

Students' and Teachers' Perceptions of Physical Education

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Statement of Original Authorship

The work contained in this thesis has not been submitted previously for a degree or diploma at any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

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Abstract

Students and teachers have a range of perceptions of Physical Education and how it affects students and their learning. Past research has indicated that Physical Education can influence students' academic results as well as their physical development. This study identified and investigated the perceptions of students and teachers towards Physical Education and its effect on the students and their learning at one school. Through the use of semi-structured interviews, questionnaires, observations and member-checking surveys, students and teachers shared their perceptions of Physical Education. These perceptions show that teachers and students believe that Physical Education has not only physical benefits for students, but that Physical Education can also positively influence students mentally, emotionally and socially. The social aspect of Physical Education is perceived to be either positive or negative for students depending on how the teacher manages the class. Many students and teachers perceived Physical Education to be enjoyable for students and beneficial to their development. Physical Education has the potential to impact students on a spiritual level although the degree to which this occurs is difficult to determine. This study also showed that the way Physical Education is timetabled and taught can have an impact on the way students and teachers perceive this curriculum area.

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Prologue:

It has become apparent to me as a pre-service teacher that it can be challenging to hold the attention of a class for a significant period of time. I have witnessed many students lose focus during lessons and subsequently be disadvantaged in their learning. I began to brainstorm ways in which I could help students remain focused in class and therefore improve their learning habits. Personally I find it much easier to concentrate after exercising or participating in an activity that involves movement.

These observations provided me with the idea for this research study. I believe that Physical Education can positively influence a child's health. With new technology constantly being developed, it is apparent that not only children, but adults too, are spending less time being active. Instead of getting exercise, people are spending more and more time in front of televisions, computers, gaming machines and other similar technological devices that do not require very much physical movement. I believe that something must be done to encourage students to stay fit as this has so many benefits in several aspects of their lives above the physical benefits. I also believe that Physical Education is an important part of schooling and can be beneficial to students in many ways. However, I also understand that not everything that occurs as a part of Physical Education is positive.

I believe that this research project can have a positive influence on many students' lives; not only on their health but also in other ways which this study will reveal. I was interested to discover students' and teachers' perceptions of Physical Education as a part of the school curriculum. This research will provide insights into the perceived effects of Physical Education on both students and teachers and how they believe it influences the student and their learning.

Chapter One: Introduction – Warm-up Activity



In a Physical Education lesson, an introduction or warm-up activity gives the students the chance to prepare for the lesson. In a similar way, this chapter provides an overview of this thesis and the topic that has been researched. It also explains the significance of this research study and prepares the reader for the rest of the thesis.

Introduction:

The structure of this thesis will be set up in a similar way to a Physical Education lesson. In order to provide a clear link to Physical Education, each chapter corresponds with a section of a Physical Education lesson.

This chapter is titled ‘Introduction – Warm-up Activity.’ Most Physical Education lessons contain an introduction that gets the students warmed up and ready to participate in the lesson. The teacher usually provides an overview of what the lesson is about and what the students will be doing throughout the lesson. In the same way this chapter provides an overview of the research and explains what the research will involve.

Each section of this thesis has been designed so that it can answer the following research question. Sub-questions have also been developed to add more detail to the results and conclusions.

Research Question:

“What are the perceptions of students and teachers in one year seven and eight class towards Physical Education and its effect on the students and their learning at one school?”

Sub-questions:

Within the context of one school the following questions will be investigated:

1. What do teachers and students see as being the benefits and weaknesses of Physical Education and what changes need to be made?
2. Do teachers and students perceive that participating in Physical Education affects the attention span and concentration levels of the students?

3. How is the timetabling, structure and pedagogy of the Physical Education program perceived by teachers and students to affect learning?
4. What perceptions do teachers and students hold about the relationship between Physical Education and the social and emotional development of students?

Definition of Terms:

In this thesis, the following terms will be used, based on the definitions given below:

- *Physical Education* relates specifically to the subject called Physical Education. In New Zealand the subject that incorporates Physical Education is called Health and Physical Education. However, in this thesis Health and Physical Education will be stated as Physical Education due to the health components of the curriculum being taught in other subjects at the school involved in this study. Other aspects similar to Physical Education will be described as physical activity, sport, or fitness.
 - *Physical activity* includes any action that a person participates in that involves bodily movement.
 - *Sport* refers to games where individuals or teams compete against one another.
 - *Fitness* is a component of Physical Education that involves completing exercises to stay healthy.
- *Hauora* is a word from the Māori language that embodies spiritual, mental and emotional, physical, and social well-being. Hauora and well-being, though not synonyms, share much common ground. Within Hauora are four categories that are mentioned below. These definitions have been taken and

adapted from the New Zealand Ministry of Education Te Kete Ipurangi website (New Zealand Ministry of Education, 2010):

- *Taha Tanana* refers to physical well-being and how the body moves, develops and grows.
- *Taha Hinengaro* refers to mental and emotional well-being and effectively expressing thoughts and feelings and using a clear thinking process.
- *Taha Whānau* refers to social well-being and relationships, interactions with others and the feeling of belonging.
- *Taha Wairua* refers to spiritual well-being, and the values and beliefs involved with personal meaning in life and identity.
- *Intermediate* refers to years seven and eight of the New Zealand schooling system.
- *Perceptions* in this thesis will refer to how students and teachers think and believe and the way that they view and understand things. Other words often associated with perceptions are attitudes, beliefs and conceptions, however perceptions is the term that will be used in this thesis.

Rationale:

Health and Physical Education is one of the subject areas that is required to be taught in every school in New Zealand (Ministry of Education, 2007). This is designed to help students develop in the psychomotor as well as the cognitive and affective domains. Health and Physical Education is the key learning area that gives students the most opportunity to develop in all three of these domain areas. The New Zealand curriculum document for Health and Physical Education states that one of the

fundamental concepts at the heart of this subject is that of Hauora (Ministry of Education, 2007). Hauora is a Māori word that represents the spiritual, mental and emotional, physical, and social well-being of individuals. Physical Education is therefore an important part of schooling and can be beneficial to students in many ways.

Unfortunately the curriculum in New Zealand is crowded and therefore many teachers are struggling to teach engaging lessons that align with the New Zealand Health and Physical Education Curriculum (Petrie, 2008). However, as this chapter will explain, there are certain aspects of Physical Education that are important in children's learning and cannot be overlooked by educators.

Physical Education is important in helping develop lifelong physical activity habits in children and adolescents (Pate, et al., 2006). Recent research has shown there has been an increase in the number of children in the United States of America who are overweight (Ogden, Flegal, Carroll, & Johnson, 2002). The high levels of obesity could however be changed through intervention at a young age (Togashi, et al., 2002). This provides a reason to encourage students to be as fit as possible as it can positively influence their health in later life.

Children are using and interacting with a large amount of technology and studies have shown that this may be causing attention difficulties in students (Johnson, Cohen, Kasen, & Brook, 2007; Laudhuis, Poulton, Welch, & Hancox, 2007). Further research has examined how students are affected by participating in Physical Education at school (Shephard, 1997; Bates, 2006; Mahar, et al., 2006; Morgan & Hansen, 2008; Sallis, et al., 1999). Most of this research investigates either the

cognitive effects, health related benefits, or issues resulting from school Physical Education (Morgan & Hansen, 2008; Bates, 2006)

The importance of the current research project is that it links our changing society to Physical Education. This study examines *how* students and teachers perceive Physical Education's effect on students and their learning. The results may affect the way Physical Education is timetabled into schools' programs, offer insights into behaviour management, provide possibilities for improving student concentration levels and uncover ways in which Physical Education can be taught so that it is more effective for the students involved. These perceived benefits may add to the health benefits students gain from exercising. This study therefore investigated the students' and teachers' perceptions of Physical Education and how they believe it impacts students and their learning.

Research Design:

This research was undertaken within the qualitative research paradigm, which provided the opportunity to investigate students' and teachers' perceptions of activities in the classroom and describe in detail what happened in each specific situation (Basil, 2010). O'Toole and Beckett (2010) state that "it is qualitative when they need to collect, interpret and make judgements about data that cannot be measured – such as what people say and do, and why". Denzin and Lincoln (2005) believe that qualitative research enables people to give their meaning to the setting in which they are surrounded. This investigation sought to understand student and teacher perceptions which would not be possible to measure only through the quantitative paradigm.

The data were collected in one intermediate classroom in a year seven to thirteen Seventh-day Adventist School in New Zealand. The majority of the data needed for this study were gathered by completing semi-structured interviews with both the classroom and Physical Education teacher, and five students (Drew, Hardman, & Hosp, 2008). To ensure the rigour of this research study, information was gathered from more than one individual to ensure triangulation occurred (Creswell, 2008).

Another method used to ensure the study was conducted with rigour was to not only gain data from more than one participant but to also triangulate the data collection methods (Creswell, 2008). This process of triangulation was important in the development of rich, meaningful data. Triangulation of the data collection methods was achieved by completing observations of classes, and administering a whole class questionnaire and a member checking survey of the five students. A questionnaire was used because it is a simple way to gain the perspectives of many respondents (Guba & Lincoln, 1981).

Observations were also conducted to gather data about Physical Education and how it affects students in other classes. Basit (2010) claims that observations are effective for examining student behaviour and learning in the classroom. The observations also provided a foundation for some of the semi-structured interview questions. The journals were planned to be an effective tool for recording the thoughts and feelings of the respondents (Lodico, Spaulding, & Voegtle, 2010). However, the data collected from the journals were minimal and irregular and therefore not used in this study. The research process was conducted from the perspective of emergent design (Patton, 2002), whereby aspects of the study changed as new information came to light and respondents shared their thoughts on the topic.

Background:

The way that Physical Education contributes to “children’s development, later lives and to society are multiple and diverse” (Penney & Chandler, 2000, p. 74). Many of the ways Physical Education can influence students have been explored in prior research (for example, Shephard, 1997; Morgan & Hansen, 2008; Mahar, et al., 2006; Benedict, 2010). Research completed in the field of Physical Education has focused on many different aspects such as the effects of Physical Education on academic progress or results (Shephard, 1997), the way Physical Education is currently being taught (Petrie, 2008; Petrie & Hunter, 2011), the effect of exercise on the brain (Jensen, 2008) and the overall effectiveness of Physical Education (Morgan & Hansen, 2008). These observations on the effect of Physical Education provide a connection to this research project and a foundation for the development of further research. Each study that is mentioned above examines a topic that relates to school Physical Education or other physical activity in children or adolescents. Student and teacher perceptions of Physical Education will therefore be explored in this research study in relation to topics that have already been researched.

Physical activity is important and children and adolescents can gain many health benefits as a result of living an active lifestyle. These benefits include higher levels of cardiorespiratory fitness, stronger muscles, stronger bones, the possibility of lower body fat and reduced symptoms of anxiety and depression (U.S. Department of Health and Human Service, 2008). Pangrazi (2007) states that many adults perceive the health benefits associated with regular exercise and adapt their lifestyles accordingly. Unfortunately this enthusiasm for fitness has not always filtered down to a primary school level (Pangrazi, 2007).

Although Physical Education can positively influence a child in regards to their health, it can also affect children in many other ways. Research completed by Beltrán-Carrillo, Devís-Devís, Peiró-Velert, and Brown (2012) examined the effect that competitive sport and Physical Education had on adolescents in schools in Spain. Their findings present negative issues such as a decrease in self-esteem caused by competitiveness that can lead to an increase in inactivity in students who participate in competitive sport and performance based Physical Education lessons. Negative experiences could include rejection, scorn or harassment from other students or teachers/coaches (Beltrán-Carrillo et al., 2012) which could lead to possible self-esteem issues. Although this study refers largely to youth sport, the authors state that these self-esteem issues could also apply to Physical Education. Some of these negative perceptions about competitive sport may also affect the way that school Physical Education is viewed by both parents/caregivers and students. Shields and Bredemeier (1995) state however, that there is a significant difference between Physical Education and competitive sport and that these are two separate areas. Shields and Bredemeier (1995) add that Physical Education programs should be less formal and designed in a way that takes the focus off competition.

Although there has been a substantial amount of quantitative research completed that examines various issues and advantages in the field of Physical Education, there has been little research that examines the students' *perceptions* on their learning in relation to Physical Education (Mahar, et al., 2006). It is crucial to examine the needs and views of the students so that appropriate Physical Education programs can be developed (Benedict, 2010). This can be completed successfully by asking the students about their perceptions through qualitative research methods. This study

therefore investigated the students' and teachers' perceptions of Physical Education and how they believe it impacts on students and their learning.

Bias and Assumptions:

As stated in the prologue, the researcher believes that overall, Physical Education can positively influence students. The study will however, seek to uncover the perceptions of students and teachers towards Physical Education and both the positive and negative perceived effects that the subject may have on students in a variety of areas.

Limits:

There are some aspects of this study that may limit its effectiveness. This study was undertaken in just one classroom in one school. Although sixteen students contributed to the study by providing responses to questions, only five students were interviewed due to time constraints during the data collection process and due to the nature of the honours research study program. It should also be noted that the opinions of the participants involved in this study may not be the same as those of other students or teachers. The study will, however, provide an insight into the topic and produce findings which other researchers may see as being applicable to other schools and classes.

Structure of the Thesis:

This thesis includes six specific chapters that each focus on different aspects of this research project. Each chapter is linked to a section of a Physical Education lesson. Each chapter and its link to a Physical Education lesson are now outlined.

Chapter One: Introduction – *Warm-up Activity*:

- A warm-up activity in a Physical Education lesson gives the students the chance to get prepared for the rest of the lesson. This chapter provides an overview of the research topic and explains its significance, preparing the reader for the rest of the thesis.

Chapter Two: Review of Literature – *Link to Prior Learning*:

- A teacher should also provide a link to prior learning when teaching a Physical Education lesson. This allows the students to see why the learning is important and how it relates to what they have been taught. Just as reasons for teaching are given to students, Chapter Two provides reasons for completing the research. Chapter Two examines and evaluates the current literature that is available in the area of Physical Education and its effect on students and their learning. This literature therefore will provide a link to this study.

Chapter Three: Methodology – *Teacher Demonstration and Explanation*:

- A good Physical Education teaching tactic is to explain and then demonstrate exactly how a certain skill is performed. Chapter Three clearly outlines the methods that were used during the data collection and analysis process. Chapter Three also explains why the particular methods

used in this research were selected. The demonstrations and explanations in Chapter Three are comparable to how a teacher will demonstrate and explain concepts and skills during Physical Education.

Chapter Four: Results – *Practising the Skill:*

- In Physical Education students should be given the opportunity to practise the skills they have been taught. This could be completed individually, with a partner or in groups. The teacher will give their thoughts, feelings or advice to the students when needed. In a similar way, Chapter Four will outline the results that were found after collecting and analysing the data. Chapter Four shows a detailed record of the data that was collected and an analysis of this data.

Chapter Five: Discussion – *Applying the Skill:*

- It is important that the students are given the opportunity to apply the skills they have learnt in a game or activity. This also provides the students with the opportunity to reflect on what they have learnt and how it is applicable to the game or activity they are participating in. In a similar way, Chapter Five is where the findings from the data analyses process are discussed and their implications considered.

Chapter Six: Conclusion – *Lesson Summary:*

- Teachers should always conclude a Physical Education lesson by reviewing the content learnt and informing the class of what will be taught during the next lesson. Chapter Six will therefore provide a summary of the research study covering the main points that have been

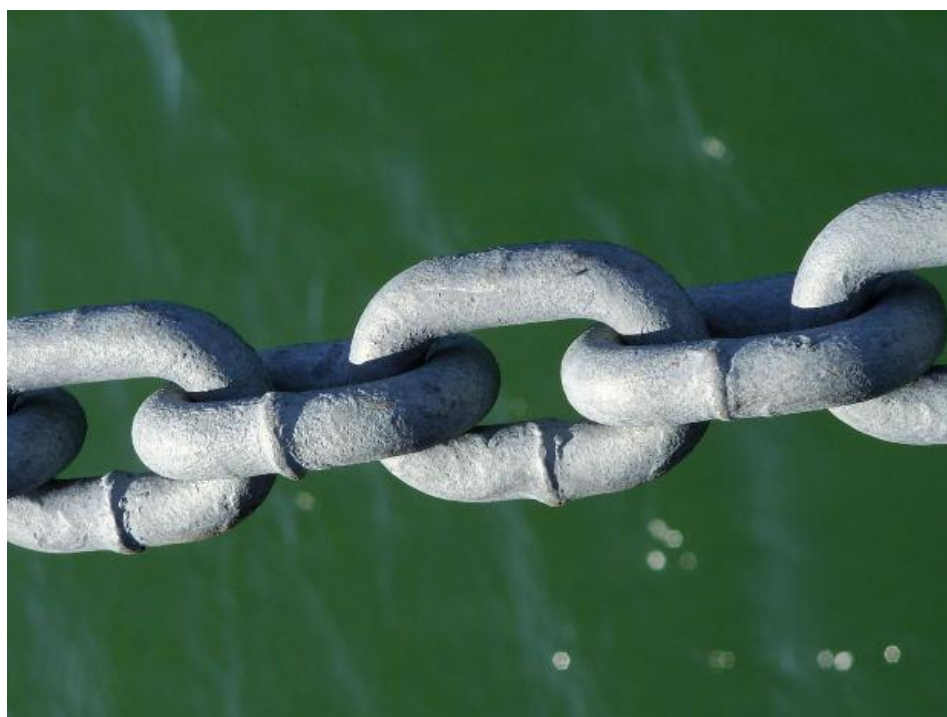
discussed in this thesis. Chapter Six also identifies practical ways in which the results of the study can be used in the classroom and what further research can be undertaken to expand upon this study.

Conclusion

This chapter has provided an overview of the current research. The research question has been explained and expanded upon through the sub-questions. The research seeks to answer the question “what are the perceptions of students and teachers in one year seven and eight class towards Physical Education and its effect on the students and their learning at one school?” The research question and sub-questions have been linked to the background research which provided reasons why this research is being completed. Such reasons include gaining the perceptions of students and teacher towards Physical Education’s effect on students learning, physical well-being and overall development. This overview of the research study leads into the next chapter which will further investigate research and literature that has been completed in the area of Physical Education and how Physical Education is perceived.

Chapter Two: Review of Literature – Link to Prior

Learning



Physical Education lessons should contain a link to prior learning. Such a link gives the students the opportunity to understand why the lesson is important and how it relates to previous lessons. The metaphor of a link to prior learning is similar to the content of the current chapter. This chapter will examine and evaluate the literature that is currently available in the area of Physical Education. The literature therefore will provide a link to this study.

A range of relevant literature was investigated to provide a greater understanding of the topic of Physical Education and students' and teachers' perceptions of Physical Education. The literature that was examined in this study was primarily used to provide background information about previous research that informs our current knowledge about this research question:

“What are the perceptions of students and teachers in one year seven and eight class towards Physical Education and its effect on students and their learning at one school?”

Introduction

Educators are continually looking for ways to improve the way students learn. One area that has been studied in an attempt to find out more about how students learn is that of Physical Education. Many aspects of Physical Education have been examined with each offering various positive and negative results that provide information to help educators best understand their students (Shephard, 1997; Mahar, et al., 2006). However, the amount of Physical Education being taught is dwindling in many schools as extra time is afforded to other academic subjects (Hillman, Erickson, & Kramer, 2008).

It is important to not only consider what is being taught in Physical Education in schools, but also the perceptions students have towards this subject. The reason it is so crucial to consider the attitudes and perceptions students have towards Physical Education is that the “students' attitudes to PE may influence their participation in PE at school as well as organized sports outside school” (Kjønniksen, Fjøltoft, & Wold, 2009, p. 149). The perceptions a person has on a topic can influence what they

do. Groves and Welsh (2010) say that traditionally the opinions students have about learning have been overlooked. However, this has recently been changing and more research has been completed that examines students' views or attitudes. This research examined the perceptions of students and teachers about how Physical Education is both taught and received.

Holistic Learning in Physical Education

Physical Education is a broad topic that contains many diverse components.

Research has been undertaken in many sub-categories of Physical Education. These include Physical Education in relation to cognitive development (Shephard, 1997), the health benefits of physical activity (Pangrazi, 2007), the effects of competitive sport (Beltrán-Carrillo, et al., 2012), how Physical Education affects children's self-esteem (Dwyer, Sallis, Blizzard, Lazarus, & Dean, 2001), how students' behaviour is linked to their academic performance in the classroom due to Physical Education (Trudeau & Shephard, 2008) and Physical Education Curriculum developments (Petrie, 2008; Petrie & Hunter, 2011; Penney, 2008). However, minimal research has been undertaken regarding how Physical Education may affect the attention span and behaviour of students (Mahar, et al., 2006).

There has also been research that examines students' attitudes towards Physical Education however this has largely been completed with college and secondary school students while very little research has been conducted with middle [intermediate] school students (Krouscas, 1999). There is currently a gap in researching techniques whereby very few studies consider *both* teachers' and students' voices (Forrester-Jones, 2003). This underlines the importance of

conducting a study that investigates both the students' and teachers' perceptions of Physical Education.

The primary goal of schools is to positively influence their students' mental, social, and physical development. Some schools also aim to enhance their students' spiritual development. Students generally develop socially by being in a caring school community and spending time interacting with fellow students as well as their teachers (Weissberg & O'Brien, 2004). These relationships can be developed in addition to the specified learning topics and can be integrated into whole school learning. The New Zealand Curriculum specifies eight learning areas: English, The Arts, Health and Physical Education, Learning Languages, Mathematics and Statistics, Science, Social Sciences, and Technology (Ministry of Education, 2007). The majority of these subjects guide teachers to focus their teaching time on trying to develop students cognitively. This traditional view of education is expanded upon by Sather (2011, p. 5):

The main focus during the school day is the development of the mind through traditional subjects like mathematics, English and science. Under this persisting model, children sit passively at their desks attempting to develop their minds and reasoning capacity while ignoring the needs of their bodies.

Therefore, the psychomotor or physical component of children's learning often tends to be overlooked (Trost, 2007). Traditionally cognitive learning has been prioritised above that of psychomotor learning (Penney, 2008). The idea of ignoring physical activity in education does not comply with the holistic wellness view of education where people should be developing socially, physically, spiritually, environmentally, intellectually, emotionally, and occupationally (Sather, 2011). Some students and parents have the perception that replacing cognitive learning with physical learning can have a detrimental effect on a child's cognitive development (Shephard, 1997;

Trost, 2007). Research has been conducted that explores the effects of Physical Education on student learning (Bates, 2006; Coe, Pivarnik, Womack, Reeves, & Malina, 2006; Dwyer, et al., 2001; Mahar, et al., 2006; Morgan & Hansen, 2008; Sallis, et al., 1999; Shephard, 1997; Trudeau & Shephard, 2008). Some of these studies also provide brief insights into how Physical Education may affect student behaviour (Shephard, 1997, p. 122). Because Physical Education can affect student behaviour, this may mean that it can also have an influence on the way students learn or their tendency to remain focused during classroom lessons.

Health Benefits and Physical Considerations

Physical activity and exercise are known to aid overall health in both children and adults. Physical Education is a method used for improving fitness which can help counter current trends towards obesity and inactive behaviours in children (Morgan & Hansen, 2008). “Obesity is just one of many health issues that a comprehensive HPE [Health and Physical Education] curriculum will engage with from an educational perspective” (Emmel & Penney, 2010, p. 37). Although the research by Emmel and Penney (2010) was completed in an Australian context, it is also applicable to the New Zealand system. The health benefits associated with Physical Education are a major reason why teachers believe this subject is taught in schools (Morgan & Hansen, 2008).

Obesity Problems

Issues with children who are overweight and obese are major concerns within society. The percentage of children who are deemed overweight has increased recently (Ogden, et al., 2002). Ogden et al. (2002) explain that a lack of both physical exercise and a healthy diet are contributing to this increase. Therefore, it

would be fair to reason that an increase in child physical activity could lead to a decrease in child obesity. Teachers play an important role in helping students be healthy by providing them with opportunities to be physically active by participating in Physical Education sessions (Mahar, et al., 2006). What students currently think about Physical Education must be considered to determine how this subject is influencing child obesity levels. “Based on national concerns over obesity and activity levels, student perceptions of their physical education experience should be of concern as well” (Benedict, 2010, p. 52).

Repercussions for Adults

Physical activity and exercise habits developed during childhood have a strong influence on the activity levels we have as adults (Shephard, 1997). There is also the likelihood that a high level of physical activity as a child could lead to positive health results as an adult (Bates, 2006). These benefits include “reduced risks of obesity, cardiovascular disease, diabetes and osteoporosis” (Bates, 2006, p. 11). With these positive outcomes in mind, it is paramount that children engage in sufficient physical activity to ensure they remain healthy not only as children, but also to provide a platform for remaining healthy as adults. One of the easiest ways to make sure that every child at least has the chance to exercise regularly is for schools to provide a range of opportunities for their students to exercise and therefore stay healthy (Kahan, 2008). Schools therefore have an important role to play in helping students develop healthy fitness habits. Although there are significant health benefits connected with the teaching of Physical Education, there are also other aspects to consider including student behavioural changes. Some of these behavioural changes are now explored.

Attention Span and On-task Behaviour

A significant amount of research has been conducted (Bates, 2006; Coe, et al., 2006; Dwyer, et al., 2001; Morgan & Hansen, 2008; Shephard, 1997; Trudeau & Shephard, 2008) that examines the effect Physical Education and physical activity have on students; however there is less literature available regarding the effect Physical Education has on students' behaviour (Mahar, et al., 2006). There may be certain connections between how students behave and the rate at which they learn. Coe et al. (2006) suggest that the reason students improve academically as a result of physical activity may be a product of reduced boredom and therefore increased concentration and attention span. Another reason for changes in student behaviour could be that physical activity has a relaxing effect on children which allows them to concentrate for a greater period of time (Dwyer, et al., 2001). Physical Education also provides more active students with the opportunity to release energy (Morgan & Hansen, 2008). These explanations provide evidence as to why students are able to perform better academically after completing Physical Education (Dwyer, et al., 2001). This evidence could provide the vital link as to *why* physical education changes the way students learn.

Physical activity may have different effects on students' concentration depending on the year level being evaluated. One study showed that year four students increased their concentration levels following a 15 minute physical activity session; however there was no effect on the concentration of year two and year three students (Trost, 2009). These findings indicate that the concentration of the younger students in the study was less influenced by physical activity than the older students in the study.

Student behaviour improves when there is a higher level of physical activity during a school day (Mahar, et al., 2006). This is confirmed by Morgan and Hansen (2008) who say that a lack of Physical Education in the day can also cause an increase in behavioural problems in the classroom. The anticipation of Physical Education may induce hyperactivity in students and therefore negate the positive changes in behaviour at the conclusion of the Physical Education lesson. However, this is not always the case. A study by Mahar et al. (2006) discovered that on-task behaviour did not differ prior to a physical activity session. This finding is reinforced by another study which found that students' behaviour did not differ before recess (a short break from classes) even if they were unsure if they would be having recess on that particular day (Jarrett, et al., 1998). This suggests that the anticipation of physical activity does not necessarily distract students from their work.

All of these reasons provide a link between Physical Education and attention span. This also may explain why Physical Education has an effect on students' academic learning. Not only are students more likely to be on-task after completing a Physical Education lesson but they are also more likely to be able to recall information learnt during following lessons (Morgan & Hansen, 2008). Furthermore, students' and teachers' perceptions of Physical Education and how it impacts on behaviour and attention span also requires investigation.

Brain Breaks

The research that has been examined above connects Physical Education to attention span. These benefits can be increased by integrating movement into teaching sessions. Students who are showing signs of drowsiness or tiredness can move about by stretching or marching; this can help the students refocus on the current learning task (Jensen, 2008). This in-class movement could be implemented either as a

learning activity (integration) or as a brain break. Studies have shown that when students are given the opportunity to move about during a break in classes, they tend to show a higher level of on-task behaviour (Trost, 2007). Therefore, to increase student attention, breaks in learning could be used as a convenient alternative to a full Physical Education lesson.

Positive Social Gains and Increasing Self-Esteem

Not only does Physical Education have an effect on students for health reasons and in terms of attention and behaviour, but it can also affect them emotionally and socially. The self-concept of an individual is shaped from their relationships and interactions with others (Delcourt, Cornell, & Goldberg, 2007). The self-concept and self-esteem of students can be strongly influenced by fellow students and teachers. Several reasons for why Physical Education may impact on a student's academic achievement have been discussed. Shephard (1997) offers an alternative reason as to why the students participating in experimental Physical Education classes showed academic growth. He suggested that this development may be linked with a change in attitude of the participants. Both Shephard (1997) and Dwyer et al. (2001) agree that there may be a positive link between physical activity and self-esteem in children. They go on to say that this could have an effect on students' behaviour, and high self-esteem may give students a greater desire to learn. Physical Education provides the opportunity for some students who are not academically able to excel in another area. This can give these students an important boost in confidence and improve their self-esteem (Morgan & Hansen, 2008). This could also provide a link as to why students achieve higher academically as a result of Physical Education. Physical Education may enhance general wellbeing which could in turn help

struggling students improve in the classroom (Morgan & Hansen, 2008). Physical Education has also been shown to not only effect students' self-esteem but also their character. Shields and Bredemeier (1995), state that Physical Education is the greatest form of physical activity for developing moral character. This statement reinforces the concept that Physical Education can influence students in a variety of ways. It is also worth considering how moral character developed in Physical Education is connected to the social component that is influencing students' self-esteem.

Physical Education in Comparison to Fitness and Competitive Sport

Many Physical Education programs include a high number of competitive games and activities (Bernstein, Phillips, & Silverman, 2011). These competitive situations that students are placed in can be of benefit to some students and yet detrimental to others. Physical Education programs should be designed in a way that is less formal and not competitively orientated to ensure equity is shown to all students (Shields & Bredemeier, 1995). Physical Education and sport are sometimes used as synonyms in the educational environment; this is known as The Substitution Model (Pope, 2011). Students that participate in performance and competition focused Physical Education classes are more likely to be subject to negative Physical Education experiences (Beltrán-Carrillo, et al., 2012). This is especially likely to happen to students who are less physically inclined. The Versus Model states that although Physical Education and sport are related, they cannot be substituted because Physical Education provides less-capable students with the opportunity to participate without the competitive component that sport provides (Pope, 2011). The Reinforcement Model and The Sequence Model are similar in that they both link Physical Education and sport

together; but they are different in the way they emphasise sport or Physical Education. The former states that games and sport are a significant part of Physical Education when taught in an inclusive manner by the teacher; the latter states that Physical Education should provide the building blocks so that students can grow physically to succeed in sport (Pope, 2011). These models that have been mentioned demonstrate the variety of ways in which people view Physical Education.

A study that examined the perceptions young women have towards Physical Education showed that young women are more likely to be involved in physical activity than traditional sport (Flintoff & Scraton, 2001). This shows that to maintain the interest of females in Physical Education, a focus on sport should not dominate Physical Education. However, the link between Physical Education and competitive sport is unavoidable. The teacher must listen to their students to determine their different aspirations and motivation levels (Flintoff & Scraton, 2001). To ensure that all students are given the opportunity to exercise and gain the benefits of Physical Education, regardless of their athletic ability, Physical Education should be taught in a way that focuses on learning movement skills and promoting fitness. By teaching Physical Education in this manner a less competitive environment will be created where every student feels comfortable learning and exercising.

Concentration Problems due to Technology

Developing strategies to ensure students remain focused during learning sessions is becoming increasingly important for educators. Research has been conducted that shows that various interactions with technology are negatively affecting students' concentration levels in the classroom (Johnson, et al., 2007). The watching of television by children can be linked with an increase in attention problems (Laudhuis

et al., 2007; Johnson, et al., 2007). This may be because “in contrast to the pace with which real life unfolds and is experienced by young children, television can portray rapidly changing images, scenery, and events” (Christakis, Zimmerman, DiGiuseppe, & McCarty, 2004, p. 708). To add to this, there is the concept that “excessively bright, fast-moving, and flickering visual displays can have inhibitory and suppressive effects” (Kumari & Simerpreet, 2010, p. 173).

The watching of television during adolescence can be linked to consequences that include attention difficulties, failure to complete homework tasks, frequent boredom at school, failure to complete high-school, low grades and negative attitudes toward school (Johnson, et al., 2007). The content of the television program may also have differing effects on the level of potential attention problems. There is the possibility that “educational television may differ from non-educational television in terms of pacing or violent content or other features” (Swing, Gentile, Anderson, & Walsh, 2012, p. 219).

Video gaming (also known as electronic gaming) (Swing, et al., 2012) and computer use (Kumari & Simerpreet, 2010) can also negatively affect students’ levels of attention. The age at which people watch television or play the video games does not have any relation to the amount their attention may be affected (Swing, et al., 2012). An alternative explanation as to why children are affected so heavily by technology is that the time spent using technology is removed from other more beneficial activities such as reading that is thought to stimulate creativity (Kumari & Simerpreet, 2010). The fact that the attention span of children is decreasing due to over-stimulation by technological devices such as television, video games and computers could lead to teachers finding it increasingly difficult to keep students focused in the classroom.

Curriculum and Teaching Pedagogy

Curriculum documents are used as a vehicle for governments and policy makers to influence the way education is administered in a school environment. These curriculum documents provide guidelines for teachers to assist in the preparation of classroom programs. Certain subjects must be taught in all schools. Physical Education is just one of these subjects and school administrators and teachers often struggle to suitably incorporate it into a classroom timetable. There are growing pressures on teachers and schools to ensure students reach specified standards in academic areas which can often lead to Physical Education being overlooked and replaced with extra academic teaching time (Mahar, et al., 2006).

There is flexibility within the New Zealand school system to allow the staff in individual schools to decide upon the amount of time that is spent teaching each subject (International Review of Curriculum and Assessment Frameworks, 2002). This means that there is an inclination for school administrators or teachers to include more academic teaching time to raise the academic profile of the school. This has created a gap between Physical Education and other seemingly more important subjects (Penney, 2008). Many primary school teachers believe that the curriculum is overcrowded which makes it difficult to teach all the required subjects effectively (Jones, Harlow, & Cowie, 2004). What is required to be taught in schools is constantly in the spotlight. Many groups with an interest in education – such as various government departments and educational authorities –each have their own agenda with regards to many areas ranging from expanded curricula activities to more streamlined learning programs (Petrie & Hunter, 2011).

Curriculum and syllabus documents are designed to show teachers and schools how each subject should be taught. Despite this, one study has shown that some primary teachers do not actively use the New Zealand Health and Physical Education Curriculum (Petrie, 2008). The positive outcomes that are achieved as a result of Physical Education must be clearly documented and made available to policy makers to ensure this subject remains a critical part of every child's education (Mahar, et al., 2006).

Cognitive Advantages and Academic Improvements

There are two main study methods that have been used to examine the effect Physical Education has on academic performance. Shephard (1997) lists these as cross-sectional studies and longitudinal studies. One cross-sectional study undertaken from 2004 to 2005 showed that students who passed more fitness tests during Physical Education also outperformed their classmates in Mathematics and English tests (Trost, 2009). Trudeau and Shephard (2008) state that in the findings of most cross-sectional studies, a positive relationship between physical activity and academic achievement is identified. However, these studies are unable to prove whether or not the high achievement level during Physical Education is a reason why the students also achieve well in other subjects (Shephard, 1997). The only detail proven by these studies is that students who have high Physical Education achievement also perform highly in other intellectual subjects. Longitudinal studies are able to portray a clearer picture of the effects Physical Education has on academic achievement.

There are three quantitative longitudinal studies that are noted as being at the forefront of Physical Education research in regards to how a change in Physical

Education program affects student academic achievement. These studies took place in France, Australia and Canada and all have varying results (Shephard, 1997). Each study was undertaken in a different manner using a range of variables to measure the effects of each Physical Education program.

The first relevant study into the effects of Physical Education was undertaken in Vanves, France, in 1950. This study was completed in only one school, using two groups of students (Shephard, 1997). Shephard (1997) goes on to list the particulars of the study. There was one control group and one experimental group. The experimental group participated in a modified program that consisted of extra school hours, two siestas, limiting academic tuition to mornings, taking regular vitamin supplements and spending afternoons participating in a wide range of physical activities (Shephard, 1997).

The second study was completed in Trois-Rivières in Canada between 1970 and 1977 and involved 546 primary school students. Students in the experimental program participated in five hours of Physical Education per week as opposed to the control students who only participated in the regular forty minutes per week. The extra time created for Physical Education was taken away from other academic subjects (Trudeau & Shephard, 2008).

The Australian study was conducted in seven different schools in Adelaide and consisted of over 500 ten year-old students (Trudeau & Shephard, 2008). This program contained two experimental groups plus one control group. Both experimental groups spent 75 minutes per day participating in Physical Education however each group had differing focuses. One group played games that were

designed to raise the heart-rate of the participants while the other group emphasised learning new skills (Shephard, 1997).

Each study presented various findings related to Physical Education. The results from the French study showed that the students participating in the experimental program academically outperformed the students from the control group. However, no further details were given as to how the results were collected (Trudeau & Shephard, 2008). Although this study was pioneering in this field and adds weight to the argument that Physical Education may enhance academic learning, it was unable to show which exact aspect of the alternative Physical Education program was really affecting students' learning (Trudeau & Shephard, 2008). The study did however provide a platform on which other research has been developed.

The Canadian research showed that students receiving extra Physical Education academically outperformed those in the control group (Coe, et al., 2006). Trudeau and Shephard (2008) add that the students in the experimental group had higher mathematics scores during provincial exams however their English (their second language) scores were lower than that of the control groups. The Australian study indicated that each group – the two experimental groups plus the control group – displayed differing results in the variety of curricular areas (Shephard, 1997). Both the Canadian and Australian studies suggest that Physical Education may affect students' abilities in various subject areas differently. While unable to provide clear answers about the effect of Physical Education, these studies have led the way in the research into Physical Education. All of these studies were able to show that physical activity can be helpful in improving student academic performance.

Other researchers have also determined that there are certain cognitive advantages associated with physical activity. Jensen (2008, p. 38) says that “aerobic exercise improves thinking and learning because of its ability to trigger a fast adrenaline-noradrenaline response, which is critical to facing and coping with challenges.”

Shephard (1997) suggests that replacing 45 minutes of classwork a day with physical activity can increase scores on mathematics tests.

Research was conducted in the 1990s that examined the effects Physical Education has on students (Sallis, et al., 1999). In the study completed by Sallis et al. (1999), a health related Physical Education program was examined using three groups. The students involved in the study were aged between five and eleven. One group was taught by specialist teachers, another by their usual classroom teacher who had been trained to teach the new curriculum and the final group was a control group (Sallis, et al., 1999). This study showed that there were some greater academic improvements in the two groups that completed extra Physical Education than the control group.

Other studies suggest that having a break between classes can have a positive effect on students’ academic performance or attention span (Sallis, et al., 1999). Sallis, et al. (1999) reflect on the work of Shephard (1997) by saying that physical activity could positively influence students’ attention span in the classroom. Shephard (1997, p. 119) explains that this may occur due to “an increase of cerebral blood flow, an alteration of arousal and associated neurohormonal balance, an enhanced nutritional status, or a stimulation of growth in the inter-neuronal connections.” This suggests that, from a biological viewpoint, Physical Education may have a positive influence on students’ attention span in the classroom. These considerations contribute to the basis for this study.

Shephard (1997) suggests that there is the possibility that teacher bias has affected results of the completed studies. In the Canadian study, teachers were responsible for awarding student grades. Eighty percent of the teachers involved in the study were in favour of the experimental program (Shephard, 1997). This creates the possibility that teachers subconsciously gave students involved in the experimental Physical Education program higher grades as they believed it was benefitting the students. It is therefore important to determine the effect teachers believe Physical Education has on students, which will be considered in the current research study.

The Effect of Exercise on the Brain

Another suggestion has been made as to why physical activity may affect academic performance, this time on a biological level. Research has been completed in this area that indicates that blood flow to the brain increases during a spell of physical activity (Dwyer, et al., 2001). More recent neuroimaging technology has shown that exercise can lead to an alteration in brain structure and function that can be beneficial to student learning (Hillman, et al., 2008). Jensen (2008) agrees that Physical activity can increase the blood flow to the brain as by causing an increase in blood circulation within the body. This could lead to an increase in thinking ability which could benefit the performance of students in the classroom (Hillman, et al., 2008). This area of research is very current and it is beginning to become clear that physical activity is strongly linked to changes in the human brain.

Development of Further Research

The research that has already been completed partially determines the effects Physical Education and activity have on students' academic performance levels.

More research into how Physical Education impacts students and their learning needs to be completed however to further determine the effect Physical Education is having. Hillman et al. (2008, p. 58) encapsulate this effectively in the following quote:

Despite the fact that children in industrialized countries are growing increasingly unfit and unhealthy owing, in part, to the comforts of technological advancements, the investigation of the effects of physical activity on cognitive health during development has received surprisingly little attention.

Even though there is only a small amount of research connecting Physical Education to cognitive performance, there is even less research that examines the effect Physical Education has on student behaviour. More research is needed that analyses the effect Physical Education has on the way that students learn (Mahar, et al., 2006). Further research will also provide more precise reasons as to *why* Physical Education is able to successfully contribute to student learning (Bailey, 2006).

Most of the previously completed research appears to be quantitative. Completing a qualitative study will provide a greater understanding of the reasons why students learn differently after participating in Physical Education. Greater exploration of how of Physical Education affects student behaviour in the classroom could provide the link between physical activity and academic success.

There is the need for research that examines students' perceptions towards Physical Education. Krouscas (1999) states that very little research has been conducted with middle school [intermediate] students that examines the attitudes or perceptions of students towards Physical Education. Very few research studies consider both teachers' and students' voices (Forrester-Jones, 2003), which gives this research study a unique quality. The research examined throughout this literature review

indicates it is important to conduct a study that investigates both the students' and teachers' perceptions of Physical Education.

Conclusion

Having considered the research that has been undertaken in this area, it has become clear that in the majority of cases, the inclusion of Physical Education in the school program, does not negatively affect academic achievement. Many cases have shown that Physical Education has had a positive impact on students and has helped them to achieve highly in other academic areas. Suggestions have been made as to why this occurs including biological reasoning and increases in self-esteem. Physical Education can also enhance student attention span and concentration levels in the classroom. Research has been able to show that Physical Education still has an important part to play in education and may even improve students' learning potential.

This research study will analyse the perceptions students and teachers have towards Physical Education and how they believe that this subject is affecting students and their learning. The findings of this research will indicate whether the perceived influence of Physical Education on students is comparable to the findings of past research studies. The methods that were used to gain an understanding of students' and teachers' perceptions in this research study are explained in the next chapter.

Chapter Three: Methodology – Teacher

Demonstration and Explanation



An important aspect of teaching a Physical Education lesson is for the teacher to model and exhibit the particular skill being taught. The Physical Education teacher will often explain and then demonstrate a certain skill to show the students the correct method or technique. In a similar way, this chapter will explain and display the methods that were used to complete this research study. Chapter Three will also explain why these particular approaches were used in this research.

The methodology used in this study was designed so that evidence of the conclusions that are drawn from the data could be provided. Methods were chosen that would best enable the following research question to be answered:

“What are the perceptions of students and teachers in one year seven and eight class towards Physical Education and its effect on students and their learning at one school?”

Introduction

This research study has been designed to qualitatively analyse *perceptions* of the effect Physical Education has on students and the way they learn. The use of the word *perceptions* in the question lends itself to the qualitative paradigm because to determine someone’s perceptions, they must be asked how they feel or what they believe. Many methodological aspects including both qualitative and quantitative approaches were considered prior to and during this study to ensure the results of this research project were meaningful and trustworthy. This chapter will outline the audit trail that shows how this study was undertaken.

Question Development

The research question that has driven this study has changed and developed over time through the process of emergent design. Subsequently, methods have been adapted throughout the process to better represent the situation being studied (Lodico et al., 2010). After originally planning to undertake an alternative Physical Education program and then analyse the resulting effects on student learning, it was decided to change to the current question which is focused on students’ and teachers’

perceptions of the effects of Physical Education on students and their learning. There were many reasons why this change was made. The new question provided the opportunity for a more qualitative approach and it allowed the participants to share more of their feelings and perceptions toward the topic. It was also adapted so that there was no significant change to the natural setting. The natural setting is altered when the teacher must change the classroom program to see what effect a variable has on the way students learn (Lichtman, 2010). The change in research question also gave the opportunity to focus more intensely on the perceptions of the students and teachers towards the current program. This emphasis is of greater use as it enabled the study to provide suggestions to not only the school where the research is taking place, but also possibly to other schools.

Ethics

Ethical and moral considerations have become an important aspect of educational research. Ethical concerns must be considered throughout every aspect of a research study (Basit, 2010). One difficulty that can be faced by researchers is that they must find equilibrium between the strains placed on them to find truth and the rights of their participants that can be affected by the research (Cohen, Manion, & Morrison, 2000). To ensure the safety and welfare of all those involved in the study, researchers must gain ethical permission from a governing body. This research project has received clearance for completion from the Human Research Ethics Committee at Avondale College of Higher Education (Appendix 1: Approval Letter from the Avondale College of Higher Education Human Research Ethics Committee). The ethics consent form explained that the participants would all be given pseudonyms to

ensure they remained anonymous. It was also documented in the ethics consent form that the all data would be stored in a secure location.

When conducting research, it is important to approach each participant in a professional and ethical manner (Punch, 2009). The process of gaining ethics clearance involved submitting information how about the data would be collected as well as submitting consent forms and information sheets. This process was explained in full in the Ethics Clearance Form (Appendix 2: Phases of Research from Ethics Clearance Form). Permission for the school to be involved in the research had to be gained from the principal of the school on the school's behalf to gain legal and ethical clearance (Appendix 3: Principal Consent Form). Consent forms were signed by the researcher and then given to both the classroom teacher and principal for checking before being distributed to the students to ensure that the process was professionally managed. The consent forms were then supplied to all participants to sign to ensure they understood that their inclusion in the study was voluntary, that they had received information about the research and understood any associated risks (Lodico, et al., 2010). The participants were also informed that they could withdraw from the study at any time without any consequences. All of these factors were addressed in the information sheet (Appendix 4: Participant Information Sheet) and consent form (Appendix 5: Participant Consent Form) and only students that completed the consent form were allowed to participate in the study.

Paradigm and Research Design

The nature of the question, which was focused on students' and teachers' perceptions, led to the decision to examine the topic using the qualitative paradigm. Creswell (2008, p. 46) states:

Qualitative research is a type of educational research in which the researcher relies on the views of participants, asks broad, general questions, collects data consisting largely of words (or text) from participants, describes and analyses these words for themes, and conducts the inquiry in a subjective biased manner.

Qualitative research provided the opportunity to examine the views of the participants and gain their insights and opinions on Physical Education and its effect on students and their learning. Basit (2010) says that qualitative research is effective for evaluating the social world and consequently allows the researcher to analyse the perceptions of an individual. This study therefore qualitatively analysed the perceived effect of physical education on the students in one class from the perspective of the students, their classroom teacher and their Physical Education teacher. The study enabled the researcher to gather data about his perceptions of the participants views of Physical Education. The researcher also examined how students participated in classroom activities and how they concentrated on the current task prior to, and after completing a Physical Education lesson. This was achieved by completing classroom observations.

The research was founded on a holistic view of Physical Education. A holistic account “involves reporting multiple perspectives, identifying the many factors involved in a situation, and generally sketching the larger picture that emerges” (Creswell, 2009, p. 176). The study investigated how students and teachers perceived the impact of Physical Education on students and their learning. A holistic view of Physical Education is essentially what Hauora is. By investigating the holistic outcomes of Physical Education, it ensured that not only the physical impacts were considered, but also the mental and emotion, social, and spiritual impacts. These components are all included within the concept of Hauora (Ministry of Education, 2007).

Natural Setting

When interpreting the results of a research project and the methods that were used to collect data, it is important to consider the setting in which the research has been completed. The research described in this thesis was conducted within a school environment. Qualitative research usually occurs in environments that already exist rather than environments which are created specifically for research purposes (Lichtman, 2010). When an event is not created for the purpose of research or investigation or when no significant changes are made to a program, the research method is considered to be a natural treatment (Kidder & Judd, 1986). As no changes were made to the school program and no specific event was established for the purpose of the research, this study was carried out within the natural setting and conducted with natural treatment. By completing the research within the boundaries of a natural setting, the researcher was given the opportunity to spend a significant amount of time in close interaction with the student and teacher participants (Creswell, 2009).

The setting description should include information about the organisation in which the data is being collected and information about the values of the groups within that larger setting (Guba & Lincoln, 1981). To comprehensively understand how the data were collected and analysed, some facts about the setting should be noted. The data for this research study were collected at one Seventh-day Adventist School in New Zealand. The Seventh-day Adventist Schools System in New Zealand is operated within the bounds of the New Zealand Integrated School System. Integrated schools in New Zealand must show a special character (something that makes the school unique to other state schools). The school in this research study shows a special character in that it is a Seventh-day Adventist Christian School. Teachers at these

schools have their salaries paid by the New Zealand Government; however the school property is owned and managed by the proprietors.

This school is set in a rural location just outside the boundaries of a large city. Each intermediate class rotates between teachers and classrooms for each subject. Each class does have a 'home-room' where they attend a 'rollmarking' session each morning. This room is where the students can store their bags. The intermediate 'home-rooms' are located in the main block of classrooms. The Physical Education lessons are taught in the school gymnasium which is located on the far side of the school across a grassed quadrangle area. There is also a grass playing field situated on the far side of the gymnasium that is used for Physical Education.

The school has two intermediate (year seven and eight) classes. Both classes are of mixed gender and mixed year level. Due to the school having both secondary (year 9-13) and primary (year 7-8) components, the class timetabling is set up differently from most other schools. The intermediate classes run to the same timetable as the high-school. This means that the primary aged students are participating in a high-school style timetable.

This adapted timetable affects teaching and learning in several ways. Firstly, each subject is taught by teachers who enjoy the subject area/s that they teach. The timetable does segregate the subjects however which may lead to a lack of integration between subjects. This possibility will be examined during the data collection phase of this study and expanded upon in the results chapter.

Another facet contained within the notion of a research site is the timing of the research (O'Toole & Beckett, 2010). The majority of the data collection for this study was completed during the first four weeks of the school year. Some of the students

involved in the study were new to the school. The data were collected during this period due to time constraints. It also provided the opportunity for the students to give their opinion of Physical Education at the beginning of the year before any biases were created. A small amount of additional data was collected in the middle of the year. This gave the participants the chance to share their thoughts about Physical Education and how their perspective may have changed during the year. This mid-year data collection stage also produced opportunities for the researcher to member check by checking the findings of data analysis processes with the research participants.

Participants

The data collected in this study were obtained from one intermediate class. The students that were observed and interviewed ranged in age from ten to thirteen years of age. The classroom teacher involved in the research is an experienced, male, primary school trained teacher who currently teaches Maths, Science and Social Studies to all of the intermediate students. He identifies himself with the Maori culture. The Physical Education teacher involved in the study is a high-school trained teacher who is in her second year of teaching at this school, after working as a casual teacher prior to this. The Physical Education teacher is also in her second year of teaching Physical Education to the intermediate students.

Pilot Study

Prior to the collection of data at the school site, a pilot study was completed to evaluate the effectiveness of interviews for data collection purposes. A pilot study gives the researcher the chance to practise parts of the research study on a smaller

sample to help gain confidence as a researcher (Basit, 2010). During the pilot study for this research project, one year 7 student was interviewed in a semi-structured manner (Appendix 6: Pilot Interview Notes). This provided the opportunity to not only practise the interview questions but also the techniques involved in conducting a semi-structured interview. Basit (2010) advises that different participants should be used for the pilot study as opposed to the main study as their opinion can be tainted by their previous knowledge of the subject. For this reason an independent student from a different school was selected to participate in the pilot interview.

The pilot interview also gave an insight into possible results of the study. The pilot participant explained that she did not believe that an increase in the time spent participating in Physical Education would have any effect on her attention span. She did however think that her school week would be boring if Physical Education was removed from the timetable. This belief provided a foresight into the results that were provided during the subsequent stages of data collection. She perceived that the main benefit of sport based Physical Education lessons was learning new skills, while she viewed that a gymnastic unit her class was doing at school was more focused on improving the students' fitness. These concepts of skill learning and fitness also emerged from the rest of the data.

Completing the pilot study provided insights into how the researcher's interview techniques should be adapted to ensure a maximum amount of quality data were collected. Reflections of the pilot interview showed the importance of asking follow up questions during the interview as important information can be lost by only focusing on the pre-determined questions in the interview schedule (Appendix 7: Pilot Interview Reflections). This is reinforced by Seidman (2006) who states that the interviewer should ask in-depth questions by listening to what the interviewee is

saying and then asking questions that are formed from their responses. It was also noted after the pilot study that all interview questions should be checked for appropriateness and clarity by a person with a non-vested interest (Appendix 8: Pilot Interview Reflections). This was completed prior to each interview during the data collection phase and meant that the interview questions were appropriate to the study. The pilot study also was able to add to the data collection process to give the study rich data. The data collection processes are explained in full in the next section.

Data Collection

Several methods were used to collect the data. These methods allowed the classroom learning conditions to be explored from different perspectives; which is the process known as triangulation (Bisit, 2010). The data collection tools used included semi-structured interviews, observations, a questionnaire and member checking surveys. Journals were also planned but not used. This range of methods provided the opportunity to gain a multifaceted view of Physical Education and to understand how the participants perceived Physical Education to relate to students and their learning. Each data collection tool was selected for specific reasons that would help enrich the data.

The primary data collection tool was interviews. The data gathered from pilot interview were then analysed and changes (Appendix 8: Pilot Interview Reflections), which are explained below, were made accordingly. Interviews were then completed with both students and teachers. The five students who were interviewed represented a spread in the demographic in terms of gender and age and were chosen in consultation with their classroom teacher. To reinforce this data, a range of class subjects were observed (Appendix 9: Observations), a questionnaire was completed

(Appendix 10: Questionnaire) and the students who were interviewed completed a member checking survey (Appendix 11: Member Checking Survey). Each aspect of the data collection process is described in detail below.

Semi-structured Interviews

Interviews were conducted with five intermediate students, their classroom teacher and their Physical Education teacher. Prior to each interview, a schedule was prepared with suggested questions (Appendix 12: Interview Schedule). All the interviews were recorded using an audio-recording device. Recording an interview gives an exact record of what was said during each interview and allows the researcher to focus solely on the interview process (Basit, 2010). The location for an interview should be organised in advance and should be in a quiet place so that the interviewee can concentrate on the questions but also in an open place where neither the researcher nor the interviewee can be compromised (O'Toole & Beckett, 2010). Considering these facts, an open, up-stairs balcony in the school library was selected in which to conduct the interviews. This location was quiet as it was in a library yet in a place where all parties felt safe. The students also felt comfortable here as they were not removed from their natural setting.

Interviews were selected as appropriate data gathering tools for this study as they provide the opportunity for the participants to share their point of view on a particular environment or situation (Cohen, et al., 2000). Interviews also give the researcher the opportunity to clarify his/her interpretation of the participants' ideas, as produced in the interviews. By undertaking interviews every participant had the opportunity to share their personal view and perspective toward the research topic. Guba and Lincoln (1981, p. 155) say that "the ability to tap into the experience of others in their own natural language, while utilizing their value and belief

frameworks, is virtually impossible without face-to-face and verbal interaction with them.” Interviews provided this necessary personalised, face-to-face and verbal interaction.

Semi-structured interviews were chosen because they allow for flexibility and they provide the opportunity for unanticipated findings to be discovered, for mid-interview clarification and for further questions to be asked and explored (O'Toole & Beckett, 2010). This flexibility can be achieved as the researcher has the power to change the order in which the questions are asked and remove, add or reword questions as the conversation progresses (Lodico, et al., 2010). The questions from the pre-written schedule (Appendix 12: Interview Schedule) provided a base for the interview which developed according to the data that were being received. It is important that interviewers respond to what the participants are saying and adapt their questions accordingly (Seidman, 2006). For this reason each interview developed into a conversation more than a prescribed interview.

Observation

Observations of lessons provide a way to gain extra data that may differ from what is found in the interviews. Lichtman (2010, p. 245) states that observation is “a technique of data collection in which the researcher observes the interaction of individuals in natural settings.” Observations therefore give the researcher the chance to grasp the context of a situation, to discover ideas from participants that they may not feel like sharing in an interview and they provide a fresh, raw set of data not found using other methods (Cohen, et al., 2000). Although observations do not allow the opinion of the participants to be determined, they do provide the opportunity to examine the behaviour of teachers and students in the classroom and then compare how they acted with what they shared in the interviews (Bell, 2010).

The observations that were undertaken as part of this study are categorised as descriptive field notes. Descriptive field notes give a brief account of what the researcher can see and hear within the natural setting and subjectively portray the events that are occurring (Lodico et al., 2010). The observations that were completed were descriptive and briefly explained what was happening in the classroom during the lesson (Appendix 9: Observations). The notes were typed during the lesson using a bullet-point format. This gave the researcher the opportunity to expand on any points that appeared more closely related to the research topic or to add notes about any perceptions that had been received from students or teachers during interviews.

Questionnaire

To support the interviews and observations, and to provide triangulation of the data, a questionnaire was administered to the 16 students who returned their consent forms, from the class that was being observed. The purpose of the questionnaire was to add the perceptions of more students to the data that had already been collected. The questionnaires were administered to the students in printed form and contained ten questions (Appendix 10: Questionnaire). Questionnaires were selected as a data collection tool as they have the ability to produce a large amount of data in a quick and easy manner and can also provide the participants with the opportunity to respond in an anonymous way (Burton, Brundrett, & Jones, 2008). Bell (2010) states that the contents of a questionnaire should only be decided upon after planning has been undertaken. The questions were written after considering the responses that were given from the interviews with the students and teachers. A draft of the questionnaire was then given to a person with a non-vested interest to check that it was easily decipherable and not ambiguous. This was done to ensure the questions on the questionnaire aligned directly to the overall research question. Burton et al.

(2008) say that questionnaires must be checked prior to being administered to ensure that the instructions are manageable for the participants so that completion of the questionnaires is achievable.

Journals

To gain a less structured perspective from the students, journals were planned to be kept by the students. A journal is used to document the feelings or thoughts of a participant (Lodico, et al., 2010). Journals are also known as logs and are designed so that participants can “document activities, experiences, and viewpoints” (Nastasi & Schensul, 2005, p. 184). These journals were given to the participants with only a few simple instructions. The students were told that they could use the journal to express their feelings towards Physical Education and how it affects them by using words, pictures or diagrams. They could also add notes about observations they made throughout the day or write any questions they had in relation to the interviews. Leaving the journals open to interpretation from the participants gave them the opportunity to add their views, opinions and feelings about Physical Education without any outside bias. Only some of the participants however added entries to their journals. The entries that were collected were not completed regularly. As the data from the journals were not collected consistently, the data collected from the journals were not analysed as part of this study.

Member Checking Survey

Member checking can involve the participants checking many aspects of a study. This could include asking the participants whether the findings and themes are accurate and whether the researcher has interpreted their data correctly (Creswell, 2008). Member checking was conducted throughout the interview process by clarifying answers with the participants. At the end of the research, a survey was

given to the five students who were interviewed to complete. This survey was designed to act as a means of both checking whether the themes that were emerging from the data analysis process were accurate and also to increase the richness of the data. The survey included many of the answers that the students gave and the themes that developed from analysing the data. The answers the students gave in the interviews were compared with the answers given in the survey. This is member checking as the surveys checked if what the participants said in the interviews lined up with their answers to the survey.

This table outlines the dates during which the data were collected:

Table 3.1 - Data Collection Outline

Date	Data Collection
1 st week of February 2012	First Round of Student Interviews
2 nd week of February 2012	First Round of Teacher Interviews
2 nd week of February 2012	Second Round of Student Interviews
3 rd week of February 2012	Second Round of Teacher Interviews
4 th week of February 2012	Third Round of Student Interviews
4 th week of February 2012	Questionnaire
Throughout February 2012	Observations
4 th week of June 2012	Fourth Round of Student Interviews
2 nd week of August 2012	Member Checking Surveys

Analysing and Interpreting Data

A process of coding was completed to analyse the data for the purpose of collecting themes. Data analysis is a process of organising and categorising and can be

completed by analysing large chunks of text or small segments (Lichtman, 2010).

Lichtman (2010) states that the individual researcher will decide upon the method of analysis that is best suited to them and their data to help them arrive at their codes.

Varied methods of data analysis were therefore used to match the data collection instruments. The data analysis methods were also selected so that the research questions could be adequately answered.

The data that were collected from the participants were analysed throughout the study. This analysis of qualitative data is known as coding when the data is examined to find patterns, themes or categories that have emerged (Lodico, et al., 2010). Punch (2009) adds to this description by saying that coding is the method of adding tags, labels or names to sections – large or small – of the data. The paragraphs below will explain, in more detail, the process that was undertaken to analyse each group of data. Specific examples will be provided from the data analysis process.

Analysis of Data from Semi-structured Interviews

Semi-structured interviews were conducted with the teacher and student participants. Each interview was recorded and then transcribed. The data that were received from the interviews were then coded to establish themes. The process of inductive analysis was then undertaken. According to Fraenkel, Wallen, and Hyun (2012), inductive analysis is when the researcher begins by exploring open questions. The researcher undertakes this process of inductive analysis by being immersed in the details and specifics of the data to determine significant categories, dimensions, and interrelationships (Fraenkel, et al., 2012). Inductive reasoning is a type of discovery approach that involves the researcher moving from specific observations to general statements (Lodico, et al., 2010). The methods of inductive analysis used in this research include some aspects of grounded theory, because multiple steps of data

collection and interpretation have been used to begin to create a theory (Gay, Mills, & Airasian, 2009). In this study, the data were analysed in an inductive way. The detailed findings gained from the data were summarised and categorised into general interpretation.

The first step in the process of analysing the data involved open coding. During open coding initial categories are formed by studying the information received during the data collection (Creswell, 2008). One technique to begin the process of analysing the data is to list themes that have arisen from the data and are linked to the literature (Gay, et al., 2009). In the case of the study documented in this thesis, many different words and phrases were identified from the data that were used as initial codes. Some of the ideas and themes that emerged from one interview are shown in Figure 3.1 - Open Coding Example.

Exercise

Fun

Reduces Boredom

Listening Skills. ↔ PE?

Activities - Athletics

- Games ✓
- Warm-ups

Tiredness.

Distractions. = Repetition

Lunch - Sports

3x per week.

No external effect.

Figure 3.1 - Open Coding Example

The first level of coding was therefore completed by examining the interview transcripts and selecting key words and phrases that were used. Some of the words that occurred multiple times included exercise, enjoyment, teamwork, fitness and energy. These words and phrases were selected after considering how much emphasis the participants had put on each concept during the interviews. To determine how much emphasis was placed on each term several aspects were considered. This included whether they were able to quickly give a response as opposed to stumbling to an answer. During interviews the researcher should also note non-verbal information (such as laughter or gestures) given by the participants as this

can give added meaning (Ary, Jacobs, & Sorensen, 2010). Determining how much emphasis participants place on certain words and phrases is a component of qualitative research. During the study, the participants' gestures and voice patterns were noted by the researcher during and just after each interview.

All the themes that were established during the process of open coding were then interpreted and categorised. Bell (2010) states that during this categorisation process, the researcher looks for significant groups and patterns. The basic themes that were uncovered from the interviews during open coding were therefore mind-mapped for each participant to see how their ideas and thoughts towards Physical Education fitted together (see Figure 3.2 - Categorisation Example). This level of coding has been described as axial coding (Ary, et al., 2010). Basit (2010) expresses that axial coding involves linking categories and codes and interconnecting them with main categories. The diagram displayed in Figure 3.2 - Categorisation Example shows

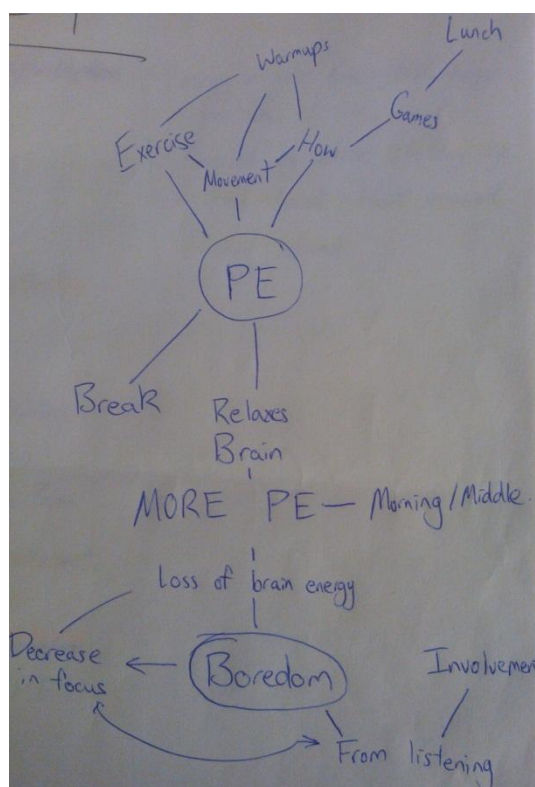


Figure 3.2 - Categorisation Example

how several open codes were connected. The diagram depicts how the components of Physical Education such as exercise and movement are created through the use of warm-ups and games. Also depicted are reasons for the participant's boredom in class and how more Physical Education could help solve this by relaxing the brain.

Creswell (2008) explains that similar codes need to be aggregated together into five-seven themes. He goes on to say that these themes are established after considering the codes that arise frequently and have evidence to support them. Therefore, after the codes in this research study had been established and then categorised, they were developed further to create specific themes. These themes incorporated the major categories of the previous levels of coding. The themes developed over time as more data were received and analysed.

Although the majority of the data that contributed toward the creation of the themes came from the semi-structured interviews, the analysis of the other data gained from varied collection methods also added to the creation of the themes. The specific analysis and interpretation methods used to analyse the data collected from other methods are described in the following paragraphs.

Analysis of Observation Data

Observations were originally seen as a significant section of the data collection process. Although they did provide results that were used in the findings, the way the observations were utilised developed over time through the process of emergent design. Emergent design allows flexibility so that adjustments can be made to the project (Drew, et al., 2008). Data collection methods are one component of a research study that may be changed throughout the research process so that the information that is gained is meaningful (Creswell, 2009). The field notes that were

taken while observing Physical Education and other class lessons provided useful information that was then able to be used during the semi-structured interviews. Student and teacher interview participants were asked questions that related both directly and indirectly to the field notes that were taken during class lessons. This was important as observations on their own, do not directly represent students' or teachers' perceptions.

Coding was also completed on the field notes to gain information to reinforce students' and teachers' perceptions about Physical Education and its effects on students and their learning. The coding process completed with the observations occurred concurrently with the coding of the semi-structured interviews.

Analysis of Data from Questionnaire and Member Checking Surveys

Descriptive statistical analyses were conducted by analysing the data that were collected through the questionnaires and the member checking surveys. Descriptive statistics were “used to provide quantitative details in an otherwise qualitative study” (Fraenkel, et al., 2012, p. 439). Different sets of data were gained according to the various questions that were included in the questionnaire. The questions included yes/no questions, open-ended questions and questions that provided a range of options (Appendix 10: Questionnaire). The yes/no questions were analysed to create percentages of students who perceived the statements according to whether they agreed or disagreed. One open-ended question asked the students to consider how many times they would like to have Physical Education per week. The responses to this question were analysed by grouping the answers and then graphing the replies. The graph, in Figure 3.3 - Periods of Physical Education per week, shows that six out of the sixteen (38%) students would like to have Physical Education more than five times per week.

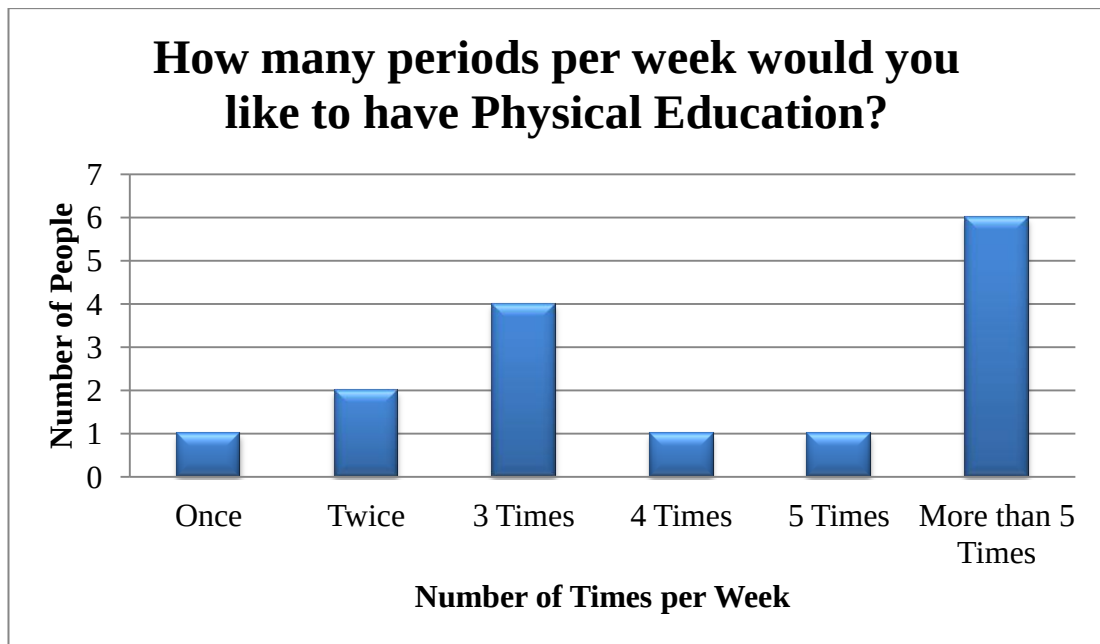


Figure 3.3 - Periods of Physical Education per Week

Other questions provided a range of options as answers. The responses to these questions were then converted into percentages to determine which option was seen as more popular by the student participants.

The data that were collected through the questionnaires and the member checking surveys were added to the information received from the other data collection methods. Using a range of data collection methods added to the rigorous nature of this study.

Analysis of Journal Data

Only a few of the participants that were involved in the study kept journals. The responses that were received were brief and largely intermittent. A research decision was therefore made not to use the journals in the data analysis process. This decision was made with consideration of emergent design which allows flexibility so that appropriate changes can be during the research process (Drew, et al., 2008).

Removing the journals as a data collection tool ensured that the research project

remained trustworthy. The study would have not been as rigorous if the journal data had been analysed as not every participant's opinion would have been expressed.

Triangulation

All the findings from all the data analysis processes have been considered together to form triangulation. Mertens (2010, p. 258) shares this explanation of triangulation:

Triangulation involves checking information that has been collected from different sources or methods for consistency of evidence across sources of data. For example, multiple methods such as interviews, observation, and document review can be used, and information can be sought from multiple sources using the same method.

Triangulation through the process of using multiple data collection methods ensures that the research is credible (Ary, et al., 2010). All data sources were examined and used to justify the themes that were found which is known as triangulation (Creswell, 2008). All the data collection methods were considered concurrently to develop themes. Using a range of data collection and analysis methods created triangulation which provided meaningful results. The themes that were developed through the coding processes are shown in the diagram on the following page (Figure 3.4 – Diagram of Themes).

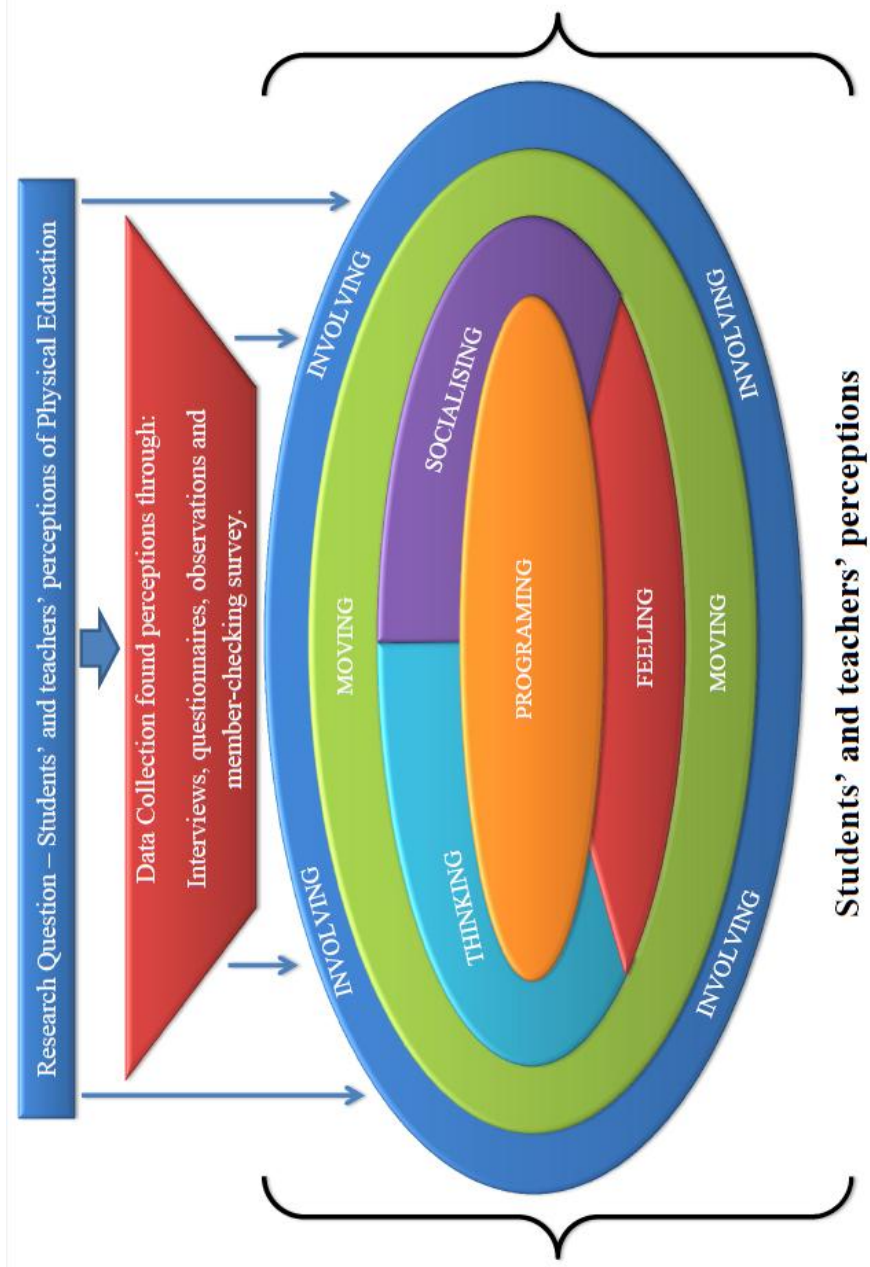


Figure 3.4 - Diagram of Themes

This diagram (Figure 3.4 - Diagram of Themes) depicts the relationships between the themes that were discovered. This diagram shows the participants perceive that involvement is crucial to learning not only in Physical Education, but also in other subjects. As physical movement is what makes Physical Education unique, it is perceived by students and teachers to have an influence on many other areas of students and their learning. Physical Education is also perceived by students and teachers to have an impact on students' thinking, feeling and socialising. This figure illustrates how these three themes link together to influence students and their learning. Programming is perceived to be at the core of how Physical Education impacts students as it determines *the way* that Physical Education is taught. Each of these codes will be unpacked in a way that answers the research questions in Chapter Four.

Evaluation Criteria

Many names are given to the various facets of a research study that work towards ensuring its quality and trustworthiness. Some theories of evaluation criteria have been developed from within the quantitative paradigm. It should be noted that some ways of evaluating the trustworthiness of a study may have differing definitions between the two research paradigms. The table below (Table 3.2 - Evaluation Criteria) provides an overview of some of the evaluation criteria that are commonly used in qualitative research.

Table 3.2 - Evaluation Criteria

Types of Evaluation Criteria	Definition	Authors
Trustworthiness	Overarching evaluation criteria that is established by discussing factors such as credibility, transferability, dependability, confirmability, adequacy, validity and accuracy of a study.	(Cohen & Crabtree, 2008; Gay, et al., 2009)
Credibility	The accuracy as to which the author is able to report the thoughts and feelings of the participants. How believable the results are.	(Lodico, et al., 2010) (O'Toole & Beckett, 2010)
Validity	Validity in the Qualitative Paradigm is achieved when the researcher ensures there are no mistakes in the data that has been collected.	(Creswell, 2009)
Rigour	A range of data that provides evidence to support the claims being made.	(Tracy, 2010)
Transferability	Can be difficult to obtain in Qualitative research. Instead it is decided by the reader as to whether the results are applicable to their situation.	(O'Toole & Beckett, 2010; Lodico, et al., 2010)
Resonance	Links the data with other studies in the area and how the results may be transferred to other contexts.	(O'Toole & Beckett, 2010)
Emergent Design	Remaining flexible so that adjustments can be made to the project according to changes in variables.	(Drew, et al., 2008)
Dependability	How stable or constant the data collected is. It is also the ability to track the procedures that were undertaken during the data collection and interpretation process.	(Gay, et al., 2009) (Lodico, et al., 2010)

The criteria in the table above were considered during the research process. The more specific evaluation criteria that were used are expanded upon below.

Trustworthiness

There were many evaluation criteria that were taken into account during the research process to ensure that this study was completed in an open manner and to uphold the trustworthiness of this research project. For example, the research design was validated by fellow members of a research panel. Trustworthiness has been known to be used interchangeably with other terms such as adequacy, validity, accuracy,

credibility (Cohen & Crabtree, 2008). Trustworthiness can also be seen to be established by focusing on the aspects of credibility, transferability, dependability and confirmability (Gay, et al., 2009).

The particular evaluation criteria features that were utilised to maintain the trustworthiness of this research project included emergent design, rigour, credibility and validity. Each section is outlined below with a description of how the study maintained trustworthiness.

Emergent Design

To ensure that this study was relevant, it was left open to the process of emergent design. Creswell (2009) states that questions, data collection methods, participants, and sites may all be changed throughout the research process so that as much information can be gained from a situation as possible. Qualitative research also allows the researcher to be flexible. The researcher observes and describes events as they occur which therefore requires the project to maintain design flexibility so that it can be adapted as variables change (Drew, et al., 2008). For example, an additional participant was included in the study during the data collection process to enrich the data. Also the research question and sub-questions have been modified throughout the process to ensure alignment between the data that has been collected and the intentions of the study.

Rigour

A rigorous study should display more than just the characteristics of adequacy, validity, accuracy, credibility but also external auditing, member checking and triangulation to provide validity (Cohen & Crabtree, 2008). To create a study that has significant rigour, the researcher must ensure that enough data is collected. More

importantly, there should be enough data to provide evidence and support the claims being made (Tracy, 2010). To ensure this research was conducted in a rigorous way, multiple participants were involved and multiple data collection methods were used. Having individuals who are not directly associated with the research project to review and evaluate the writing is known as an external audit or peer debriefing (Fraenkel, et al., 2012). External auditing was completed throughout the research process by discussing the data and thesis drafts with a group of fellow researchers. Member checking was linked into each interview (Appendix 13: Interview Transcript) The participants were also informed about how the data had been analysed and given the opportunity to add or change what the researcher believed they had said. Triangulation was completed by using a range of data collection tools and also by gathering data from both teachers and students. All of these measures were taken to ensure that this study was rigorous.

Credibility

Tracy (Tracy, 2010, p. 843) states that “credible reports are those that readers feel trustworthy enough to act on and make decisions in line with”. The process of triangulation from several sources that led to themes being developed adds to the validity of this study (Creswell, 2008). Guba and Lincoln (1981), state that a minimum level of rapport should be developed between the researcher and the participants to further extend the credibility of the study. This was achieved as the researcher was not only at the site as a researcher but also as a pre-service teacher.

Validity

Validity can be attained by minimising the mistakes in the way the data are recording and analysed. This was achieved by the process of member checking and external auditing as described in the section on rigour (above). An audit trail should be

established to ensure the reader can determine that the research study is valid (Gay, et al., 2009). It is the reader that determines whether they believe that the study is valid. This chapter has therefore provided an audit trail to ensure that the reader can distinctly see how the research was undertaken and that it was completed in a transparent manner.

Conclusion

When teaching Physical Education, a teacher should carefully consider how they will demonstrate and explain the skill being learnt according to both the students in their class and the content that is being taught. Similarly, when conducting a research study, the researcher should carefully consider how they will collect the data and provide an explanation of the research methods according to the topic being researched and the participants being analysed. Many factors were taken into account when considering which methodological strategies should be used to ensure that the research question was being answered with trustworthiness, rigour, credibility, validity and with emergent design. The methodology used in this research project was designed to effectively answer the research question. Then next chapter will analyse students' and teachers' perceptions of Physical Education about how it affects students and their learning.

Chapter Four: Results – Practising the Skill



One important section of any Physical Education lesson is when the students are given the opportunity to practise the skill they have been taught. This allows the students to consider what they have just learnt, to carry out their own practice and to test their skills. The teacher allows the lesson to flow and develop according to how the students are practising. The teacher expresses their thoughts, feelings or advice where necessary as they observe the students. In a similar way, this chapter will outline the results that were observed and uncovered after collecting and analysing the data. The results in this chapter have emerged from the analysed data. This chapter is part of the analysis process just as practising a skill in Physical Education is part of the learning process.

The results presented in this chapter have been analysed to provide evidence that can contribute to answering the following question:

“What are the perceptions of students and teachers in one year seven and eight class towards Physical Education and its effect on students and their learning at one school?”

Introduction

The results that will be presented in this chapter were found after extensive analysis of the data gathered throughout the study from interviews, questionnaires, observations and a member checking survey. All the data that have been collected will be outlined using four categories that are incorporated within the concept of Hauora. Hauora is a concept that represents overall well-being by incorporating physical, mental and emotional, social, and spiritual well-being. The results of the data analysis that emerged from the research through the process of coding have been split into these four categories. This philosophy of Hauora is one that is to be promoted in all Health and Physical Education classes in New Zealand – as specified by The New Zealand Curriculum (Ministry of Education, 2007). The results of the analysed data will therefore be categorised according to this philosophy. A fifth category has been included that outlines additional findings that do not fit within the bounds of Hauora. Several themes are woven through each section and these will be discussed in full in Chapter Five.

The five students that were interviewed during the data collection will be referred to in this chapter using pseudonyms for their first names. The classroom teacher who teaches these students Maths, Science, Social Studies and Computing will be referred

to as Mr Roberts. The teacher who teaches the students Physical Education will be referred to as Mrs Walker. Reference will also be made to the findings of the analysis of data gathered from the questionnaire that was completed by sixteen members of the class, observations of Physical Education and other various subjects and a member checking survey.

Table 4.1 - Student Pseudonyms

Pseudonym	Year Level	Gender
Catherine	8	Female
Anna	7	Female
Ethan	7	Male
David	8	Male
Brendan	7	Male

Table 4.2 - Teacher Pseudonyms

Pseudonym	Subject/s Taught	Gender
Mrs Walker	Physical Education	Female
Mr Roberts	Mathematics, Science, Social Studies and Computing	Male

The following diagram (Figure 4.1 - Diagram of Themes – first shown in Chapter Three) outlines the results and codes that were identified during the data analysis phase of the research. Most sections of the diagram relate to the research questions presented in this thesis. The ‘involving’ theme is seen as a component of Physical Education that is linked into most key areas of Physical Education and will therefore be woven through each of the following sections of this chapter.

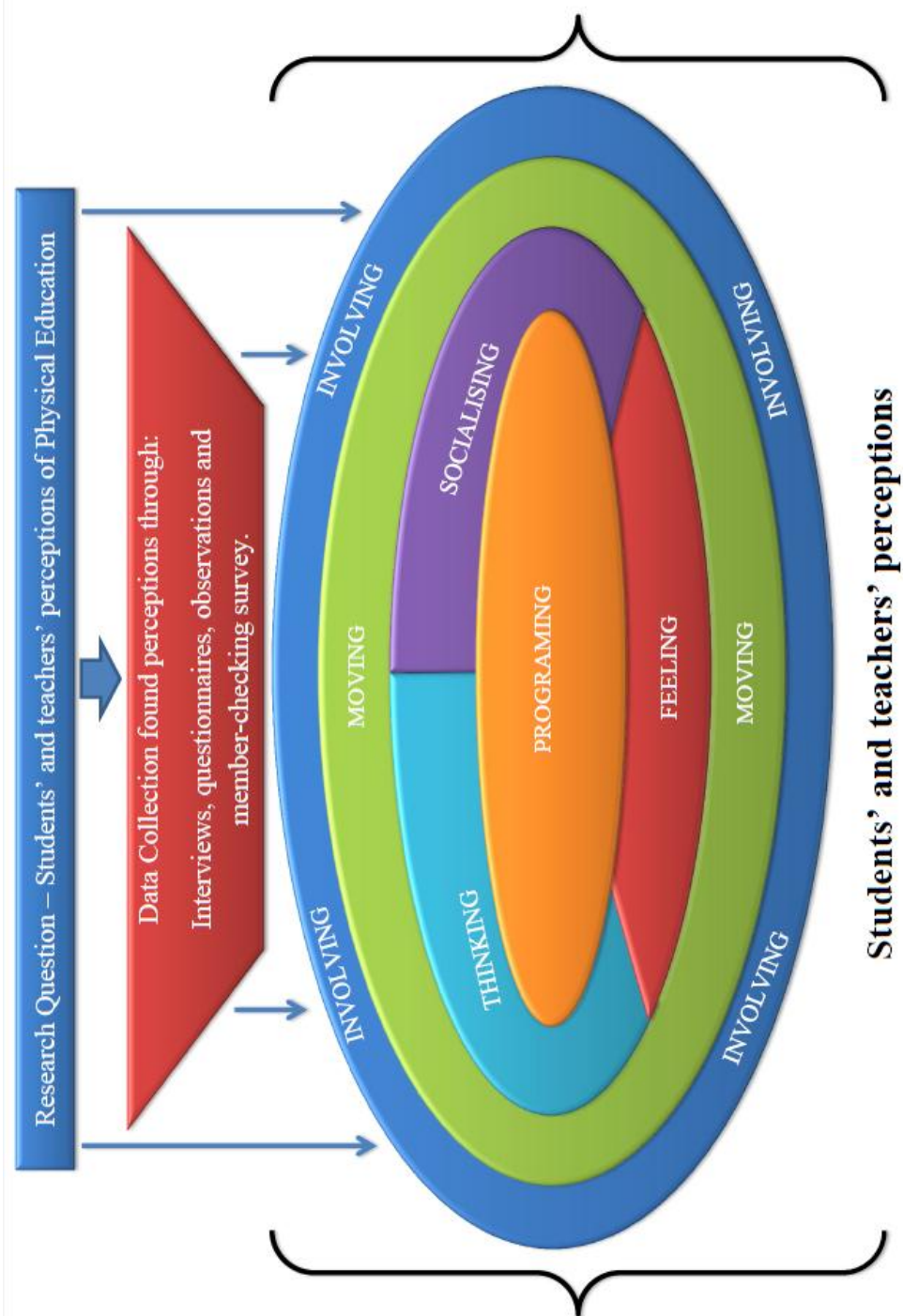


Figure 4.1 - Diagram of Themes

Taha Tanana – Physical Well-Being

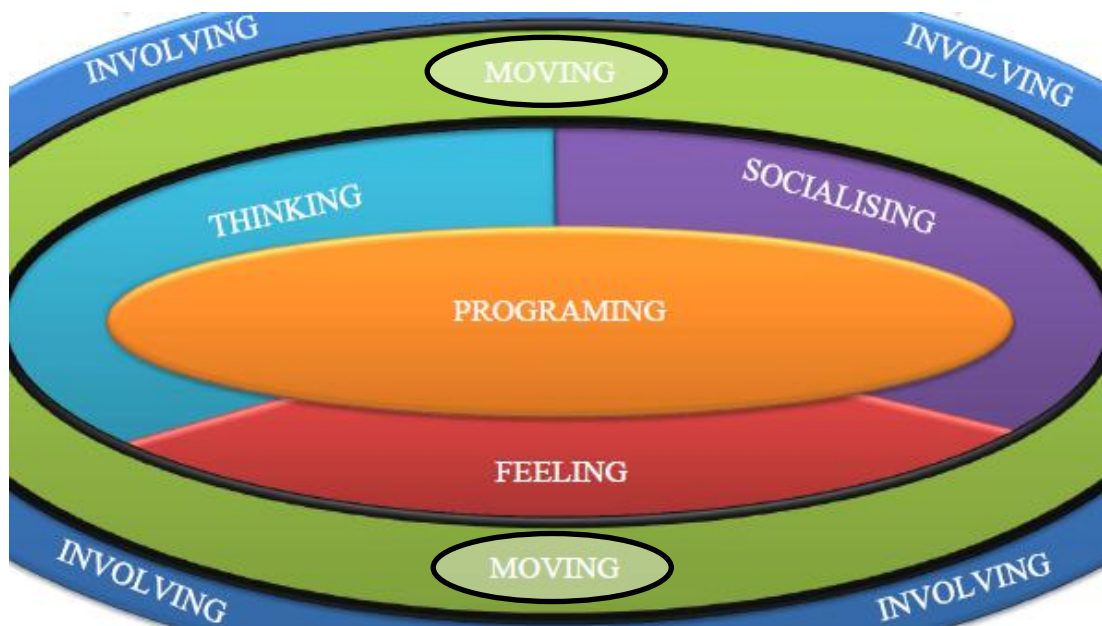


Figure 4.2 - Moving Diagram

The theme that emerged from the data analysis to link with the physical well-being theme has been called ‘moving’. Students and teachers alike perceived movement to be an integral component of Physical Education. Movement relates to how students are physically involved in Physical Education. This section of the results also explains how students and teachers perceive movement to affect students physically and how these positive and negative physical aspects subsequently impact the students in other ways.

The physical well-being of students is a crucial part of Physical Education, as teaching students physical skills is at the core of the subject. The New Zealand Curriculum explains that movement is the focus of Physical Education (Ministry of Education, 2007) which has also been revealed as a perception of students and teachers involved in this study. The analysis of the data has uncovered a variety of views provided by students and teachers about the physical nature of Physical

Education. Some of the views of the students and teachers are similar to each and others represent varied opinions on the physical aspect of Physical Education. Many of the discoveries from the data analysis in this study related to physical well-being. This finding indicated that the participants believed that Physical Education also had an effect on the spiritual, mental and emotional, and social well-being of the students.

An important finding that has emerged from the data analysis is that students and teachers perceived movement to be a key part of Physical Education. As Physical Education is the subject that requires the most amount of exercise from students, movement is seen as an integral part of this learning area. Without movement this learning area would not be focused on physical learning. For example, during an observation of a Physical Education lesson a simple game called ‘Noodle Tag’ was successful in getting all students actively moving around. This game was enjoyable for the students and they were happily involved in the activity. David stated during an interview that sitting down is “boring”. Two of the most common descriptive words to emerge from the analysis of the data were exercise and movement. The participants saw these aspects of exercise and movement as being a crucial part of Physical Education.

Movement includes different components. Every student and teacher interview participant believed that exercise is an important part of Physical Education. Catherine believed that Physical Education was important because “it’s good exercise... [and] you really need to do it like every day.” When asked what he believed to be the benefits of Physical Education, David listed exercise first. There were many instances that were observed during Physical Education lessons that showed the students participating in meaningful exercise. After one particular “fun”,

warm-up game, it was noted that many of the students were breathing heavily and puffing (Appendix 9: Observations). Mrs Walker allowed the students to take a short break and refresh themselves before continuing with the lesson. This lesson was effective in getting the students moving and exercising.

The students agreed that exercise is one of the key benefits of Physical Education. The amount of exercise that students complete outside of school hours widely varied. Only two out of the sixteen students that completed the questionnaire indicated that they always complete some sort of fitness after school and another five students shared that they complete after school exercise most of the time. That meant that seven of the sixteen students only exercise sometimes and two never exercise outside of school hours. The amount of exercise students reported to be completing is depicted in the following figure (Figure 4.3 - Frequency of after school exercise).

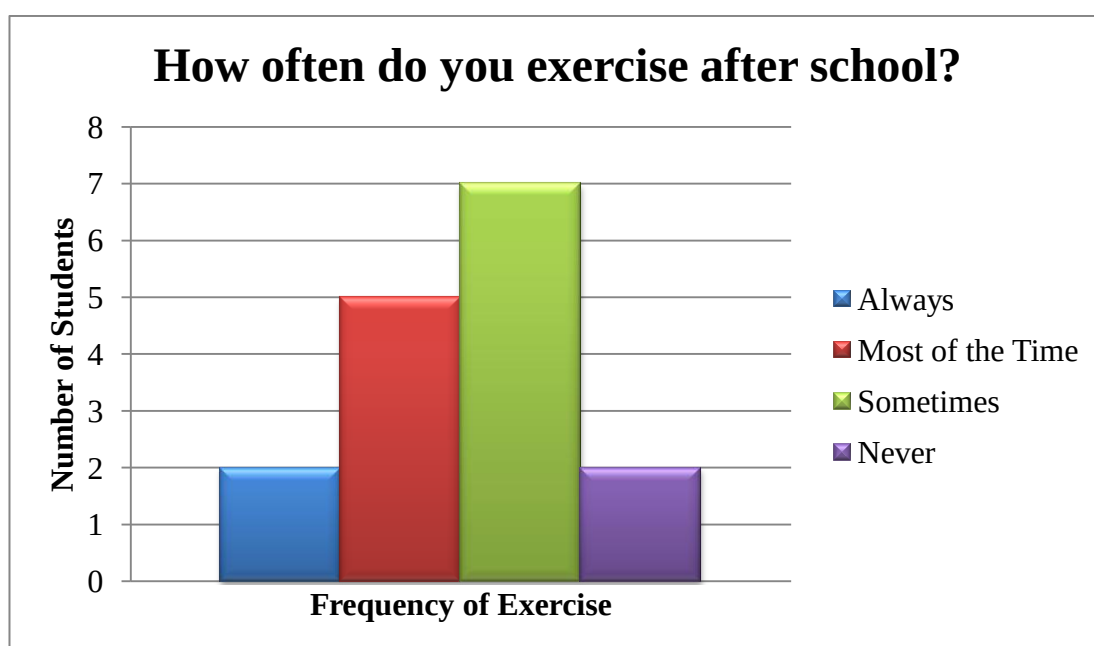


Figure 4.3 - Frequency of After School Exercise

The students gave various reasons for why they found exercising in their own time challenging. Anna shared that sometimes she is too busy to exercise at home.

Catherine said that while “sometimes I do swim training and sometimes we just go for walks after tea [evening meal],” she does not have enough time to exercise very much after school. Two of the reasons for this are that she spends a substantial amount of time each day doing homework and watching television. Brendan said that he is often too tired to exercise when he gets home from school. Interestingly, Mrs Walker thought that Physical Education is not as important as others subjects. Her reasoning for this is that “...from my view, I think that they can be doing more of that (physical activity) at home, and with their family.” By looking at the previous graph (Figure 4.3 - Frequency of after school exercise) this is clearly not happening in all of the families of the students that participated in the questionnaire.

Several questions were posed to the participants that revolved around the potential concept of an exercise program being run before school. This program could help increase the amount of movement and exercise students are involved in during the day. The responses to this idea were largely positive. The positive responses towards this model included Ethan saying that such a program would help wake him up in the mornings. Mr Roberts said that something structured, but fun for the students, would have its benefits. He stated that many students arrived at school feeling dazed in the mornings and very tired for varying reasons:

Most students get out of bed, have a shower or wash, have breakfast, get their bag and on the bus. They're sitting on a bus. Then they get here and wander around and into a classroom, tired and dazed. So getting some oxygen into them, that would be good.

This was confirmed by some of the students. A fitness session in the morning could help solve this problem according to David. He said that “the running around or the practice, will just wake me up.” Alternately, when asked if he would like to have a morning fitness session at school, David said that he would “rather have it in the

afternoon”. He added that this is because in “the morning you would have to come really early”. Ethan agreed that although he saw the benefits of a morning fitness session, he struggled to wake up early enough currently, without the added pressure of coming to school at an earlier time. Although the afternoon fitness prospect may be more easily manageable and help students on a physical level, it would not have the same effect on student learning. Mrs Walker thought that the current system in which the students get two Physical Education periods in a six day cycle was adequate. She did, however, go on to say that “I reckon it would be really cool if, in the morning, like for 15 minutes or something, they did do some fitness.” Overall the participants were receptive to this concept. They perceived that a before school fitness session would benefit students by giving them increased opportunity to exercise.

Even though the participants were open to the idea of a morning fitness session, they agreed that it would be difficult to implement. Catherine thought that a fitness session would be a good idea as long as it was incorporated into the school day timetable. Many of the students said that they would not want to attend a before school fitness session every day of the week. In response to the question ‘*Would you like to have a fitness session every morning?*’ eleven of the sixteen participants answered yes. David thought that the morning rollmark session could be shortened to allow for fitness to be completed. Mr Roberts thought that such a program could be manageable however it would have to be conducted on a school-wide level. He also suggested that the time set aside for fitness could be removed from the current lunch time. Overall this idea was received with a positive feeling. The problematic logistical nature of such a program has arisen as the biggest perceived difficulty. Although the majority of the students and teachers perceived there to be benefits

associated with a morning fitness session, they perceived the organisational problems to be a significant obstacle to overcome.

Other considerations in relation to students' physical well-being emerged from the data analysis. Students and teachers believed that exercise during childhood is important as it can have an effect on them as an adult. David mentioned that "if you're not exercising now, you could be obese when you get older". Catherine stated that "if you're doing exercise when you're younger then it's better and then you can get used to doing more exercise rather than just being like lazy". Mrs Walker provided a range of reasons why exercising as a child is an important stepping stone into adulthood:

If you're fit as a kid, it's going to be easier to get that fitness back as an adult. And you're learning your skills... And if you want to get involved in a sports team or a club or something, I think if you actually kind of have some familiarity with it, you will be more inclined to join in than if you had no idea, you would be like I'm going to be too bad and I'm not going to try that.

Mrs Walker has touched on the idea that if students do not develop skills when they are young, they will find it more difficult to develop these skills as an adult. This underlines the fact that exercise and Physical Education are certainly important in the eyes of both students and teachers. They perceive that it can provide a platform for exercising and participation in sport as an adult.

There was a range of views expressed by the participants when it came to the topic of how energy levels are affected by Physical Education. Some participants believed that participating in Physical Education gave them an energy release while others said that it gave them an energy boost. Another physical aspect that was discussed by the participants was the idea of oxygen increase or decrease. Mr Roberts believed that getting the students to do Physical Education and exercise allowed oxygen to

flow through the body which helped the thinking process. This comment correlates with past research which has shown that exercise can produce a change in brain structure and function (Hillman, et al., 2008). The students' thoughts about energy show that physical activity can both help them to relax when they are restless and also help to awaken them when they are feeling drowsy.

Both students and teachers had a wide range of opinions regarding exactly what content should be taught in a Physical Education lesson. Mrs Walker herself admitted that she was not entirely sure whether she should focus more on fitness, skills and strategies or sports and games:

Yea that's tough aye. Because on one hand like I think it would be cool to be able to teach the skills so that... like just the basic skills so if they do want to pick it... like for example tennis, we teach them all the skills for tennis. If they do want to be able to pick up tennis after school they kind of know the basics so they can go and do that and practise more. Cause its mostly just practice that they need. But then in saying that like I would like to be able to focus more on fitness and be like we're going to spend like the first half of the lesson doing like running activities and... it's just hard fitting everything in.

The students were also unsure of what exactly should be included in Physical Education. When asked to order the importance of various components of Physical Education, the students produced a wide variety of responses. The options they were asked to consider were fitness exercises or warm-ups, learning new skills, playing sports games, and team-building activities. After getting the students to complete the member checking survey, it became apparent that even within their own minds, they were unsure of what they would like to be taught during Physical Education. Even with the large range of responses, it was apparent that playing sports was important to all of the student participants. When Mrs Walker was asked this same question, she responded by saying:

They all kind of fit in together. I actually teach more skill than anything, but that's just because my philosophy is... I want them to learn the sport well enough, like just the techniques, so that if they ever want to take it up outside of the class, they kind of, they know the basics so they can practise.

This philosophy complies with her belief that Physical Education should be an introduction to exercise and sports that students can continue with into adulthood.

Mrs Walker also explained that fitness is inadvertently included in every Physical Education lesson and that at the beginning of the year the class completed a unit on team-bonding. She also added that “all of those play a part, no one is more important than the other”.

These various aspects of the physical side of Physical Education show that exercise and movement are particularly important components of this subject. Overall the participants found most of the questions about this section of Physical Education quite easy to answer indicating that they all held clear conceptions about the effects of Physical Education on students and their learning.

Taha Hinengaro – Mental and Emotional Well-Being

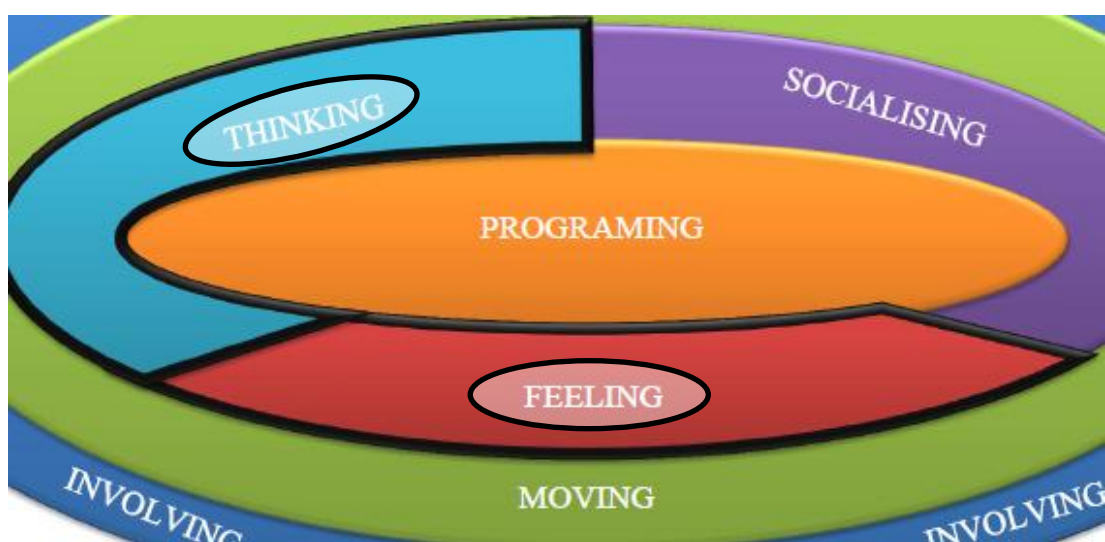


Figure 4.4 - Thinking and Feeling Diagram

Two themes that strongly emerged from the data were ‘feeling’ and ‘thinking’. These two themes link together with students’ mental and emotional well-being. The way that students feel is connected to their emotional well-being while the way that students think is linked to their mental well-being. These two themes also have a strong connection to each other. This section will outline the students’ and teachers’ perceptions towards Physical Education and its connection to emotional and mental well-being in students.

Students’ mental and emotional development can be affected by their involvement in Physical Education. All of the participants provided their perspectives on how Physical Education made them feel and how they believed it affected the learning a student can accomplish cognitively. Findings from an analysis of the data indicated that both the student and teacher participants perceived Physical Education to have an effect on the students’ emotional and mental well-being.

Emotional Well-Being

How Physical Education emotionally impacts students and how it makes them feel will be described first in this section. Participants were asked to give five words that they thought described Physical Education. Of the six participants (five students, one teacher) that were asked this question, five of them used the term “fun” to describe their thoughts about Physical Education. Of those that mentioned “fun” four of them said fun as the first word. Sixteen of the students in the class completed a short questionnaire where one of the questions asked if they enjoyed Physical Education. Fourteen out of the sixteen students answered “yes” in response to this question. During the first day of school for the year, one student in the class was observed talking to her friend. When she received her timetable for the year, she checked it to see how many times they had Physical Education for the rest of the week. She

quickly commented “we only have P.E. once.” This was obviously a disappointment to her and it underlines the high regard in which many students hold Physical Education.

It is apparent that students and teachers believe that Physical Education has an effect on the way students feel about themselves. Brendan believed that he enjoyed subjects that he was good at, and Physical Education was one of those subjects. Of the sixteen students that completed the questionnaire, thirteen (81%) noted that Physical Education made them feel good about themselves. Emerging from the data was the idea that Physical Education has a strong influence on the self-esteem of students. Mr Roberts summed this up when he stated that “if they feel good and achieve at that [Physical Education] then they can bring that [good feeling] back to the classroom where the teacher can focus on that self-esteem and transfer it into learning.”

The idea of enjoyment and fun as a part of Physical Education arose from the data repeatedly. Mrs Walker stated that she believed what students want the most from Physical Education is fun. The fact that students are looking for enjoyment and fun is not only relevant to Physical Education lessons. Students also want other subjects to be enjoyable. Anna gave demonstrated that students are looking for fun by giving this response when asked why she finds it hard to stay focused in class:

Because sometimes it's um a bit boring and um sometimes you just want to do something fun. And sometimes it's just hard for you to concentrate because you haven't done any running around – you're still waiting for your break or something.

This indicated that one student was looking for fun and movement, not only in Physical Education but in other subjects too.

Mental Well-Being

While Physical Education can affect students in ways that are external to the subject itself, to gain an overall understanding of Physical Education it is important to consider what students are also learning from the content and skills they are taught. Analysis of the data that have been collected showed that many students do not concentrate on what the teacher is saying during Physical Education and therefore are not focused on learning. Catherine stated that in any class she is more likely to stop listening if “the teacher talks too much or the topic is boring”. To solve this problem Catherine added that the teacher could “get us to get involved rather than just us listening.” This shows that this student wants to spend more time being engaged and involved throughout the lesson. This point also underlines the perceived importance of involvement as a means of increasing attention.

The perceived effects that Physical Education has on the mental aspect of student learning varied according to the perceptions of the participants. Some participants perceived a strong positive link between Physical Education and cognitive learning, while others believed that Physical Education did not have any effect on how they learnt.

Positive Effects on Cognitive Learning

One reason that was supplied as evidence towards the positive influence Physical Education may have on learning is that it gives the students a break. Many participants believed that Physical Education gives them a break from more strenuous academic learning. Catherine introduced the term ‘brain energy.’ She defined this term as “the energy in your brain that helps you to focus... during the day”. Mr Roberts explained that sometimes he teaches using shorter information

times when students are not focusing. These short information times could possibly be broken up by Physical Education sessions.

David explained that Physical Education helps to reduce boredom that may occur during other classes. He agreed with Catherine's idea that Physical Education helps to relax his brain. Brendan took a slightly different view on how Physical Education affects his learning. He believed that it helped get his brain working. During the member checking surveys, every student agreed that Physical Education gave them a break from mental learning.

Physical Education can also be integrated into other learning areas. Anna stated that she enjoyed it when movement was incorporated into other subjects. She believed that this made the class enjoyable and exciting and made her focus more in class and therefore learning became easier. Before the first interview with Mr Roberts, he asked specifically if the questions were related to Physical Education as a subject, or whether they referred to the integration of Physical Education into other subjects. Then, off the record after completing the second interview, Mr Roberts reiterated his thoughts on integration. He believed that the old timetable (where all subjects were taught by one teacher) was more effective as the teacher was able to integrate Physical Education into the day when it was most needed. This restated opinion of his showed that he perceived Physical Education to be a useful tool for learning. Catherine thought that integration was important too. Her perception was that movement in other lessons was fun, exciting and that it made it easy to focus and therefore easy to learn. Ethan thought that movement during lessons other than Physical Education was also important. He stated that he likes movement in other lessons because "you can have a bit of a stretch instead of sitting down all the time."

Mrs Walker could see the positive side of integrating Physical Education into other subjects, however she also saw the idea from a more practical perspective. She said:

If you can [integrate Physical Education into other lessons]... Like in Science I know they were doing um a heart rate thing, or something. And so they were getting the skipping [rope] out and then doing skipping and then doing their heart rate with that. So if you can include it, then yea, definitely.

Mrs Walker did however consider the difficult nature of organising such lessons. “I think there are so many things as a teacher to take into account that you are just trying to get [the students] to learn the curriculum.” The perceptions of both teachers and students show that integrating Physical Education into other subjects is both enjoyable and beneficial. There is however a perceived added difficulty involved in planning such lessons.

One way Physical Education can have an influence on student learning is that it provides the students with a break from the rigour of more structured cognitive learning. Another possible way Physical Education helps students in their learning is that it can provide a higher level of focus during other subjects. All five students agreed that Physical Education “helps me stay focused in other classes”. Many reasons were provided for this. An observation of a graphics class that followed Physical Education and lunch showed that the students were focussed on their work. When asked to consider why it was easy to focus during that class, David stated that “you can’t just let all your energy stay in for the whole day you’ve got to let it out and fresh air. So the high-jump and P.E. did that.” This shows that David perceived Physical Education to have had a positively affect his focus level that day. Catherine agreed with this concept as she perceived that Physical Education has a positive influence on her attention levels. When asked during an interview “after completing P.E., do you feel more or less focussed during the following class?” Catherine

responded with “more focused”. These responses show that Physical Education is perceived by the students to have a positive influence upon their attention levels in the following class.

Students and teachers perceived that Physical Education can help students with their cognitive learning through the use of teamwork or cooperative learning. This social skill that can be learnt in Physical Education can have beneficial effects on other cognitive subjects. Such skills learnt in Physical Education may be transferable and are explained in more detail in the section later in this chapter that shares how Physical Education affects students’ social well-being.

Neutral and Negative Effects on Academic Learning

Having Physical Education towards the end of the day can cause some students to be thinking about Physical Education during the day rather than concentrating on the current work. Ethan agreed that this happens on some occasions. When asked if being excited about Physical Education affects how he learns he responded by saying the following:

Yes I do... it’s sort of bad. Like if Mr Roberts told us in an hour’s time we’re going to P.E., um we’ve still got an hour of maybe Maths to go, I wouldn’t really be concentrating because I would be more excited about the P.E. and I just wouldn’t really concentrate on what’s more important.

He added that thinking about Physical Education only really affects him during the class directly prior to Physical Education. This shows that Ethan’s concentration levels for the subject prior to Physical Education decreased due to his mind already being focused on Physical Education. Brendan agreed and thought that Physical Education at the end of the day can be a distraction. Previous literature (Mahar, et al., 2006) indicates that students’ excitement in anticipation of Physical Education does not affect their learning. Other students also did not see this as an issue. When

Catherine was asked whether she got excited about Physical Education during the day, she simply answered, “No.” David also felt neutral on this concept and thought that Physical Education did not cause a distraction to his other work. Anna had a completely different view to this issue. She thought that having Physical Education towards the end of the day created excitement that actually enhanced learning. She stated that, “If you’re excited about something... it just um helps. You think: when I’ve done this class I get to go to P.E. so the faster and better I do this... I can get more closer to it being P.E. time”. This mixed reaction shows that there is a range of perceptions surrounding the influence a future Physical Education lesson can have on students’ learning.

Taha Whānau – Social Well-Being

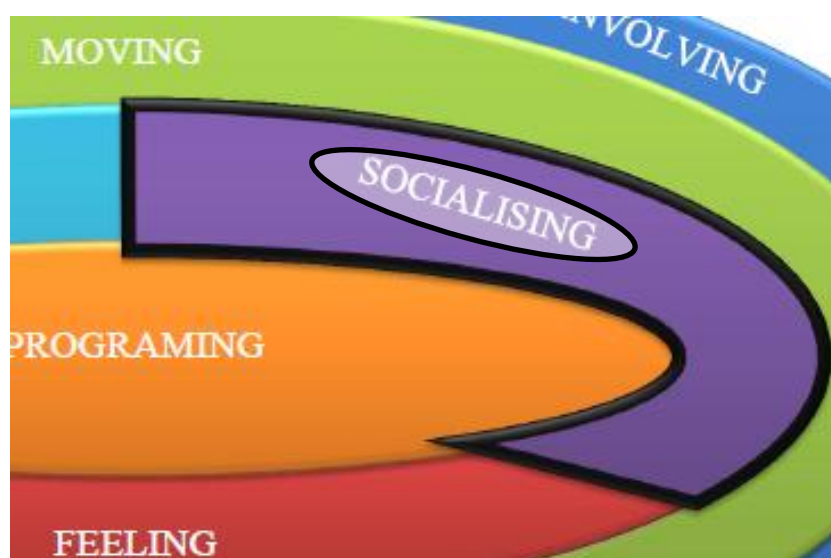


Figure 4.5 - Socialising Diagram

The theme of ‘socialising’ emerged as being strongly linked to Physical Education. This theme is connected to social well-being within the concept of Hauora. Students and teachers perceived that Physical Education provided many opportunities for

students to participate in groups and work together with others. Social aspects of Physical Education emerged as important issues perceived by the students and teachers throughout this research.

One concept that emerged consistently from the data analysis process was the idea of teamwork. Anna explained that Physical Education teaches her to cooperate as she is forced to work together with others in teams. She gave this explanation during her first interview as one of the reasons why Physical Education gave her enjoyment. Anna said she finds Physical Education enjoyable because “when you do it in a team you get to learn to cooperate with your team members.” She also believed that teamwork can have an effect on students’ emotional well-being. Anna stated that participating in Physical Education makes her feel good about herself “because you're in a team and you're doing it together so you can say that um you're a good participator or that you're not. And so um it's easier to do things”. Ethan also perceived teamwork positively as he saw it as allowing students to share the load between them.

However, it was found that the way students work together in teams is not always positive. David thought that the way people work together in teams largely depends on the game that is being played. David also thought that sometimes group work in Physical Education did not work because “some [people] might disagree and want to be with their friends.” Anna had a differing view on student grouping in Physical Education. She enjoyed being in a group with her friends, however she did admit that when she is with her friends she does have the tendency to talk rather than listen and participate. On the contrary when she was in a group with other class members she did not talk as much. However, Anna did say that some other members of her class can “be mean” when they work in groups or teams. She thought that having the right

mix of students in a group was important if the group was to participate effectively. David also thought that working together in groups more in Physical Education would help them develop teamwork skills in other subjects. The following dialogue was taken from an interview with Mr Roberts. It shows how he perceives Physical Education as crucial for teaching teamwork:

In our curriculum, that (teamwork) is one of the key competencies and it's a focal point. And if you can do it in sports... and the thing, if you play soccer – I think that is a good example of a team sport and working together, because you have to put the ball into a hole for someone else to run onto and you have to be thinking for that person. And you've got to be thinking together... It's not about ourselves this sport.

An analysis of the data shows that this concept of teamwork is perceived by the participants to have a large impact on the success of Physical Education.

Related to the concept of teamwork is the idea of social support. When students are working in pairs they are able to be guided by the words or actions of fellow teammates or group members. This can occur in both a positive and negative manner. Anna believed that it felt good when team members would cheer the rest of the team on and encourage them towards finishing a task. Brendan also stated that team work was positive as it made students look out for others in their team. He also thought that this could be applied to other subjects. Brendan also added that he enjoys the congratulations he receives when he does something good in Physical Education. When asked about the importance of the subjects they complete at school, David explained that he did not think that Art was important. He gave the reason that it is not a social subject. This simple statement shows that David sees the social aspect of school to be important.

During one particular Physical Education lesson, there was a student who had a sprained ankle and was unable to be actively involved. The teacher created an

opportunity for this student to still be involved in the lesson. Each group had to carry one student around the gymnasium on a large mat. The teacher organised the activity so that the student with the sprained ankle was the one who could be carried. This observation shows that even though the student was unable to be physically involved in the lesson, she was still able to socially interact with her classmates. This showed that the teacher perceived social interaction between students to be important.

Many of the participants explained that Physical Education gave them the chance to make friends in a different environment. David agreed with this point by saying that Physical Education helps and “it also gets (you) to know your class mates better”. He elaborated by saying that in Physical Education “you can make more friends”. When discussing the idea of a morning fitness session, Brendan stated that it would be a good opportunity to see his friends. This indicates that he considers Physical Education to be a social subject where he can interact with his peers.

Physical Education can also change the way students view or perceive their classmates. Students who are not academically minded may be the ones that succeed in Physical Education. Mr Roberts brought this up by saying that if a student is to “go out and do something in the sports ground, they (the other students) actually see a whole new world of somebody else and that then changes their perception of that person, in the classroom.” This new perception can all be created from seeing a student participate and succeed in Physical Education. Mr Roberts explained this concept well in relation to how students’ views of their classmates can be affected through the eyes of Physical Education:

How you speak to someone, how you relate to, how you think about somebody, how you communicate with somebody... A whole new point of view or a whole new acceptance. I didn’t realise that that guy was really good at (Physical Education), you know, because I wouldn’t associate with

this person because they're not really my type. I've seen that lots of times, people who I thought were outliers in the class were really good at something in sports and they were drawn back into the fold.

This is one positive social outcome that can arise from Physical Education. It gives students who may struggle academically the opportunity to be viewed as equals in the eyes of their classmates. When this occurs it can also have a positive influence on their self-esteem. Many of the students and teachers in the study shared this perception.

Taha Wairua – Spiritual Well-Being

The spiritual side of Physical Education can be a difficult one to comprehend and observe. The Maori concept of Taha Wairua (spiritual well-being) includes the people's values and beliefs, personal identity and the meaning and purpose in life (New Zealand Ministry of Education, 2010). The data that were collected and analysed did not uncover very much about students' and teachers' perceptions towards how students were being taught Physical Education on a spiritual level.

Spiritual well-being can include the teaching of values. One of the two areas where any ideas of spirituality were uncovered during this study is through the teaching of values. One value that is being taught to a degree in Physical Education is that of teamwork. This idea of teamwork also relates strongly to the area of social well-being (mentioned earlier in the section: Taha Whānau – Social Well-Being). Most of the participants involved in this research believed that Physical Education helped students cooperate as a team. Some participants that were interviewed did however have reservations as to how effective Physical Education is in developing teamwork. Mrs Walker believed that grouping students was a crucial part of her job. She said that many students argue and have not yet developed the social skills to work

together effectively. Physical Education provides a platform for the teaching of values.

Another aspect of Physical Education that fits into the spiritual domain is that of belonging. The feeling of belonging also affects students' emotions however it still has an impact on the spiritual level. Mr Roberts said that he tries to include cooperative learning in the classroom too. This allows for skills that have been learnt during Physical Education to be transferred to the classroom. He believes that this system of working together creates a sense of belonging. "The whole system – let's do this together, let's solve a problem together, let's come up with a team answer. If it's wrong, one person's not wrong, the whole team is, you know, but it belongs to them."

The amount of evidence that was revealed through this research shows that there is a need for further research in the area of the link between spiritual well-being and Physical Education. This research study shows that there is possibly a weakness in the way Physical Education is currently taught however that could only be determined by further research.

Additional Findings



Figure 4.6 - Programming Diagram

The following findings do not directly fit within the boundaries of Hauora (overall physical, mental and emotional, social, and spiritual well-being) however they have emerged from the data analyses and are an important part of the study, and may influence the areas of Hauora in an indirect way. The fact that these findings have emerged show that they are perceived as affecting students and the way that they learn. They have therefore been included in this chapter. Many of these additional themes include perceptions of how Physical Education is scheduled and taught and have therefore been coded into the theme of programming.

Some findings that emerged from the data related to the way Physical Education is taught. The way that the subjects and timetable are set up at the school does not allow for very much integration between subjects. Prior to the first interview with Mr Roberts, he asked whether Physical Education was in reference to the specific subject or whether it related to the integration with other subjects. He also mentioned at other times during his interviews that he felt like Physical Education could be easily integrated throughout the curriculum so that it could be taught with other subjects.

The way Physical Education is taught at this particular school is largely dependent upon the school timetable. Each intermediate class is taught by several different teachers, depending on the subject. Each class receives two one hour Physical Education lessons within a six day rotating timetable. After collating the results of the responses by the students to the questionnaire, it was uncovered that on average students would like to have Physical Education about four times per week. Six of the students stated that they would like to have Physical Education more than five times per week and surprisingly only one student only wanted it one day per week. This analysis shows that the current amount of Physical Education that the students participate in per week is not perceived as enough by the majority of the students.

Thirteen of the sixteen student participants would like to have Physical Education three or more times each week as shown in Figure 4.7 Periods of Physical Education per week.

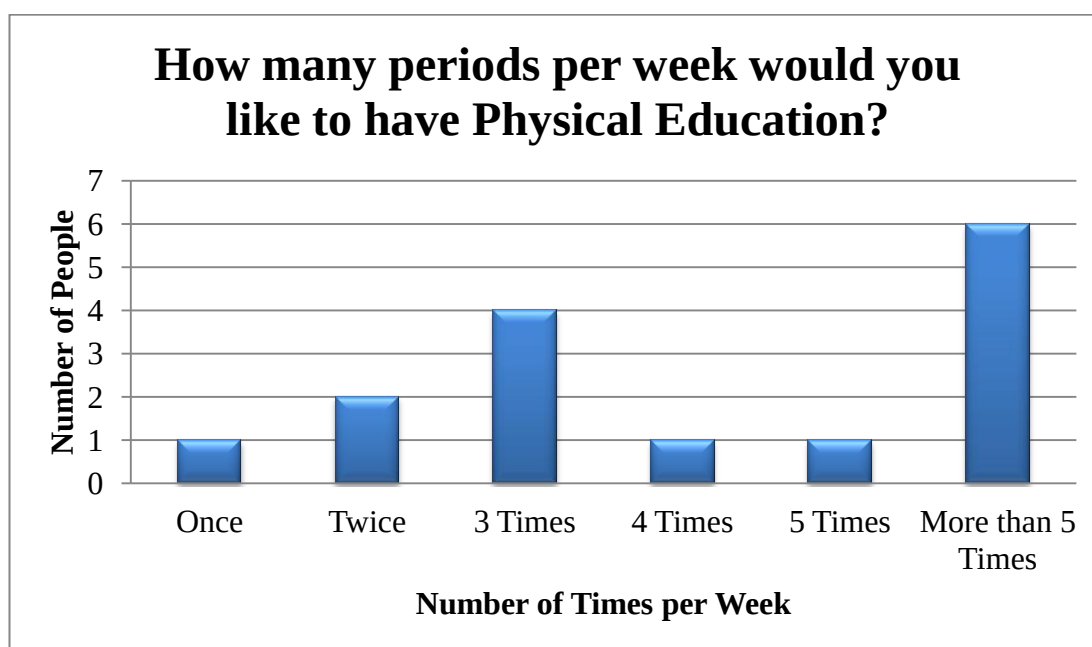


Figure 4.7 - Periods of Physical Education per Week

Related to the amount of time spent participating in Physical Education each week is an analysis of which period of the day is the most effective for Physical Education to be taught. There was a wide variety of opinions that were expressed about this area including first period of the day, last period of the day, during the middle of the day and also a mixture of all these time slots. Mrs Walker believed that the time of the day Physical Education is taught is not important. Mr Roberts explained that the timing of Physical Education can be seen from two different perspectives. He thought that when Physical Education is taught in the afternoon, it can be viewed as a goal or a reward for the students after a long day of learning. By having Physical Education in the afternoon he also thought that this left the morning free for the students to complete other work while they were still fresh. In contrast, Mr Roberts

thought that Physical Education can also be used effectively during the middle of the day as it “breaks things up” and gives the class a chance to get some oxygen into their lungs.

The students also had varying views on what time of the day Physical Education should be taught. Brendan could not decide exactly when it should be taught as he considered the positives of Physical Education both in the morning and in the afternoon. He firstly thought that having Physical Education at the end of the day can be distracting while trying to complete other subjects. But he also stated that having Physical Education at the end of the day is good as it gets the hard work out of the way first. Ethan also enjoys getting everything else done first so that he can enjoy his Physical Education at the end of the day. This range of opinions shows that the timing of Physical Education lessons is perceived to have positive and negative effects on students at various stages throughout the day.

The students were also asked to consider how they thought Physical Education should be streamed. Currently, the classes are streamed according to Literacy ability and these mixed year level and mixed gender classes are the groups they are in for Physical Education. Mrs Walker explained that in year 9 and 10, the Physical Education classes are split by gender. She believed that boys thrive on competition and enjoy a challenge during Physical Education. Comparatively, she believed that girls are more “chilled” and see Physical Education as more of a social event. David did not see gender-based streaming as a positive step however. He believed that boys would become rough without the presence of girls. Anna also thought that gender-streaming could pose problems as she stated that “girls might be like a bit talkative ...and they might be like not doing what they are supposed to be”. She also thought that “they (girls) are more off task” during Physical Education. Catherine however,

believed that splitting boys and girls for Physical Education would be a positive change. She noted that girls would feel less awkward and this would in turn increase the female level of participation. The participants involved in this study had both positive and negative perceptions when considering a gender-based streaming of Physical Education in intermediate.

Students were also asked to consider the idea of streaming Physical Education classes according to physical ability. Anna thought that this idea would be too judgemental. She stated more than once that she likes the way that Physical Education is currently taught because students are not judged. David also did not see this as a good idea. He thought that it would be “rude” to stream students by ability and that there were positive aspects of having mixed ability classes. He stated that mixed classes help students learn. This graph (Figure 4.8 - Organisation Physical Education Classes) shows that there were a wide range of opinions on how students should be grouped for Physical Education.

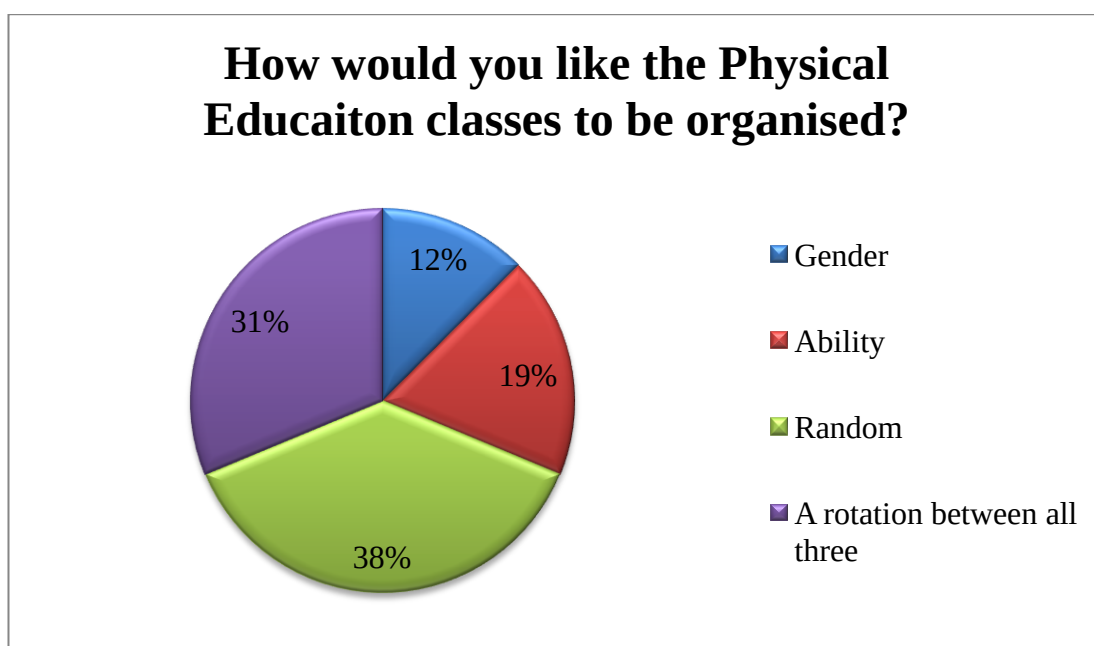


Figure 4.8 - Organisation of Physical Education Classes

Conclusion

The results in this chapter have provided an insight into what students and teachers perceive as being important to how Physical Education affects students and their learning. Physical Education is perceived to have a positive influence on students in many ways. The important themes that emerged from the data were involving, moving, thinking, feeling, socialising and programming. The significant area where Physical Education is believed by some participants to have a negative impact is the disharmony that can occur on occasions during team activities. The results that have been presented in this chapter will be discussed further in the next chapter.

Chapter Five: Discussion – Applying the Skill



One section of most Physical Education lessons involves the students participating in an activity that gives them the opportunity to apply the skill they have been learning in a practical situation. In a similar way, this chapter uses the information from the results chapter to draw conclusions and discuss the meaning of these results.

The results of the data analysis and analysis of previous literature in the area of Physical Education have been considered in this discussion. The sub-questions have been used as a framework to answer this research question:

“What are the perceptions of students and teachers in one year seven and eight class towards Physical Education and its effect on students and their learning at one school?”

Introduction

Several conclusions have been drawn from the results of this research. Codes and themes have emerged from the data analysis processes that provide explanations in regards to the perceived effects of Physical Education. Many of these themes link into the concept of Hauora (overall physical, mental and emotional, social, and spiritual well-being). In addition to the main aim of answering the study’s overall research question (stated above), this chapter will also provide discussion according to the sub-questions presented in Chapter One.

Within the context of one school the following questions have been investigated:

1. What do teachers and students see as being the benefits and weaknesses of Physical Education and what changes need to be made?
2. Do teachers and students perceive that participating in Physical Education affects the attention span and concentration levels of the students?
3. How is the timetabling, structure and pedagogy of the Physical Education program perceived by teachers and students to affect learning?

4. What perceptions do teachers and students hold about the relationship between Physical Education and the social and emotional development of students?

What do teachers and students see as being the benefits and weaknesses of Physical Education and what changes need to be made?

After considering the data, it has become apparent that some of the students in the study were not entirely aware of the gains being made by participating in Physical Education. The main response from all participants throughout this study however, is that the primary benefit from Physical Education was perceived to be the benefit gained from exercise. Exercise was believed to generate certain health benefits in the students. These health benefits that were stated by the students and teachers are reinforced by research from Morgan and Hansen (2008) who state that teachers see the health benefits as the main reason why Physical Education is taught in schools. Through both interviews and observations, movement – which leads to exercise – was seen, by both students and teachers, as a key component of a successful Physical Education lesson.

The physical benefits of Physical Education were well known to the participants in this study. Analysis of the data showed that after school exercise is lacking in the lives of many of the students. Other activities are taking precedence over exercise for the students. Although most students do not complete a high level of exercise after school, findings from the data analysis indicate that both teachers and students believe that the way students exercise now could affect them in adulthood. This is confirmed in the literature Bates (2006) who reports that the amount of physical activity one participates in as a child could affect one's health in adulthood.

Interestingly, even though many students are not completing a large amount of physical activity at home, they still particularly enjoyed activities during Physical Education lessons that involved movement.

As outlined in the results chapter (Chapter Four: Results – Practising the Skill), Physical Education has been described as being “fun” by most students. The participants identified boredom as one of the main reasons why they stop listening or lose focus during academic subjects (other than Physical Education). The students do not necessarily have to take part in a complete Physical Education lesson to break up this boredom. It was observed that during periods of long cognitive processing, the class was given the opportunity to take a short break and run around outside.

Previous research has been completed that shows that students have a higher level of on-task behaviour when they are given the chance to take a break or participate in movement exercises during classes (Trost, 2007; Jensen, 2008). This small amount of movement created a release from the rigours of academic learning and gave the students the chance to participate in a small amount of exercise. This increase in attention span created by taking breaks in class can also positively influence students’ academic development. Coe et al. (2006) state that students may improve academically due to the reduction of boredom as a result of completing some sort of physical activity. Whether it is a Physical Education lesson or a small amount of physical activity, students show increased attention levels after completing such activities.

One area that did not arise in great detail from the data analyses is the correlation between Physical Education and spiritual well-being. The New Zealand Curriculum states that Taha Wairua (spiritual well-being) should be taught as part of the subject called Health and Physical Education (Ministry of Education, 2007). The results of

this study found that despite the school having a Christian special character, the only connection to spirituality in Physical Education was through values education – such as teamwork – and through the creation of a sense of belonging. When students cooperate and work together during Physical Education they feel a sense of belonging. Keown, Parker, and Tiakiwai (2005) say that cooperation and teamwork are two of the values that can be taught in Physical Education. When people cooperate and work together, unity is created in a group of individuals. This is also a feature of the enhancement of the class' social well-being. Positive values such as teamwork and unity may be being taught intuitively, however they should be deliberately included into planning to ensure that the potential spiritual benefits of Physical Education are communicated to the students intentionally.

A Physical Education session has the potential to be a time where students learn and interact in the spiritual domain. For example, Shields and Bredemeier (1995) believe that Physical Education can be effective in helping develop moral character in children. There is the possibility of teaching values during Physical Education lessons. This may currently be happening to some extent during Physical Education lessons; however there are opportunities for Physical Education teachers to place a more consistent emphasis on the teaching of values.

Values are specified as a component that should be taught in Physical Education in New Zealand. The New Zealand Curriculum (Ministry of Education, 2007) states that the following values should be encouraged with the students: excellence, innovation, inquiry, and curiosity, diversity, equity, community and participation, ecological sustainability, integrity, and respect. Additionally, the New Zealand Curriculum (Ministry of Education, 2007) states that attitudes and values are seen as concepts at the heart of Health and Physical Education. Other key values that can be

taught in Physical Education are “responsibility, teamwork, discipline, excellence, trust, self-confidence, perseverance, competition and cooperation” (Keown, et al., 2005). Conversely, Physical Education could foster the development of negative traits in students as such selfishness and the desire to win without considering consequences or the thoughts of others (Keown, et al., 2005). After considering the potential benefits and disadvantages Physical Education can provide in terms of values education, it is important that teachers carefully consider how they will incorporate values into their lessons.

One of the most positive aspects of Physical Education that was evident from the perceptions of the students and teachers is that Physical Education is enjoyable. Physical Education provides a welcome break from other subjects. Students and teachers also perceive the physical benefits students gain from Physical Education to be valuable.

Do teachers and students perceive that participating in Physical Education affects the attention span and concentration levels of the students?

Past research has shown that the attention levels of students are on a downward trend which is largely being contributed to by the increasing level of technology to which children are now being subjected (Johnson, et al., 2007; Laudhuis, et al., 2007). However, it has been shown that physical activity allows students to concentrate for a greater period of time due to the relaxing effect it has on them (Dwyer, et al., 2001). Physical Education can also help enhance attention levels as it gives students the opportunity to release energy (Morgan & Hansen, 2008). The way that Physical Education is able to affect the attention span and concentration levels of the students involved in the study is related to the timing of the Physical Education lessons. The

way the timing of Physical Education affects students is discussed in the next section of this chapter.

One reason that Physical Education is able to affect the attention levels of students is that it creates a break from other academic learning. Past research has shown that movement can help reduce drowsiness in students (Jensen, 2008). The participants involved in the study outlined in this thesis explained that one of the reasons they enjoy Physical Education is that it gives them a break from being in the classroom. Physical Education provides students with different experiences than those that are offered in the academic disciplines (Kjønniksen, Fjøltoft, & Wold, 2009). This is particularly valuable as not only does Physical Education provide students with physical benefits, but it also can give their brain the chance to refresh. Exercise has been shown to increase blood flow to the brain (Dwyer, et al., 2001) which could therefore help students perform better in the classroom during lessons following Physical Education sessions (Hillman, et al., 2008). Students see Physical Education as an opportunity to remove themselves from the classroom and to experience learning in another environment. This was perceived to have a positive effect on the focus level of students.

Past research has shown that there is a possible link between Physical Education and the need for less discipline in lessons following Physical Education sessions (Morgan & Hansen, 2008). Although no direct evidence of this was found in the current study, this theory is certainly plausible and could be further investigated in future research. This reduced need for discipline could be due to the students being more focused on their work after completing Physical Education. This higher level of focus in subsequent lessons may mean that the classroom teacher does not need to spend as much time disciplining students. There may also be a connection between students'

behaviour and the rate at which they learn (Coe, et al., 2006). Therefore the enhancement of attention span and hence improved behaviour may be a positive influence on students' academic learning.

This research study showed that the time of the day that Physical Education is taught can have an effect on student learning. How the timing of Physical Education changes student attention levels will be discussed in more depth in the next section of this chapter. Physical Education was seen to positively affect students' attention levels, which may also influence their cognitive learning. If students are more focused in class, it is fair to reason that they may also be more likely to achieve at a higher level.

How is the timetabling, structure and pedagogy of the Physical Education program perceived by teachers and students to affect learning?

The way Physical Education is timetabled can affect student learning. Previous literature has shown that Physical Education is easily overlooked in many schools due to time constraints and the desire for extra teaching time in other subjects (Mahar, et al., 2006). This problem is negated in the school that participated in this research because the school adheres to a rigid timetable where Physical Education is taught by a specialist teacher. This timetable structure ensures that the time for Physical Education is never replaced by another subject.

The content and skills that are taught in Physical Education lessons help to shape students' opinions on the effectiveness of the subject. However, Petrie (2008) found that some primary teachers in New Zealand are not using the New Zealand Health

and Physical Education Curriculum to aid their planning. This was also reflected by the Physical Education teacher involved in this study.

One recurring theme that emerged from the data analysis was the need for involvement by the students during Physical Education lessons. The student participants were asked to consider what parts of Physical Education they enjoyed the most. Although there was a wide range of widely inconclusive responses, the comments that were provided all pointed to the need for involvement. Benedict (2010) found that students want to actively participate in Physical Education lessons. She added that many students do not enjoy Physical Education lessons when not everyone in the class is involved and participating. An analysis of data collected in the study being described in this thesis found that no student wanted to wait to participate in an activity. Instead they wanted to play games or participate in activities that got them exercising and actively involved.

The organisation of the school's classes brought out a range of opinions from the participants. Mr Roberts, the classroom teacher, stated that Physical Education could easily be integrated into other subject areas. By separating Physical Education, there is less integration with other subjects, as the timetable is too rigid to allow for extra Physical Education to be taught and integrated into other classes. Students in this study enjoyed it when movement was integrated into other classes. Rauschenbach (1996) agrees by saying that the teaching of all subject areas can be enhanced through integration. A program that involves Physical Education being integrated into other subjects enables students to learn that Physical Education and other subjects are linked (Placek & O'Sullivan, 1997). However, the separating of Physical Education does allow for a specialist teacher who is trained in the area to teach the students. Mr Roberts believed having a separate Physical Education teacher was

beneficial as not all teachers were willing to teach a comprehensive Physical Education program. The current organisation of the school timetable involved in the study in this thesis therefore had both positive and negative aspects.

Another aspect of timetabling and structure in Physical Education examined the possibility of a before school fitness program. It was revealed that teachers and students in the study held the perception that an early morning fitness program would help students be more alert at school. They believed this would be effective as such a program would allow students to “wake up”. Physical activity can have a relaxing influence on children and this can therefore help them to concentrate for longer periods of time (Dwyer, et al., 2001). In the same way, a before school fitness program could help students relax before they begin their day of learning. Although a before school fitness program may reap benefits in terms of students’ attention levels, it may, in turn, cause students to come to school earlier, which may therefore cause them to be more tired by the end of the day. Considering the responses received in this study and the perceived benefits that can be achieved from participating in a morning fitness session, schools could remodel their timetable to fit in a short morning fitness session on some days.

The students in this study did not deem two one-hour periods of Physical Education across a six day timetable to be enough. As New Zealand schools have the right to determine how much time each subject is allocated (International Review of Curriculum and Assessment Frameworks, 2002), the school has the autonomy to timetable Physical Education in the manner they see as being most appropriate. There are however, enough positive benefits that are being attributed to Physical Education, to justify an extended Physical Education program in this school. It has been justified through past research that when Physical Education has been extended

and replaced other subjects, there have been no negative consequences in students' academic results in these other subjects (Sallis, et al., 1999). Shephard (1997) agrees and adds that extended Physical Education sessions can even enhance student learning. An analysis of the data collected in this study revealed that students perceive Physical Education as a largely enjoyable subject and teachers have agreed that it positively benefits students in many areas.

A range of positive and negative perceptions emerged from the data analysis in relation to the timing of Physical Education sessions. Some participants perceived morning Physical Education lessons to help wake students up and get their "blood flowing" before they begin academic work. When Physical Education is taught at the end of the day it is seen as a goal or a reward for the students to work towards. This can however be distracting for some students. Alternatively, Physical Education can be used in the middle of the day to help break up the academic sessions and instead provide the students with a brain break. Castelli and Ward (2012) say that physical activity sessions should be included throughout the day to ensure that students are not sitting for more than 60 minutes. The school that was involved in the current research had a very rigid timetable. It may be more beneficial to have a fluid timetable. This would allow the teacher to fit Physical Education into the day at a time where he or she thought it would be the most beneficial to the students. Practically this would be difficult to achieve however the benefits may be too large to ignore.

It is important to note that Physical Education is different to competitive sport. There are many ways in which Physical Education and competitive sport can be linked (Pope, 2011). The participants all had varied opinions in regards to what type of activities should be included in Physical Education lessons. Playing games of sport

was the most popular activity among the students. Past research however, has shown that students who are exposed to performance and competition based Physical Education lessons are more likely to have negative experiences in Physical Education when the focus is on winning rather than just participating (Beltrán-Carrillo, et al., 2012). Students who do not succeed in highly competitive environments may be subject to harassment from other students which could lead to them suffering self-esteem issues (Beltrán-Carrillo, et al., 2012). The current research study however actually found differing results from the Physical Education lessons. It found that thirteen of the sixteen students who completed the questionnaire believed that Physical Education made them feel good about themselves. The way that Physical Education is taught is perceived to have an influence on how students feel about themselves. This idea is explored in detail in the next section of this chapter.

Physical Education could have the possibility to cause negative experiences for students if it is not taught appropriately. Physical Education should however be taught according to a combination of two of the models as explained by Pope (2011). The Reinforcement Model allows games and sport to be a large part of Physical Education as long as they are taught by the teacher in an inclusive way. The Sequence Model is when Physical Education provides building blocks so that students can successfully apply these skills in sport in varied situations. To ensure a combination of these models is being taught, it is important for the teacher to include a range of activities in Physical Education lessons.

A study that examined youth attitudes toward Physical Education found that the contents of the Norwegian Physical Education curriculum that incorporates a wide range of activities may be why students have a largely positive attitude toward the subject (Kjønniksen, Fjøltoft, & Wold, 2009). Some activities that teachers could

include may be teaching students new sport skills which they can then apply to game situations. These should always incorporate movement to improve their fitness.

Where appropriate, activities that involve teamwork should also be included to aid in the development of social skills within sport. Students may also apply these skills to other scenarios in life. Teaching values in Physical Education is designated as one component of the New Zealand Curriculum (Ministry of Education, 2007). The successfulness of the Physical Education program in terms of how students deal with the balance of sport and competition will come down to how the teacher teaches the subject. The way that Physical Education is taught largely determines how effective it can be in influencing other areas of students' schooling and their overall well-being.

What perceptions do teachers and students hold about the relationship between Physical Education and the social and emotional development of students?

Some literature shows there is a significant link between Physical Education and self-esteem in children (Dwyer, et al., 2001). Several participants in the current study stated that Physical Education made them feel good about themselves. Other studies have shown that students who struggle in academic areas of school often excel in other areas (Morgan & Hansen, 2008). The current findings show that Physical Education provides such students with the chance to succeed. Students who struggle in academic areas yet succeed in Physical Education often gain a boost in confidence from these successes (Morgan & Hansen, 2008). This increase in self-esteem can also improve social relations with other class members. Furthermore, students' interactions with others can also help to shape their self-concept (Delcourt, Cornell,

& Goldberg, 2007). Physical Education provides students who may not succeed in other areas with the opportunity to feel valued by others.

Males and females develop differently. The different genders are often involved in Physical Education in different ways. Physical educators have discussed whether males and females differ in their thoughts and performances in Physical Education (Weiller & Doyle, 2000). The results of this study show that the girls in this study are looking for different outcomes from Physical Education as opposed to the boys in this study. The girls see Physical Education as more of a social subject whereas boys are mostly interested in competition. It has been suggested that some sports are perceived as masculine or feminine and that this can impact upon children's involvement in such sports (Klomsten, Marsh, & Skaalvik, 2005). It emerged from the data that some students would like the Physical Education classes to be streamed according to gender as this would allow each gender to feel more comfortable participating in Physical Education. Some participants had reservations about this however as they believed that boys could become "rough" without the presence of girls, while girls may become more "talkative". It is therefore crucial that Physical Education teachers create a program whether both males and females feel comfortable to participate.

Physical Education has the potential to positively influence students' social well-being. Di Sisto (2002) states that many educators perceive involvement in Physical Education to create improvements in the social skills of their students especially as students prepare for high-school. Literature has also shown that sport can have a positive influence on students' social development by improving areas such as cooperation, assertion, responsibility, empathy, and self-control (Côté, 2002).

However the results presented in this thesis found that due to a range of

circumstances, Physical Education does not always provide an environment where this occurs. In fact, in some instances, negative social experiences can occur within the confines of a Physical Education lesson.

During Physical Education, students are frequently given the opportunity to work together with their classmates. The results of these interactions range greatly depending on factors such as group dynamics. Teachers need to carefully choose which groups they place students in. Disharmony and bullying can occur when students are inappropriately put together in groups. Under the right conditions, Physical Education can be an environment where co-operative learning can occur. The teamwork skills that are learnt in Physical Education can be carried over to other areas of schooling. In Physical Education students learn to work with students they may not usually interact with. It has also been revealed from an analysis of the data that Physical Education can encourage students to make new friends as they come to see what those students are like in a new environment.

One concept that draws together the idea of teamwork in Physical Education and its influence on self-esteem is the idea of friend making. In the same way that Physical Education can provide students with a self-esteem boost, it can also help students who struggle socially to make friends. Sport can provide opportunities for individuals to interact with their current friends and also develop new relationships (Allen, 2003). An analysis of the data presented in this thesis showed that Physical Education can provide students with the opportunity to see their class-mates in a different environment and that this allows them to see another side of the people they usually only come into contact with in the classroom. By requiring students to work in groups with others outside the classroom environment, students have the chance to learn new things about each other that they otherwise would not have known. The

data showed that Physical Education gives the students the chance to make new friends. It also allows them to strengthen the bonds of friendships they already have. This aspect of socialising emerged strongly from the data. It is one of the areas that both the teachers and students involved in the research saw as a positive outcome of Physical Education.

In most cases Physical Education provides students with positive emotional experiences. When managed appropriately, Physical Education can help students develop positive relationships with their classmates. It can also help to enhance the self-esteem of students who may struggle in other areas of school.

Conclusion

The findings of the research presented in this thesis reflect many components that are in agreement with previous research. Physical Education can be of great benefit to students' physical well-being. This is achieved through movement and exercise in Physical Education lessons. This research study also provided evidence that supports findings from past literature which indicates that students benefit on a mental, emotional and social level from participating in Physical Education. Although research suggests that Physical Education can help students develop socially, the participants in this study perceive that there can be both positive and negative effects on social development as a result of Physical Education.

The perceptions of the participants involved in this study also show that the way Physical Education is programed and taught largely impacts on how effective it can be in helping students learn. This study shows that students and teachers perceive the benefits of Physical Education to be enhanced when students are more actively

involved and participating in lessons. Also established in this research study is that currently Physical Education is not perceived to be deliberately teaching students on a spiritual level. However, more research would need to be conducted into the area of Physical Education and spiritual well-being to determine how teachers and students link Physical Education and spiritual well-being.

Chapter Six: Conclusion – Lesson Summary



The final section of a Physical Education lesson gives the students the opportunity to recap the lesson and gives the teacher the chance to prepare students for the next class. In a similar way, this chapter will recap the research and provide areas in which further research could be conducted.

After considering previous literature and the findings presented in this study, conclusions have been made to answer the following research question:

“What are the perceptions of students and teachers in one year seven and eight class towards Physical Education and its effect on students and their learning at one school?”

Introduction

This thesis has outlined many areas through which Physical Education is perceived to be affecting students and their learning. In many instances Physical Education is seen to be positively impacting on the lives of the students and their learning. These perceptions were expressed by both the students and teachers in the study. Physical Education can also be seen to have negative influences upon students in some instances. An analysis of the perceptions of students and teachers has given an insight into how they believe Physical Education is impacting students and their learning.

It is perceived that involvement is critical to helping students learn in Physical Education. From this involvement, other benefits can emerge. Several physical benefits are perceived to be associated with Physical Education due to the movement and exercise that are incorporated in Physical Education lessons. Other findings that emerged from the study about Physical Education include the perceived increase in self-esteem in many students, the perceived positive and negative experiences students can experience due to socialising and perceived improvements in cognitive thinking as a result of the difference between Physical Education and other more academic subjects. The three themes that emerged from the data were thinking,

feeling and socialising. These themes all affect each other and are contributed to by the theme of movement. Largely influencing how Physical Education impacts on students is the way that it is organised. The programming of Physical Education is perceived to determine how beneficial the subject is for students.

Recommendations for Practice

The findings presented in this study provide information that can be used by teachers both in the schools involved in the study, and by other teachers. Such recommendations indicate that deliberate incorporation of values into Physical Education could strengthen the spiritual aspect of the subject. The participants in this study perceived that many positive social gains, such as increased cooperation and teamwork skills, can be learnt from Physical Education; however teachers must carefully determine how they group students during Physical Education activities. If students are not grouped appropriately there can be negative emotional consequences for some students.

Physical Education can also be used as a tool for teachers to improve student attention levels. Teachers may determine when student attention levels are dropping and then use Physical Education accordingly to improve their students' learning capabilities. Teachers and school administrators may consider the advantages and disadvantages of operating a strict Physical Education timetable where certain periods are nominated for the teaching of Physical Education.

Development of Further Research

This study and past research has sought to gain a greater understanding of Physical Education and how it affects students in a variety of ways. This research, in

particular, has analysed how Physical Education is *perceived* by *both* students and teachers. Further longitudinal research is needed over a long period of time to determine the relationship between Physical Education and how students learn. A future in depth comparative study could be conducted to determine how teachers' perceptions of Physical Education equate to the perceptions of students. Additional research could also investigate the *perceived* effects of Physical Education compared to the *actual* effects of Physical Education. Further research could be conducted to determine how students and teachers perceive Physical Education to affect students' spiritual well-being as this was the component of Hauora where only a few conclusions were drawn from this study. Additional research could be conducted to examine Physical Education and its effect on students and their learning from other perspectives. Perceptions could be gained from parents, school administrators or policy makers. Such research projects as mentioned in this section would enable a greater understanding of how Physical Education is influencing the lives of students both in and out of school.

Conclusion

Physical Education is perceived by students and teachers to provide positive experiences for students. The findings of this study revealed that enjoyment in intermediate Physical Education was high and students wanted to be involved and engaged in learning. Teachers and school administrators should carefully consider how they implement Physical Education in their school as this subject is perceived to have a significant influence on students and the way they learn.

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Appendices

Appendix 1: Approval Letter from the Avondale College of Higher Education Human Research Ethics Committee



Human Research Ethics Committee
Telephone: 02 4980 2121
Fax: 02 4980 2117
Email: research.ethics@avondale.edu.au

9 November 2011

Joshua Taylor
c/- School of Education
Avondale College
PO Box 19
COORANBONG NSW 2265

Dear Joshua,

Thank you for submitting the revised application and providing evidence of permission granted from the New Zealand Adventist school system, as requested by the Avondale College of Higher Education Human Research Ethics Committee (HREC), at its 29 September 2011 meeting.

After reviewing the revised documentation, I am pleased to advise that final approval is granted for your project *The effects on an alternative physical education program on the attention span of Year 7 and 8 students* for the duration of your project till 31 December 2012, (project number [2011:38]).

The following additional standard conditions apply:

1. That you notify the committee of any changes to circumstances or research design, which might require a review of the ethics approval.
2. That you provide an annual interim report of your progress to the committee, and a final report once this project is completed. The first report will be due twelve months from the date you commence the research.

We wish you well in this valuable research endeavour.

Sincerely,

A handwritten signature in black ink, appearing to read "Phil Fitzsimmons", written over a horizontal line.

A/Prof Phil Fitzsimmons
Chair
Avondale Human Research Ethics Committee

Excellence in Christian Higher Education since 1897
582 Freemans Drive (PO Box 18), Cooranbong, NSW, Australia, 2265
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A member of the worldwide Adventist system of universities and colleges

Appendix 2: Phases of Research from Ethics Clearance Form

SECTION C: DATA COLLECTION PROCEDURES

C1. How will Data be collected?

Timetable:

This table gives a time frame for each specific aspect of the research project.

Phase 1 - Pre Study Organisation

- Ethics submission and approval*
- Gain permission from the School Principal, Classroom Teacher and the New Zealand Adventist School System*
- Commencement of literature review*
- Research plan completed*
- Pilot study completed*

Phase 2 - January 1 2012 - February 6 2012

- Permission slips given to Classroom Teacher to be sent out on my behalf*
- Interview respondents selected from willing participants*
- Research facilities visited*
- Meeting with all participants involved in the research*

Phase 3 - February 7 2012 - February 24 2012

- Classroom observations undertaken and field notes taken*
- Interviews conducted with the student respondents and with the teacher*
- Coding and analysis of data begun*

Phase 4 - February 25 2012 - December 31 2012

- Post program interviews completed*
- Analysis and discussion of data written*

C2. Where will the data collection procedures take place?

Phase 1 and 4 will be completed at Avondale College of Higher Education in Australia.

Phase 2 and 3 will be completed at Longburn Adventist College in New Zealand. Observations will be conducted in the classroom and outside/in the auditorium during physical education classes. Interviews will be conducted in a highly visible classroom with an open door.

Appendix 3: Principal Consent Form

PRINCIPAL CONSENT FORM

- I have been given information about '*A students' and teachers' perspective on physical education and its impact and effect on student learning.*'
- I have been given the opportunity to discuss the research project and my school's involvement with Joshua Taylor, who is conducting this research as part of his Honours Research supervised by Phil Fitzsimmons in the Faculty of Education at Avondale College of Higher Education.
- As the research will be predominately carried out during regular class time, it is anticipated that the amount of time actually being allocated to the project is unlikely to be a burden to the students involved.
- I understand that participation in this research is voluntary, and that I am free to refuse permission for my school to participate and to withdraw them from the research at any time. The school's refusal to participate or withdraw consent will not affect me or the school's treatment in any way.
- I understand that the school's anonymity and confidentiality will be maintained, whereby under no circumstances our identity will be disclosed.
- If I have any enquiries about the research, I can contact Joshua Taylor (researcher) on 0416447824 or by email at joshuastephentaylor@gmail.com. Alternatively, I can contact or Phil Fitzsimmons (supervisor) on 0450256940 or phil.fitzsimmons@avondale.edu.au. If I have any concerns or complaints regarding the way the research is conducted, I can contact the Faculty of Education, Avondale College of Higher Education, 582 Freemans Drive Cooranbong, 2265.
- By signing below I am indicating my consent for my school to participate in the research entitled '*A students' and teachers' perspective on physical education and its impact and effect on student learning*' conducted by Joshua Taylor as it has been described to me in the information sheet and in any discussion with Joshua. I understand that the data collected will be used for Joshua's Honours thesis and scholarly journal publications and I consent for it to be used in this manner. I know that I can withdraw my consent at any time and that I will be given a signed copy of this form to keep.

Name (please print your name here)

Signature

Date

.....

.....

...../...../.....

Name of school (please print)

Researcher's Signature

.....

.....

Appendix 4: Participant Information Sheet

FAMILY CARE-GIVER INFORMATION SHEET

Dear Sir/Madam,

I am writing to invite your child to participate in the research project entitled '*A students' and teachers' perspective on physical education and its impact and effect on student learning*.' This project is being carried out in your child's class as part of my Honours study, which is coordinated by Phil Fitzsimmons in the department of Education at Avondale College of Higher Education.

The information related to the project is detailed in this information sheet, which provides a summary of the project in which your child is going to be involved should you consent to their participation. Please read it carefully and sign your name on the consent form attached if you agree to your child's participation in this project.

Overview of research

Previous research has been completed that shows there may be a link between physical education and student learning in other subject areas (Shepherd, 1997). This study intends to discover how this link is made and what specific factors affect students in the classroom. This study will develop a greater understanding of how students learn and what ways we can best teach to ensure learning is maximised.

What will the research involve?

The research will occur over three weeks. The research will take place at your child's school. I will be interviewing 4 students and getting them to write short journal entries about their schooling experiences. I will also be interviewing both the Rollmark teacher and Physical Education teacher to gain their perspective on the effect of physical education. Those involved in this research will be asked questions related to my topic. There is a section to sign on the consent form if you are comfortable with your child being interviewed as a part of this process. The four students will be chosen from the willing applicants in consultation with the classroom teacher. The interviews will take place in a highly-visible, open door classroom. Additional information will be available should you require it.

What are the benefits of carrying out this research project?

The benefits of this research relates to the quality of education a student can be provided. This study intends to identify the reason why students' attention span is adjusted after completing a physical education lesson. If I can discover ways to increase students' attention span then teachers will be able to be more effective in their teaching. It has also been shown that physical education can benefit the health and possibly the cognition of students (Sallis et al., 1999, p. 127). By showing that physical education also benefits students' attention span I may also make a change in the lives of some students in health and academic areas. All participants will have access to the findings and will be told the ways in which the research can be of benefit to them. A final copy of my thesis will be presented to the school so they can use the findings.

Confidentiality

Every measure will be taken to ensure that your child's confidentiality is maintained. A pseudonym will be used to protect the identity of your child at all times and all research data will be stored in a secure office at Avondale College of Higher Education, where it will remain for a period of five years, after which time all data will be destroyed.

Consent

Anyone is free to refuse to participate or, after having consented, to withdraw their consent without their refusal or withdrawal affecting their treatment, or their relationship to the school.

Further Information

Please feel free to contact me for questions and further information. I can be contacted on 02207700244 or by email at joshuastephentaylor@gmail.com. You can also contact the Avondale College of Higher Education Honours Coordinator Phil Fitzsimmons on +61450256940 or phil.fitzsimmons@avondale.edu.au. If you have any concerns or complaints regarding the way the research is conducted, you can contact the Faculty of Education, Avondale College of Higher Education, 582 Freemans Drive Cooranbong, 2265.

Please discuss your child's willingness to take part in this inquiry with them and only consent to their participation if they agree to participate. Please keep this information sheet for your own records and for future reference.

Yours sincerely,

Joshua Taylor

Honours student
Faculty of Education
Avondale College of Higher Education

Appendix 5: Participant Consent Form

FAMILY CARE-GIVER CONSENT FORM

- I have been given information about '*A students' and teachers' perspective on physical education and its impact and effect on student learning.*'
- I have been given the opportunity to discuss the research project and my child's involvement with Joshua Taylor, who is conducting this research as part of his Honours Research supervised by Phil Fitzsimmons in the Faculty of Education at Avondale College of Higher Education.
- I understand that, if I consent for my child to participate in this project they may be observed by the researcher during class lessons.
- As the research will be predominately carried out during regular class time, it is anticipated that the amount of time actually being allocated to the project is unlikely to be a burden.
- I understand that participation in this research is voluntary, and that I am free to refuse permission for my child to participate and to withdraw them from the research at any time. My refusal to participate or withdraw consent will not affect me or my child's treatment in any way.
- I understand that my child's anonymity and confidentiality will be maintained, whereby under no circumstances their identity will be disclosed.
- I have discussed with my child their willingness to participate in this inquiry and they have agreed to be involved.
- By signing below I am indicating my consent for my child to participate in the research entitled '*A students' and teachers' perspective on physical education and its impact and effect on student learning.*' conducted by Joshua Taylor as it has been described to me in the information sheet and in any discussion with Joshua. I understand that the data collected from my child's participation will be used for Joshua's Honours thesis and scholarly journal publications and I consent for it to be used in this manner. I know that I can withdraw my consent at any time and that I will be given a signed copy of this form to keep.

Name (please print your name here)	Signature	Date
.....		/...../.....

Name of my child (please print)	Researcher's Signature
.....	

-
- I am also willing for my child to be interviewed by the researcher as a source of information.
 - I understand that, if I consent for my child to participate in this project they may be asked questions by the researcher which may be audio-recorded.

Name (please print your name here)	Signature	Date
.....		/...../.....

Name of my child (please print)	Researcher's Signature
.....	

Appendix 6: Pilot Interview Notes

- Original Notes
- Expanded Notes

Pilot Interview – 26/9/11

Introduction to the study

Explanation of the pilot

Questions:

1. Do you enjoy physical education?
Why/why not?
2. What do you think are the benefits of physical education?
3. What activities does your teacher use to teach you physical education?
4. What could your teacher do to make physical education more beneficial to you?
fun
Edited during interview.
5. Do you look forward to the days where you have physical education?
Why/why not?
6. Do you find it hard to stay focussed during class? Why? If not, how do you stay focussed?
7. Does your attention span usually increase or decrease as the day goes on? Why do you think this is?
8. What affect does physical education have on the rest of your day at school?

Responses & Field Notes:

Yes - Choose your sport.
Because you can choose which sport to participate in.
From sport lesson.

Skills. Fitness. → *From gymnastics lesson.*
Sport is different.

Tennis - this term
Tuesday middle. *(between recess and lunch)*
Gym

? Not sure.

Sort of.

Gets distracted by
Sometimes. Other students.
Easy by self.
Much easier to concentrate when working alone.

Decrease as a lot of work has already been
Worse. Done heaps of work. *completed.*

Relaxed morning = < as
when the morning is relaxed attention span
No effect. *increases in the afternoon.*

Appendix 7: Pilot Interview Reflections

Excerpt from Pilot Study Reflections:

The interview that was completed has clearly underlined the necessity of performing follow-up interviews. Not only is it important to follow-up in a separate interview but it is also crucial to ask follow-up questions during the interview. I gained some important insights from this interview; however it has also left me with more queries and questions related to the topic. This is also helpful as it provides me with a base from which I can write more questions for future interviews.

Appendix 8: Pilot Interview Reflections

Excerpt from Pilot Study Reflections:

I also plan to carefully analyse each question I write to ensure that they are suitable and can be easily understood by the respondent. Future interview questions will be examined by someone with a non-vested interest. This will ensure that each question can be clearly understood and fits appropriately with the research topic.

Appendix 9: Observations

7/2/12 – Physical Education

- Students arrive to class at different times after getting their ID photos taken.
- The teacher helps the students review the long-jump techniques from the previous lesson.
- One student demonstrates the two techniques.
- The students pair up and practise the two techniques. They must put a cone at the point of their longest jump.
- All the students participate in this activity.
- Students are all working at different speeds and some stop towards the end.
- This activity lasts five minutes before the teacher calls the students back together.
- When the whistle blows the students sit down. Then when the teacher calls them to come closer to her, they all slide towards her instead of walking.
- The class roll is then called.
- The teacher reminds the students of the rules that were discussed in the first lesson.
- The two long-jump techniques are then reviewed again and the teacher explains the next activity. The class makes its way out to the long-jump pit.
- When they get to the pit, it is too hard and there is not enough sand. The teacher decides that this is not suitable and they will try it another day.
- Everyone returns to the gym. The teacher tells the students to bring P.E. shoes next lesson as the long-jump pit might still be hard.
- Instead the teacher decides that the students will play a game of 'Noodle Tag'. She then explains the rules to the class.
- The taggers are selected randomly from the class roll.
- All students are involved in the game and are actively moving around. Most students seem happy and are enjoying the game.
- After the game had been going a few minutes the teacher stopped the game to reassign the tagging positions.
- She got the current taggers to choose numbers that were then used to select students from the class roll. Most students wanted to be taggers.
- Before the game began again the students became a bit rowdy. The teacher had to wait for silence until she allowed the game to begin.
- There was not as much movement during the second game. Most students were still involved though.
- When the game ended there was a lot of heavy breathing and puffing from the students. This proved that they had been exercising hard.
- The noodles from the first game were returned and everyone was told to stand on a line.

- The teacher then explained the rules to a game called ‘Crossing the Great Divide’. The students were then paired up by the teacher.
- The students were told to practise the game. Some students started to push the boundaries and did not follow the rules.
- The teacher stopped the practise. One student misbehaved and was removed. He was then talked to by the teacher away from group after she had finished talking.
- The students had to walk in pairs with two feet touching.
- They were then asked to complete the same task but this time they were in groups of three or four.
- Most groups went slowly but still struggled with the task.
- When the teacher blew the whistle one student continued to talk and was then removed and made to watch. The teacher had a chat with him later on.
- Some students become loud and were calling other groups cheaters.
- The teacher called an end to the game and did another review of the long-jump techniques.
- She then went through a few caretaking things and reminders with the students.
- The students were then sent to get changed and that ended the lesson.

Appendix 10: Questionnaire

Student Survey

Circle the response that best explains how you feel.

1. Do you enjoy physical education?
 - Yes / No
2. If you could choose, how many periods per week would you like to have P.E.?
 - 1 / 2 / 3 / 4 / 5 / More
3. Do you think that P.E. helps you to cooperate as a team?
 - Yes / No
4. Does participating in P.E. make you feel good about yourself?
 - Yes / No
5. Would you like to have a fitness session every morning?
 - Yes / No
6. How often do you exercise after school?
 - Always / Most of the Time / Sometimes / Never
7. How would you like the P.E. classes to be organised?
 - Gender / P.E. ability / As they are now / A rotation between all three
8. Do you find it easy to concentrate for the rest of the day after completing physical education?
 - Yes / No
9. Which subject do you find the easiest to focus on? (Circle one)
 - Reading
 - Writing
 - Mathematics
 - Science
 - Creative Arts
 - Bible
 - Social Studies
 - Physical Education
 - Languages
 - Technology

10. Are there any other comments you have about P.E. and how you learn?

Appendix 11: Member Checking Survey

Member Checking Survey

Just to check the answers you have given me so far :)

*1

Name

*2

What is the one best thing about Physical Education?

3 The best period to have Physical Education is

*Why?

*4

List the things that you do not like about Physical Education

*5

How has your view of Physical Education changed during this year?

*6

What changes would you like to make to way the Physical Education is taught at this school?

*7

Physical Education is important to me

1 Completely Agree	2 Agree	3 Disagree	4 Completely Disagree	Explain your answer
☐	☐	☐	☐	

*8

Physical Education helps me learn team work skills

1 Completely Agree	2 Agree	3 Disagree	4 Completely Disagree	Explain your answer
☐	☐	☐	☐	

*9

Select the things that you think are true about Physical Education

- ☐ It makes me exercise
- ☐ It give me a break from mental learning
- ☐ It increases my oxygen levels
- ☐ It helps me make friends
- ☐ It is fun
- ☐ It gives me energy to do school work
- ☐ It teaches me important sport skills
- ☐ It encourages me to exercise at home
- ☐ It makes me feel good about my self
- ☐ It is a reward for working hard in other subjects
- ☐ It teaches me to listen more
- ☐ It makes me feel like I belong to my class
- ☐ It helps keep me fit
- ☐ It helps me stay focussed in other classes

Other (Please Specify):

*10

List these in terms of importance to you (1 being most important)

Playing fun team building games	
Learning new sport skills	
Playing sport	
Doing fitness activities	

Finish Survey

Appendix 12: Interview Schedule

Student Interview Questions – Round 4

1. Give five words that you think describe P.E.
2. How does P.E. make you feel?
3. Do you think P.E. is currently helping students stay healthy? How could it be adapted to achieve this goal?
4. Do you think that being involved is an important part of P.E.?
5. Is moving an important part of P.E.? Why/why not?
6. Explain your thoughts about the timing of P.E.? Timing includes:
 - a. Timetable
 - b. Times per week
 - c. Time during the day
 - d. Amount of time spend during each session
7. Do you see P.E. as a social subject?
8. What are the positive and negative ‘things’ regarding the social aspect of P.E.?
9. If you could, what changes would you make to the way P.E. is taught?
10. Do you think the way you exercise now affects your life as an adult?
11. What is the biggest benefit of P.E.?
12. Do you think that P.E. gives you a brain break?
13. Does P.E. have an effect on your self-esteem?
14. What do you think is the difference between P.E., fitness and sport?
15. What are your thoughts on technology and how it affects concentration levels?
16. What subjects do you think should be taught at school?

17. Do you think that doing P.E. helps you improve in other academic subjects?
18. Explain what you think the term 'Brain Energy' means?
19. How does P.E. affect your energy levels?
20. Do you think that P.E. should be combined with other subjects? (Integration)
21. Does P.E. increase or decrease your sense of belonging?
 - a. If so, to what?

Appendix 13: Interview Transcript

Excerpt from Interview 2 – Anna – 7/2/12

Researcher: Alright you said in the last interview that P.E. teaches you team cooperation...

Anna: Yip.

Researcher: ...do you think this helps you in learning in other subjects as well?

Anna: Yes.

Researcher: And how does it help you in other subjects?

Anna: Um well P.E. helps you to um learn the sports well. Like say it um if there's a class about sports and stuff then you will learn the sports and um... you um... learn um how to do the athletics well and stuff. So you know what you're doing.

Researcher: Yip. And with cooperating... So P.E. teaches you to cooperate you think?

Anna: Yip.

Researcher: And how does it do that?

Anna: Cause um in P.E. um... sometimes you might have to get sorted into groups and you might have to work together with your team to do the sport. And so yea... that's how.

Researcher: Cool. And in other subjects do you ever have to work as a group or a team?

Anna: Um sometimes yes.