking. It's very important to be active and stay active. So let's get out there and stay fit and healthy.

COME ON PEOPLE – GET ACTIVE





Appendix K. Teacher 2 7NP unit plan and student work samples



Online Journal - Student 14

Week 1: 6/10/08 – 12/10/08

Consider what you have recorded in your books and summarise your 'healthy' week. Some questions to help your summary.

1. Were you as healthy as you thought? No

2. Can you improve any of the 7NP (Attitude is the ANSWER)? Yes, Dr Inhale Exhale, Dr Gastro Nomical, Dr Hydrop Therapy, Dr Zizz.

3. Did you do better in any of the 7NP than you thought you would? No

4. Did you surprise yourself in any of the 7NP (positive or negative)? Yes, I was way not as healthy as I thought.

Week's Summary:

ATTITUDE: My Attitude this week was all over the place. I was happy most of the time, although I never knew how many emotions a person could feel in one week. Depending on how healthy I had been with the other Physicians, and then changed how I felt.

AIR: My breathing could improve a lot. I found out that I only take deep breaths when I think about it and then make myself do it. I also got puffed quite a bit and even then I still didn't breathe deeply enough to stop puffing.

NUTRITION: This week was pretty bad as for junk food. I was astonished as to how mush sweets I do consume when I don't think about what I am eating. I also couldn't believe how much food I ate!

SUNSHINE: I was really good as for sunshine. One thing I was a little upset about was that I got sunburnt as I forgot to put sun cream.

WATER: Water is one thing I could improve dramatically. I drunk know where near the amount of water required. I was so dehydrated it wasn't funny! I thought I was really good with water.

EXERCISE: I was so good with exercise this week. I ran around for at least ½ an hour each day at a reasonable time and on the weekend I went horse riding for the whole day, both days.

REST: I was probably the most sleep deprived person in the world this week! At one point I only got 4 ½ hours sleep! I am the worse person as for sleep. I am so ashamed.

Choose 1 goal for each of the 7NP's in order to improve your 'healthiness'.

1. Attitude: I will try and have a really positive attitude this week and follow the 7NP'S so I can feel good.

2. Air: I will try to breathe deeply.

3. Nutrition: I am going to cut right back on junk.

4. Sunshine: I will remember to put sunscreen on so I don't get sunburnt.

5. Water: I am going to aim to drink at least 1 bottle of water a day until I get used to drinking more.

6. Exercise: I don't really have any goals for exercise.

7. Rest: I am going to rest lots and go to bed a lot earlier so I can get a better night's sleep and more sleep.

Scientific Report - Student 4

Introduction

Students at Kelso State School were surveyed to determine how healthy they were. The survey was based on the 7 Natural Physicians motto, Attitude is the ANSWER

With the information gathered from the surveys, the students of the lower school appear to be healthier compared to those in the upper school. A possible reason for these results may be due to the level of independence the students in upper school have in comparison.

Using the 7 Natural Physicians and the data collected from the surveys, the students at Kelso State School will be able to make more informed decisions regarding the current health and ways to improve their health choices.

Procedure

A survey was complied using the 7 Natural Physicians and questions suitable for the age group of the class being surveyed.
Classes were surveyed independently of each other with students raising their hand to answer the questions. The data was recorded by counting.

With the data collected from the surveys, information was then transformed into a graph format. So the graphs were easier to read and compare, they were summarized into upper and lower school. This enabling a determine of which section of the school is healthier.

Discussion

Although the data indicates the lower school is healthier, there were a few variables during the survey process. These variables consisted of the students not being able to understand the questions, them not voting and voting more than once.

The recommended amount of exercise per day according to the Australian Government is 60mins. The lower school data indicates that they undertake this amount on a daily basis. Although the upper school also achieved the recommended amount of daily exercise, the lower school remains healthier due to the fact they are healthier in other aspects of their life.

The lower school has a healthier diet. The reason for this is because they eat more of the five food groups and less junk food in comparison to the upper school. The upper school consumes a greater quantity of junk food and less of the recommended amount of healthy food. A possible reason for this is the greater independence given to older children.

Eating regular meals and food throughout the day is essential in giving a person more energy and greater concentration. Eating healthy food also reduces the chance of getting diabetes, heart disease and obesity.

Water consumption helps maintain a healthy body and mind. Drinking 6-8 glasses/2L of water a day reduces the chance of getting headaches and dehydration. Water also assists the body in waste removal.

Conclusion

Research shows that the lower school is healthier than the upper school in a holistic sense, as they are more aware of the 7 Natural Physicians. As a young child parents have a greater influence on the child's lifestyle choices, therefore ensuring greater health. It is for these reasons that the lower school is healthier than the upper school at Kelso State School.

Appendix L. Examples of parent handbook articles

The following example, p. 21 of the Parent Handbook highlights parent information about the students' School SunSmart practices and school and tuckshop information.

SUN & SPORT SAFETY

From January 2008 factor 30+ sunscreen will be available in all classroom for use by students. If your child has a particular allergy to sunscreen the school will need to be advised in writing of this and if possible your child will need to bring a suitable sunscreen from home. Students who participate in swimming activities will also need to wear a sun safety shirt.

Children involved in high risk sports and activities such as baseball, t-ball, rugby (all codes), cricket, hockey, etc. are now required by Education Queensland Policy to wear a fitted mouthguard for these sports. Parents are required to advise the school in writing if their child is to participate in these sports without a mouthguard.

To encourage sun safety, and reduce the incidence of skin disorders caused by excessive exposure to the sun's radiation, [illegible] school will:-

- promote a ***"NO HAT - NO PLAY"*** policy
- ensure that our recommended school uniform complies with Education Queensland guidelines
- promote the use of sunscreen products
- plant trees to provide shade for our students
- encourage children to use shaded areas for playing, and other activities
- invite educational speakers from Queensland Cancer Council to address our students
- encourage students to wear a shirt with sleeves and a collar

Bucket Hats:

[illegible] State School 'Bucket Hats' are the preferred choice of hat and have been produced in line with sun-safe guidelines and designed to give good protection to the nose, ear and back neck areas of the wearer. The [illegible] Bucket Hat is part of our official uniform and is available from the tuckshop.

TUCKSHOP – How to order

Currently [illegible] State School "Smart Choices Tuckshop" operates Tuesday to Friday only. Parents are asked not to provide their child with an order on Monday as their will be no-one in attendance to fill the order.

Children are required to submit their order written on a paper bag for first break only. The bag must clearly state the child's name, what is required and how much is enclosed. Each day the children place their tuckshop orders in the tub provided in their classroom and a monitor takes the tub to the tuckshop by 9:30am. Change will be given back via the tuckshop box.

Students ordering cold foods are required to collect them from the tuckshop personally. The tuckshop retains a list of which child has ordered what drink.

All sales for 2nd break are by purchase over the counter only. No orders for 2nd break are accepted.

Our tuckshop is manned by paid tuckshop convenors and volunteers. New volunteers are always most welcome.

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Appendix M. Examples of school newsletter articles

Newsletter article 18.3.08

INAPPROPRIATE USE OF TOILETS
The correct use of the toilets at school has been an issue discussed with the students on a regular basis all term. Unfortunately, the incidents of misuse of soap in the toilets, is at the stage where the school is providing a new cake of soap to some toilets on a daily basis. The soap is being used on the mirrors in the toilets and floors, which is a safety risk. It would be appreciated if parents could support the school by explaining to children the inappropriateness of this behaviour and telling them to report any incidents where students do not use the soap in the correct way.

Newsletter Article 15.7.08

PLUS 10 EQUALS….LESS COLDS
Common cold viruses can get on our hands when we touch infected hands, surfaces and objects. When we put our unwashed hands in our mouth or rub our eyes and nose with them we can infect ourselves with a cold virus.
Correct hand washing is one of the most effective ways to prevent the spread of colds.

- Wash hands thoroughly, especially **before eating** food and **after blowing** the nose, coughing or sneezing.
- Here's how:
- **Lather** with liquid soap **for 10 seconds**
- **Rinse** with running water **for 10 seconds**
- **Dry** hands.

Antibiotics **don't work** on viruses so they stop a cold from spreading.
For more information go to **www.nps.org.au/commoncolds**

Newsletter article 15.7.08

Queensland has the highest rate of **skin cancer in** the world and almost one in every two people will be diagnosed with skin cancer in their lifetime.
Why is child skin care so important?
Sun exposure in the first fifteen years of life can greatly increase the risk of developing skin cancer in adulthood. Protecting your and skin cancer when they are older.
The good news is: Skin cancer is almost entirely preventable by using child's skin from an early age reduces their risk of skin damage a combination of sun protection measures.
How do I protect my skin?

- **Seek shade** where possible.
- Dress your child in **sun protective clothing.** Close weave, dark coloured clothing that cover as much skin as possible.
- Choose a **broad-brimmed, legionnaire or bucket style hat**. Base ball caps do not protect the ears, face or neck and are not recommended for sun protection.
- Purchase a pair of **wrap around sunglasses** and encourage your child to ware them every day.
- Slop on **SPF 30+ broad spectrum sunscreen**. Choose a water resistant sunscreen and apply it at least 20 minuets before going outdoors and reapply every two hours.

Newsletter article 22.7.08

BREAKFAST PROGRAM LAUNCHED AT Local High School

Studies show that children who eat breakfast do better in school. It doesn't take much further thought to know that adults will feel better and perform better at work as well. Whether you work at home, on the farm, at the office, at school, or on the road, it is not a good idea to skip breakfast. If we skip breakfast, we are likely to become tired when our brains and bodies run low on fuel. By mid-morning, a lot of us grab a cup of coffee or wolf down a sugary candy bar to wake us up again. This might work for a few minutes, but by lunch time we are hungry, crabby, and perhaps our mood might make us a little more prone to making unhealthy choices at lunch. Eating a good breakfast sets the tone for the rest of the day.

Is good **nutrition** important for good learning? In a word, YES! Research has shown that children who regularly eat breakfast had better standardised test scores, better behaviour, and were less hyperactive than children who skipped breakfast.

Here at our local [my words] State High School we have realised that some students and school staff (teachers, administration staff, cleaners and even our support staff) occasionally come to school without having breakfast. There are many reasons for this such as sleeping in, early morning training, catching up on the assignments due that day, not having been shopping to buy breakfast foods and many more reasons.

In order to address this need we have started a Breakfast Program to supply anyone who hasn't had breakfast or would like a 'breakfast top up' with Toast (Honey, Vegemite or Peanut Butter) and fruit. Each breakfast session will be manned by a member of our Student Support Team

Appendix N. Examples of administration policies and procedures

The following text is taken from the school's 'Administration Policies and Procedures Incorporating Workplace Health and Safety' booklet. This example highlights 'air' and 'water' safety practices for teachers at school.

- The Library system may be turned on at 10.30am to accommodate children using the Library during first break or if necessary when the ambient classroom temperature **exceeds 28 degrees celsius** combined with high humidity and no breeze available through open windows.
- Where possible systems will be set to run at 26 degrees celsius.
- ***The systems will be turned on no earlier than 8.45am and must be turned off at 2.30pm.***
- **TEACHERS ONLY** (no children) are to operate the air conditioner controls.

The following information may help you to understand how the air conditioner cycle works.

1. When units are initially turned on the fans only, will start first. After about 2 minutes the compressors will start. When the room reaches the temperature, which has been set on the unit (eg 26 degrees) one unit will cut out and just have the fan running. When temperature drops this unit will start again. Air conditioners are set on a 2 hour cycle (will turn off after 2 hours). You will then need to turn them on again.
2. If an air conditioning unit is not blowing cold air, check to make sure the compressor outside for this unit is going (numbers on the unit inside correspond with a unit outside).
3. If the compressor (outside unit) is going and the unit (inside unit) is blowing hot air **there is a problem. Advise Business Manager immediately.**
4. When the compressor (outside unit) is going the unit inside should be blowing cold air.

If you find that your air conditioner is not running as it should be, or if you see water leaking, or any other problems, please complete a Damages/Maintenance/Safety form and place in Business Managers pigeon hole.

DAMAGES/MAINTENANCE/SAFETY REPORT

These forms are to be used when reporting such things as a fan not working, window won't lock, blocked sink, etc. Please complete the form in the first instance if it is a security problem. Please complete this form and give to the Business Manager.

Appendix O. Examples of local newspaper articles

Local Newspaper Article: 12 November 2008

Local Newspaper Article: 10 December 2008

This article was removed due to copyright restrictions

Appendix P. Year Six leadership camp note

Year 6 Magnetic Island Leadership Camp – Student Equipment List

ALL ITEMS MUST MARKED CLEARLY WITH THE CHILD'S NAME

ITEM	CHECK ITEMS – (TICK)	
	BEFORE	AFTER
Pillow, Single bed sheets (x2),pillow case		
Sleeping bag or light blanket (Cabins are air-conditioned)		
4 x Pairs of Socks		
6 x Underwear items		
Swimming togs, sun safe shirt (or old shirt to swim in)		
1 x pair of running shoes/joggers		
1 x pair of thongs/beach shoes		
1 x pair of pyjamas/sleeping shorts and shirt		
3 x sets of casual clothing (shorts and shirts – shirts must have sleeves)		
1 x hat (Camp Hat provided)		
Toiletries – must kept altogether in toiletry bag	Toiletries	
• Soap (in soap container)		
• Toothbrush		
• Toothpaste		
• Comb/hair brush/hair ties		
• Shampoo/conditioner		
• Insect Repellent		
• Sunscreen		
1 x Beach Towel		
1 x Bathroom Towel		
1 x Torch		
1 x Garbage Bag for dirty clothes		
1 x drink bottle (500 ml or 1L)		
1 x back pack		
1 x clipboard folder, 2 pencils, 48 page exercise book		
1 x camera (optional)		