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HPE Teachers' Collection of Information on Student Physical Activity Levels

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HPE TEACHERS' COLLECTION OF INFORMATION ON STUDENT PHYSICAL ACTIVITY LEVELS

BY

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ABSTRACT

This exploratory study sought to identify whether Health and Physical Education (HPE) Heads of Department (HODs) used a process of reflection to identify students' physical activity levels in compulsory general HPE (years 8-10) at secondary schools in the northern metropolitan suburbs of Perth. This study used a questionnaire, administered by research assistants, to learn what teachers believe students should be taught about physical activity. It utilised the Pollard & Tann (1993) reflective teaching process to determine if teachers collected written information on students' physical activity levels. It asked whether they analysed, evaluated, reflected, planed, made provision and acted on any information gathered. The study used comparative and descriptive statistics as well as conceptual categorisation to determine whether the behaviour of HPE HODs aligned with their stated goals. The study showed the teachers in the study did not have a valid or reliable method of data collection. It also highlighted teachers' confusion about the terms 'physical activity' and 'fitness'. Ideological and contextual barriers to the successful use of written data collection were also identified. Issues of accountability and subject marginality were also raised due to the low number of administrative requests for program evaluation. These findings have identified several areas for further research.

DECLARATION

I certify that this thesis does not incorporate, without acknowledgement, any material previously submitted for a degree or diploma in any institution of higher education; and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature ...█████████████......

Date ...18 . 01 . 02............

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CHAPTER ONE

INTRODUCTION TO THE STUDY

1.0 Introduction

The following section outlines the notion of the importance of regular physical activity within the lives of adolescents. It outlines the background to the study, the significance of conducting the research and examines several research questions.

1.1 Background to the study

Where does a Health and Physical Education Department's responsibility begin and end in respect to students' physical activity? According to the Centre for Disease Control (CDC) in the United States "schools and community programs have the potential to help children and adolescents establish lifelong, healthy physical activity patterns" (1997, p. 2). To further support this claim, the U.S. Surgeon General released his report which identified schools as having the "potential to be the primary source of physical activity promotion" (McKenzie, 1999 p. 16).

A major aim of compulsory general health and physical education (CGHPE) programs is the promotion of physical activity. The benefits of regular physical activity have long been established. Regular physical activity in childhood helps control weight, reduces anxiety and stress, increases self-esteem, improves strength and endurance, and improves blood pressure and cholesterol levels (CDC, 2000).

This study primarily examines whether HPE Departments use strategies to evaluate their HPE programs for alignment with the goal promotion of physical activity. Regular evaluation allows HPE to be on an upward spiral of improvement (CDC, 2000).

The Ministry of Education's formal curriculum

Curriculum in Western Australia is currently in a transition period. Previously in Western Australia, Health and Physical Education were considered different areas of study. They are now, under new curricular documentation, to be combined into the Health and Physical Education Learning area. The Curriculum Framework is to be phased into all Western Australian schools by the year 2004. This framework promotes the Health and Physical Education learning area as focused on a "holistic concept of health" (Curriculum Framework, 1998, p. 114). It considers the mental, physical, emotional, social and spiritual dimensions of health.

The Curriculum Framework lists five major learning outcomes or strands for the Health and Physical Education learning area. These include: Knowledge and Understandings, Attitudes and Values, Skills for Physical Activity, Self Management Skills and Interpersonal Skills (The Curriculum Framework, 1998). The focus for teachers and administrators is on student outcomes. An operational decision has been made in many schools to require teachers to report on one to two learning outcomes for each student once a

year. For example, a physical education teacher may report on skills for physical activity and self management skills in one year.

Compulsory general physical education

Health and Physical education in Western Australia is compulsory for all students in years 8-10 (age 13-15). Students are generally required to participate in Physical Education classes each week. Commonly, students have 1-2 hours each week. It can be argued that a major aim of Health and Physical Education is the promotion of physical activity. According to the Curriculum Framework (1998), "without the benefits provided by this learning area, individuals face a reduced quality of life and society increasing health care and social costs" (p. 6).

The benefits of regular physical activity

According to Thorpe (1994, p. 3), it is "important for any learning area to be able to justify its position within education". Within the Curriculum Framework (1998) document, HPE is justified by the following statement:

> *Students develop an understanding of health issues and the skills needed for confident participation in sport and recreational activities. HPE enables students to make responsible decisions about health and physical activity and to promote their own and others' health and well-being (p. 6)*

According to Lambert (2000, p. 34) "one of the most emphatic recommendations in reports from numerous Federal and health promotion agencies is to increase the levels of physical activity among children and youth". The Council for Physical Education for Children in the U.S. (cited in McKenzie, 1999, p. 17) recommends that children engage in 30 to 60 minutes of physical activity on most, if not all, days of the week. From 60 minutes up to several hours of physical activity is the optimal target (Lambert, 2000, p. 34). However, because children are only active for short periods it is important to ensure that they are active for multiple periods of at least 10 to 15 minutes in duration (Lambert, 2000, p. 34).

The well-documented benefits of physical activity from an education perspective are listed below. Physical activity:

1. Improves aerobic fitness, strength and flexibility (CDC, 2000).

2. Increases bone density and strengthens muscles (Booth et al., 1997, p. 3)

3. Regulates obesity because it increases caloric energy expenditure, increases metabolic rate, suppresses appetite, and builds lean body mass (McArdle, Katch and Katch, 1996, p. 622)

4. Reduces anxiety and stress, and increases self esteem (CDC, 2000)

5. Regulates blood pressure in hypertensive adolescents (Booth et al., 1997, p .3).

6. Enhances the function of the central nervous system and the ability to concentrate and learn (Seefeldt cited in Thorpe, 1994, p. 3).

7. Enhances the development and refinement of perceptual abilities involving vision balance and tactile sensations (Seefeldt cited in Thorpe, 1994, p. 3).

8. Improves cardiac functions as shown by an increase in blood volume, stroke volume, cardiac output and haemoglobin (McArdle, Katch and Katch, 1996).

9. Promotes enhanced social skills through interaction with others in a social environment (Booth et al., 1997, p. 3).

10. Assists in the development of cognitive processes through opportunities to develop new learning strategies, leadership, and acquiring, retrieving and integrating information in order to solve problems (Siedentop et. al. cited in Thorpe, 1994, p. 3).

11. May improve blood pressure and cholesterol levels (CDC, 2000).

12. Improves attitude towards physical activity which leads to a lifelong healthy lifestyle (Siedentop, Mand and Taggart. cited in Thorpe, 1994, p .3).

13. Reduces the risk of developing chronic diseases such as Chronic Heart Disease (CHD), diabetes and cancer (McArdle, Katch and Katch, 1996).

The health cost of physical inactivity

Researchers (Thorpe, 1994, p. 4) argue that, "political and economic processes affect the acceptance of curricula and programs within schools". Therefore, it is appropriate to examine economic aspects of physical inactivity.

In Australia today, there is a national health problem. Total expenditure on health in Australia has reached $47 billion or $A2,536 per person in 1997-98 (ABS, 1998). This represents a fifty percent increase in expenditure in the last 10 years. Expenditure on preventative health programs represents less than half of one percent of recurring health costs (Department of the Arts, Sport, the Environment, Tourism and Territories [DASETT] cited in Thorpe, 1994, p. 4). Why has the cost of health risen every year?

Physical inactivity is an important population health risk factor that is comparable to tobacco smoking (Commonwealth Department of Health and Aged Care and the Australian Sports Commission, 2000). Inappropriately low levels of physical activity contribute to obesity in children (Kohl and Hobbs, 1998). Professor Terry Dwyer (The West Australian, May 7 1998, p. 30) found that 20%-30% of West Australian school children were at "high risk of developing heart disease because they were physically inactive, more overweight than others and had high blood pressure and cholesterol levels". The United States National Centre for Health Statistics (cited in McArdle, Katch and Katch, 1996) data indicated that of non-institutionalised adults aged 18 years and older, only eight percent of men and seven percent of women

reported that they engage in regular vigorous physical activity. Additionally, Thorpe (1994, p. 5) indicated that "the Australian Bureau of Statistics found that less than six percent of adults who indicated that their health status was 'fair' or 'poor' had engaged in vigorous exercise in the last two weeks, and only nine percent of persons who were obese had done so". This is disturbing when a primary outcome of PE is to promote participation, within youth, and to encourage students to establish physical activity as a lifelong behaviour (Curriculum Framework, 1998). Importantly, evidence suggests that inactive children and adolescents are more likely to become sedentary adults (Powell & Dysinger cited in Booth et al., 1997, p. 2).

In a preliminary study, the Commonwealth Department of Health and Aged Care and the Australian Sports Commission (2000) found that the cost attributable to physical inactivity is $377 million per year. More disturbing is the 8,800 deaths per year caused from chronic heart disease (CHD), noninsulin-dependent diabetes mellitus (NIDDM), colon cancer and other conditions. For every one percent of the population who is moderately active, this would equate to saving 122 lives per year or $3.6 million in direct health costs (Commonwealth Department of Health and Aged Care and the Australian Sports Commission, 2000). In 1985, DASETT (cited in Queensland Outdoor Recreation Federation, 2000) calculated "the hidden benefits to the economy of physical activity (i.e.: a reduced health bill, higher productivity, less absenteeism), minus the cost to the economy of participation

(i.e.: death and injury), giving a net benefit to the economy of $590.2 million per 10% of the population who are regularly physically active". In a further study by DASETT (cited in National Heart Foundation, 2000) the major barriers for people not engaging in physical activity include: lack of time, lack of motivation and injury.

Previous Australian studies on physical activity

According to Booth et al. (1997, p. 5) there are no previous studies in the literature of the physical activity levels of Australian adolescents. However, Booth et al. (1997) does state that there have been several studies on physical performance measures. In 1985, The Australian Health and Fitness Survey (Pyke, 1985) involved 2400 Australian school children (aged 9-15 years). The results of this study indicated that boys generally had a higher aerobic capacity and lower body fat than girls.

Booth et al.'s comprehensive NSW Schools Fitness and Physical Activity Survey (1997, p. 5) involved 45 primary schools and 44 high schools. The survey gathered information on students' physical activity habits, physical education classes, time spent in sedentary activities, attitude to physical activity participation, support and encouragement to be active, self-efficacy, barriers to activity participation and most-preferred activities.

The Booth et al. (1997, p.46) study found that thirty-percent of year 8 boys and year 10 boys had low aerobic capacity. Ten-percent of year 8 girls

and thirty-percent of year 10 girls also had low aerobic capacity.

Approximately, eighty-one percent and eighty-six percent of Year 8 and Year 10 boys, respectively, were found to be adequately active during summer school terms. Similarly, eighty-one percent and seventy-eight percent of Year 8 and Year 10 girls, respectively, were vigorously active during summer terms. During winter school terms these figures decreased to seventy-six percent of Year 8 boys and eighty-four percent of Year 10 boys were active. The proportion of girls found to be active during this period also decreased to six-nine percent of Year 8 students and sixty-six percent of year 10 students (Booth et al., 1997, p. xv).

Booth et al. (1997) found that the while the majority of boys and girls were adequately active, the proportion of girls who were vigorously active was less than that of vigorously active boys. He advocated an emphasis on the needs and interests of girls in efforts to increase the proportion of vigorously active young people. In addition, this study found that the proportion of time spent engaged in vigorous physical activity during physical education classes was "surprisingly low" (Booth et al., 1997, p. xv).

Physical education in crisis?

At the same time that public health costs have dramatically increased, researchers have suggested that physical education is in a state of crisis. Evidence suggests that PE programs are 'dysfunctional', consisting of classes short in duration with "time eroded by management rituals and low ALT (academic learning time)" Locke (1992, p.361). Tinning and Fitzclarence (1992, p. 44) go further, claiming that physical education is in "crisis". They indicated that PE is boring and irrelevant to students. To further support this claim of crisis, Gordon and Caltabiano (1996, p. 883) contend that Australian adolescents have been "decreasing involvement in active leisure pursuits". According to Tinning and Fitzclarence (1992, p. 44), society is "preoccupied with experiences through technological media [i.e., computers] rather than physical activity".

Research suggests that many adolescents have become alienated from physical education. Carlson (1995, p. 467) defines alienation as "the persistent negative feelings some students associate with actively aversive or insufficiently meaningful situations (which students often label with an all-purpose adjective boring) in the gymnasium setting". Carlson (1995, p. 467) also indicates that 20% of students in physical education are alienated from the subject. Today this figure could be even higher, considering the Centre for Disease Control and Prevention report which found a drop in the participation in physical education classes in the last few years (Lambert, 2000, p. 35).

Promotion of physical activity

In Australia there are a number of initiatives to increase the physical activity levels of the Australian population. The Active Australia government scheme was launched in 1997. Its primary aim is to develop and "encourage participation in physical activity by all Australians" (Population Health Division, Commonwealth Department of Health and Aged Care, 2000). More specifically, it has the following three aims (Commonwealth Department of Health and Family Services, 1998):

1. Increase and enhance lifelong participation.

2. Realise the social, health and economic benefits of participation.

3. Develop quality infrastructure, opportunities and services to support participation.

Active Australia recognises the importance of physical activity during adolescence, stating that it plays a "critical role in establishing the foundations, skills and attitudes needed for good health throughout life" (Commonwealth Department of Health and Family Services, 1998).

Another initiative to increase physical activity in Western Australia is the Be Active School and Community (BASC) Project. This Western Australian initiative aimed to improve the quality of school physical education programs, improve links between community based physical activity programs and school physical activity programs and promote physical activity to the schools and the wider community (Richards, Watt, Alexander & Sharp, 1999). The report on the project provides a number of key strategies to

increase the physical activity levels of inactive students, both inside and outside of school.

According to the U.S. Surgeon General's report on Physical Activity (cited in McKenzie, 1999, p. 16), "schools have the potential to be the primary source of physical activity promotion". This is due to the following (McKenzie, 1999, p. 16):

i) Physical Education Departments are established within the community.

ii) All adolescents are required to attend school and physical education classes.

iii) PE teachers are considered experts in physical activity

iv) PE Departments have the equipment and resources specifically designed to promote physical activity.

Physical Education teachers have a considerable responsibility in respect to the promotion of physical activity (McKenzie, 1999). This promotion takes place through the use of an adequate HPE program. According to Siedentop et al. (1986, p. 130), "a program consists of all the opportunities for participation in sports and fitness activities that a school provides its students". Schools are charged with the important responsibility of promoting physical activity amongst all students attending.

Having established physical activity promotion as a major goal of HPE, how are teachers going to achieve their goal if they do not know how far they

are from their target? Therefore, it is appropriate to determine whether physical education seeks physical activity outcomes.

1.2 The purpose of the study

The purpose of the study is to determine if HPE Departments in the northern metropolitan high schools of Perth, led by Heads of Department, collect data on their year 8-10 students' physical activity levels. Further, the study seeks to discover if there is any attempt to systematically evaluate the HPE program for alignment with physical activity promotion; arguably a major goal of HPE. This study focuses on whether HPE Departments collect, analyse, evaluate, reflect, plan and act on information about students' physical activity levels. If evaluation of this data has occurred, is there any attempt to make modification to improve the HPE program? The study also examines whether HPE Departments identify students who are 'inactive'. If identified, are these students helped in any way to consider their levels of physical inactivity and to take appropriate action?

1.3 The significance of the study

This research is significant to furthering the understanding of how school HPE programs respond to students' need for physical activity. The study examines HPE Departments, and their monitoring of students in compulsory 8-10 general HPE programs in respect to their physical activity

levels. The study aims to provide quality data using an already established theoretical model (i.e., Pollard and Tann, 1993 reflective teaching process) as a basis for the structure of the questionnaire used for data collection.

This research is innovative in that nothing of this nature has been attempted previously. Most studies (Booth et al., 1997; Russo, Sutton, Lazarus, Harvey & Marder, 1975; Pyke, 1987; Dwyer, Coonan, Worsley & Leitch, 1980) have been interested in researching the physiological level of student physical activity, not whether HPE Departments conduct their own evaluation of student physical activity levels in respect to the HPE program.

Physical Education is seen by many as marginal and barely accountable to the central purposes of schooling (Alexander, Taggart & Thorpe, 1997; Watson & Hildebrand, 1998, p. 46). Carlson (cited in Morey and Goc Karp, 1998) found that many students looked upon physical education not as a "real subject" but as a break from their other subjects. Many PE classes are assessed with low accountability towards physical activity goals. Often, student accountability is based on attendance, appropriate uniform and appropriate behaviour. Siedentop, Mand and Taggart (1986) state that "if physical education is to survive and thrive as a school subject, it must demonstrate tangible outcomes and students must show recognizable achievement gains". In addition, HPE is not a Tertiary Entrance Examination subject, therefore it is not considered an important pathway to upper school, in comparison with other subjects.

Numerous State and Federal government educational reports and reviews have highlighted the marginality of PE as a subject (Alexander, Taggart & Thorpe, 1997). A key example is the government initiated numeracy and literacy standards. The following is a statement by the Department of Education and Training for Youth Affairs (DETYA, 2000), "A major policy objective of this Government is to achieve real improvements in literacy and numeracy skills for Australian children which will better fit them for their futures". In contrast, there remains no government policy for standards for the promotion of student physical activity within school. It seems that any such move must remain the responsibility of each individual HPE Department and school.

HPE is constantly fighting for resources and is forced to use advocacy and promotion strategies (Watson & Hilderbrand, 1998; Kretchmar, 2000). Planning for Action: Why teach Physical Education (ACHPER, 1999) is a package used by teachers to advocate the HPE subject area. Teachers are able to use the package in an attempt to gain more human, material and temporal resources from administrators. Unfortunately, according to Watson & Hilderbrand (1998), this message of advocacy and promotion is rarely heard. Therefore, HPE Departments are often under resourced in terms of equipment and staffing levels. Siedentop, Mand & Taggart (1986, p. 134), suggest 'doing a few things well' in the face of these resource constraints.

In addition to resource limitations, recent Curriculum changes have placed extra responsibilities on physical educators. Before the Western Australian Curriculum Framework (1998) was introduced, Health and Physical Education were considered two separate subjects. Now, PE teachers are facing broader outcomes in the curriculum (i.e., 5 Strands).

This study examines one of these outcomes; physical activity, which is arguably the major goal of PE. The participation of the student is paramount in achieving these outcomes. According to Kretchmar (2000), "Students can successfully negotiate years of physical education but never change the sedentary patterns of living". By socialising students into the role of the participant, students are able to acquire skills, knowledge, and strategies associated with physical activity (Siedentop, Mand and Taggart, 1986, p. 134).

1.4 Research questions

The following research questions relate to lower school students in the 8-10 compulsory General HPE program. More specifically, the study will address the following research questions:

1. Do HPE teachers believe it is important for student to know how various forms of physical activity are related to their fitness and health?

2. Do HPE teachers believe students should learn how to assess whether the level physical activity in their own lives is appropriate, in terms of maintaining or improving their health status?

3. Do HPE teachers believe students should gather information about the appropriateness of their physical activity levels, for example through an activity diary?

4. Do HPE teachers believe they should examine the information collected about physical activity levels?

5. Do HPE Departments keep records on their students' physical activity levels inside and outside of school?

6. To what extent are records on physical activity levels used by teachers to identify students whose health may be at risk from inappropriately low levels of physical activity?

7. Is information about students whose health may be at risk from inappropriately low levels of physical activity used in a reflective HPE program improvement process?

8. What motivates teachers to collect, analyse, evaluate, reflect, plan and act on the information about students whose health may be at risk from inappropriately low levels of physical activity?

1.5 Definition of terms

Inappropriately active: Students who do not meet the minimum recommended guidelines from the Council for Physical Education for Children (cited in McKenzie, 1999, p. 17), which recommends that children engage in 30 minutes of vigorous physical activity on most days, if not all days, of the week.

Appropriately active: Students who do meet the minimum recommended guidelines from the Council for Physical Education for Children (cited in McKenzie, 1999, p. 17) which recommends that children engage in 30 minutes of physical activity on most days, if not all days, of the week.

Physical activity: "any bodily movement produced by skeletal muscles that results in increased energy expenditure" (McArdle et al., 1996, p. 635). Types of physical activity included movement for transport (i.e., walking and cycling), activity related to domestic chores, occupational physical activity (i.e., getting to and from school, PE classes or activity related to paid or unpaid employment), leisure time physical activity and exercise (Morrow & Freedson cited in Booth et al., 1997, p. 5) state "Although the components of physical fitness are influenced by several factors (genetic inheritance, diet, diabilities), the most significant influence is the frequency of participation in a range of physical activities".

Physical fitness: "A set of attributes that relate to one's ability to perform physical activity" (McArdle et al., 1996, p. 635). According to Booth et al. (1997, p. 5) these attributes include: agility, balance, body composition, flexibility, muscular endurance and strength, anaerobic power and aerobic endurance.

Exercise: "Physical activity that is planned, structured, repetitive and purposeful" (McArdle, Katch & Katch, 1996, p. 635). A major objective of exercise is to maintain or improve one of more of the attributes of physical fitness (Booth et al., 1997, p. 5)

CHAPTER TWO

REVIEW OF THE LITERATURE

2.0 Introduction

This literature review examines the purpose of HPE programs and the issues relating to assessing the goals of these programs. It then examines the functions and behaviours of teachers. Two behaviours are evaluated; the routine and reflective action. The literature review then examines the universe of contexts in which HPE programs and the function and behaviour of teachers are situated. The conceptual framework diagram demonstrates the relationships of all of these factors. The literature review concludes with a discussion of this theoretical basis of the study.

2.1 HPE program purpose

It has been well established that regular physical activity is beneficial to health and wellbeing (Commonwealth Department of Health and Family Services, 1998). In contrast, physical inactivity increases the risk of chronic diseases such as heart disease, Type II diabetes, hypertension, low self esteem and cancer. According to the US Surgeon General's report on Physical Activity (cited in McKenzie, 1999, p. 16), "schools have the potential to be the primary source of physical activity promotion".

Research literature suggests that HPE claims the promotion of physical activity as a major goal (Curriculum Framework, 1998; ACHPER, 2000; Thorpe, 1994; McKenzie, 1999; O'Sullivan, Siedentop & Tannehill, 1994). Alexander & Taggart (1995) define physical education as "any process which increases an individual's ability and desire to participate, in a socially and responsible way in the movement culture inside and outside schools". According to Crum (cited in Thorpe, 1994, p. 1), movement culture refers to the way in which a particular group of people "...deals with the problem of corporeality and the need and desire to be physically active". This study assumes that the promotion of physical activity is a major goal of HPE.

Teachers need to be aware of four important issues when evaluating a physical education program's goals. These issues according to Siedentop, Mand & Taggart (1986, p. 132) are:

1. An emphasis on outcomes.

2. Commitments to both equity and quality

3. Doing a few things well

4. Socialising students into the role of the participant.

Westcott (cited in O'Sullivan, Siedentop & Tannehill, 1994, p. 422) indicates that a quality program cannot be established unless there is a "shared vision among staff". Therefore, if physical activity promotion is a major goal of an HPE Department, teachers must work patiently and progressively toward that goal (Siedentop & Tannehill, 1994, p. 423).

2.2 Teacher function/behaviour

According to Dewey (cited in Pollard and Tann, 1990, p. 8), there are two separate actions teachers can choose to adopt; the routine action and the reflective action. The routine action involves factors such as "tradition, habit and ... institutional definitions and expectations" (Pollard and Tann, 1990, p. 9). It is a relatively static behaviour, unresponsive to changing priorities and circumstances. In contrast, reflective action enables teachers to take an active role in teaching (Park Han, 1996). Park Han (1996) defines reflective action as "a natural process that facilitates the development of future action from the contemplation of past and/or current behavior". However, this perspective of reflective action as a natural process neglects to take into account Pollard & Tann's (1990) argument that an active concern with the aims and consequences is necessary for reflective action. According to Pollard and Tann (1990, p. 9), there are six main characteristics in Dewey's concept of reflective action:

1. Reflective teaching implies an active concern with aims and consequences, as well as means and technical efficiency.

2. Reflective teaching is applied in a cyclical or spiralling process, in which teachers monitor, evaluate and revise their own practice continuously.

3. Reflective teaching requires competence in methods of classroom enquiry, to support the development of teaching competence.

4. Reflective teaching requires attitudes of open-mindedness, responsibility and wholeheartedness.

5. Reflective teaching is based on teacher judgement, which is informed partly by self-reflection and partly by insights from educational disciplines.

6. Reflective teaching, professional learning and personal fulfilment are enhanced through collaboration with colleagues.

Teachers are primarily expected to plan, make provision and act (Pollard and Tann, 1993, p. 12). Minimally, teachers may perform these three functions. However, reflective teachers continually monitor, evaluate and revise their teaching practices (Pollard and Tann, 1993, p. 12). Indeed, Stenhouse (cited in Pollard and Tann, 1993, p. 12) states that "teachers should act as researchers of their own practice and should develop the curriculum through practical enquiry". In addition, Ennis (2000) describes the importance of having "[a]n evaluation plan to document the quality of students' experiences and level of student achievement".

This study utilites the Pollard and Tann reflective teaching process as a basis for how teachers function (see Figure 1). It is described as "a dynamic process which is intended to lead through successive cycles, or through a spiralling process, towards higher-quality teaching" (Pollard & Tann, 1993, p. 12).
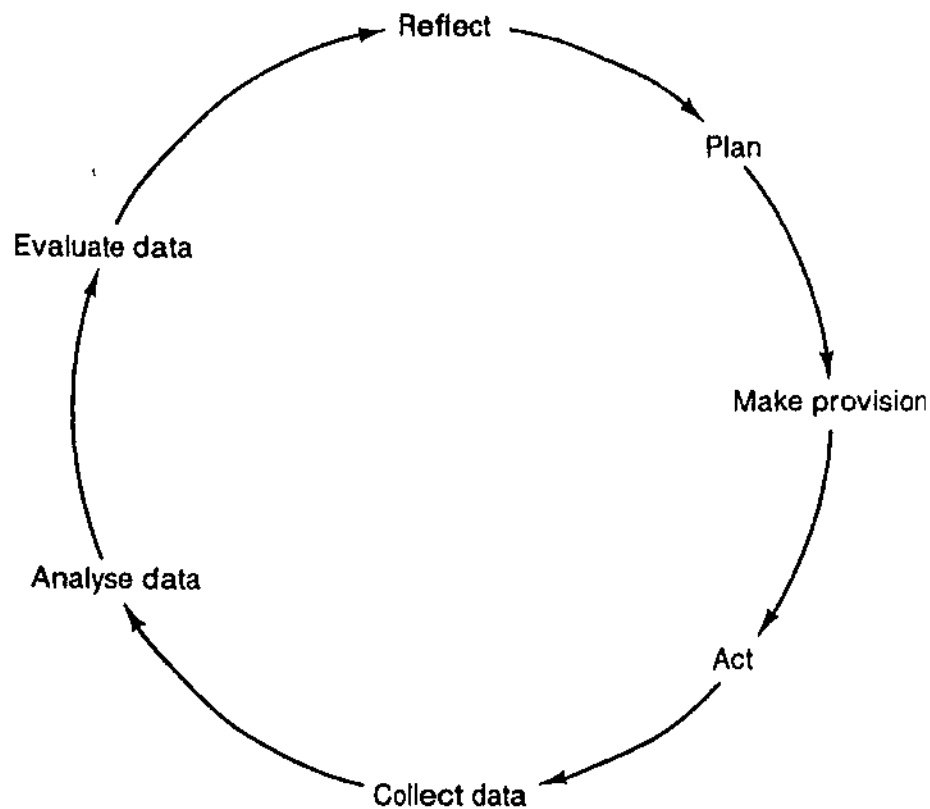
Figure 1 – Reflective Teaching from Pollard and Tann (1993, p. 13)

For reflective teaching to occur, each function of the Pollard and Tann

process is prerequisite to the next. For example, teachers can plan, make

provision and act but this does not constitute reflective teaching. Instead they

need to complete the full cycle of plan, make provision, act, collect data,

analyse data, evaluate data and reflect. Pollard and Tann (1993, p. 13) specify

three types of competencies involved in this complete cyclic process; these

include empirical, analytical and evaluative competencies. Empirical

competence is concerned with the collection of data and the careful and

accurate description of situations, processes, causes, and effects (Pollard &

Tann, 1993 p. 13). Analytical competence allows the placement of this

collected data into a framework, which enables interpretation by the reflective teacher (Pollard & Tann, 1993, p. 13). Evaluative competence involves making judgements regarding the educational impact of the enquiry and its possible application to future planning and practice (Pollard & Tann, 1993, p. 13). These competencies are necessary for successful completion of the cycle and thus reflective teaching.

This study asks whether teachers complete the Pollard and Tann loop in the context of the HPE program goal of promoting of physical activity. More specifically, do they collect information on students' physical activity? Do they analyse the data, evaluate and reflect upon it in order to use the knowledge gained in the 'plan', 'make provision' and 'act' phases of the cycle? The study also aims to determine if the systematic cycle of reflection occurs on a regular basis.

The Pollard and Tann loop is a heuristic model. In reality, the completion of the loop may be affected by a number of contextual factors creating barriers between any of the stages. These contexts, which are not mutually exclusive, will now be discussed.

2.3 Universe of Contexts
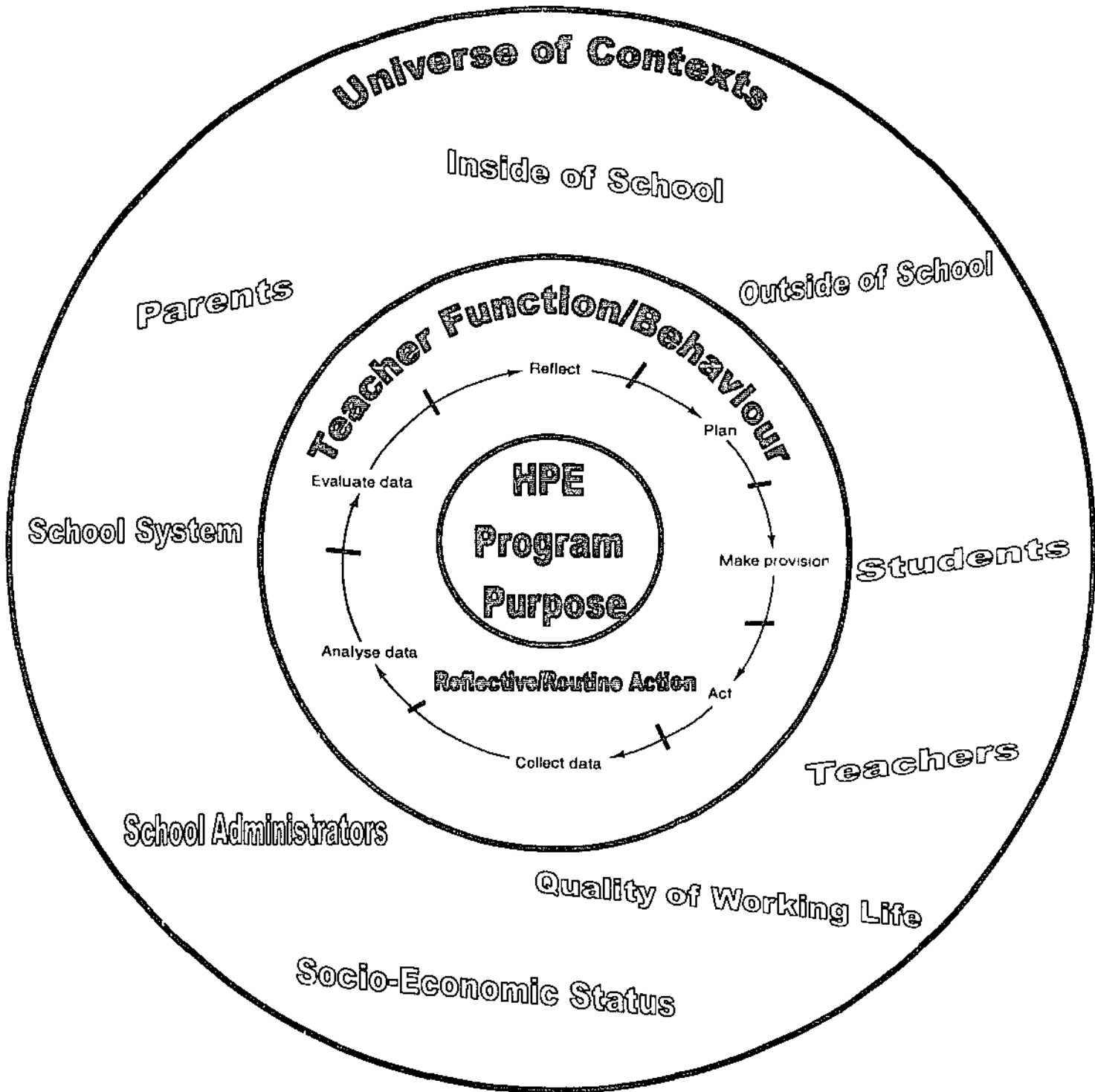
Figure 2. Conceptual framework for the study demonstrating the links between identified factors in the literature. Reflective Teaching Loop: Pollard & Tann (1993).

School administrators

According to Siedentop, Mand & Taggart (1986, p. 42) a "school is a function of the Principal's style". As part of the school the HPE Department may be influenced by teaching and administration values of the Principal. There exists a relationship between HPE Heads of Department and the Principal, which may be significant in terms of achieving outcomes. Recall that Westcott (cited in O'Sullivan, Siedentop & Tannehill, 1994, p. 422) indicates that a quality program cannot be established unless there is a "shared vision among staff". He identifies the support of school administration as an important factor in ensuring quality programming.

A study on PE teachers by O'Sullivan, Siedentop & Tannehill (1994) found that due to the perceived marginality of their subject, the Principals expected PE teachers to use their instructional time to help the school (e.g. setting up a school assembly). Rog (cited in O'Sullivan, Siedentop & Tannehill, 1994, p. 423) found "little pressure to meet challenges, exert great effort or acquire new and unfamiliar subject matter. The system means that little time is needed for planning, evaluating or disciplining". The low expectations of school administrators allowed teachers to feel that they were achieving what their schools expected. Despite low goal achievement, "everyone seemed satisfied" (Rog cited in O'Sullivan, Siedentop & Tannehill, 1994, p. 423). In this case, the relationship between the Principal and the PE

Department was one of convenience. It also had a marked effect on the outcomes of the quality of the program.

Many school administrators consider PE a marginal subject. There is a "lack of subject status, low expectations for success, inappropriate timetabling, role conflict and over-commitment, burdensome administration tasks, meaningless and unaccountable curricula, poor resources and equipment, and the routinized nature of work" (Evans & Williams; Lawson; O'Sullivan, Siedentop, & Tannehill; Stroot; Templin cited in MacDonald, 1999). With Government policy emphasising literacy and numeracy (Ministerial Council on Education, Employment, Training and Youth Affairs, 1999) HPE may not be a priority. "Faced with mandate to emphasize and expand the traditional core curricular subjects...many Principals find themselves hard pressed to schedule meaningful instruction in ... physical education" (Gabbard, 2000). According to Siedentop, Mand & Taggart (1986, p. 25) "If physical education is to survive and thrive as a school subject, it must demonstrate tangible outcomes and students must show recognizable achievement gains". The introduction of HPE as an examinable subject in other Australian states, outside of Western Australia, has improved the perceived accountability of the subject. Tinning and Fitzclarence (1992) indicate as a result teachers may "no longer be seen as games teachers feel more equal with other educators".

Teachers

Many researchers no longer consider teaching a profession (Macdonald, 1999; Fueyo & Koorland, 1997). Teachers' wages are now slightly below the Australian Average Weekly Earnings index (Newsweek, 2000). In comparison, fifteen years ago, teachers' wages were 60% above the average weekly earnings in Australia (NewsWeek, 2000). Furthermore, the score required to enter the Bachelor of Education degree at Macquarie University is the lowest of all disciplines (NewsWeek, 2000). The only time the community and government will "listen to teachers is when they are on strike" ("Value Pedagogues", 2000). This drop in status affects teachers within state schools possibly more than teachers in Catholic and private schools. The government over the next four years is providing a greater increase in funding to the non-government system (Kemp, 2000).

Throughout their careers teachers' experiences are unique to the context in which they exist. Teachers begin their 'apprenticeship of observation' as students in primary and secondary school. In Western Australia, teachers are three or four year trained in a university. Teachers within the Education Department usually spend a number of years in the rural areas of the state. A Queensland study by Macdonald (1996, p. 73) indicated a high rate of attrition (50%) existed in teachers who are placed in rural areas . This figure may be similar in Western Australia.

A factor that should be considered when looking at teachers is the number of years of experience. A study by Fuller (cited in Macdonald, 1999), found that competence in teaching is reached in mid-career once the concerns of the teacher change from personal to subject matter. Sikes, Measor, and Woods (cited in Macdonald, 1999) supported this claim by indicating that a teacher's initial experience up to 30 years of age are to establish 'basic pedagogical skills'. They also examined teachers between the ages of 30-40 years old and found this to be a settling down period where teachers aspired to more senior positions or were 'disillusioned with wavering commitment'. Finally, Sikes, Measor, and Woods (cited in Macdonald, 1999), examined teachers between the ages 40-55 years of age, possibly following midlife crisis that while some teachers were found to coast others were settling for:

> an increasingly parental role towards pupils, and now indeed younger teachers; a general recognition of their own knowledge and experience, qualifying them to be considered among the ancients of the school, staunch upholders of standards and tradition; and a relaxation, now they have reached this plateau, and are respected and proficient.
> (Sikes cited in Macdonald, 1999, p. 42)

Huberman (cited in Macdonald, 1999) demonstrated comparable trends in teachers' career socialisation. He indicated that after three years of 'survival and discovery' teaching, stabilisation occurs between 4 to 6 years. At 7-18 years of teaching experience follows a period of 'engagement and experimentation or for some self-doubt'. Finally between 19 and 30 years of

teaching they experience "serenity or position themselves as distanced or conservative". Macdonald (cited in Macdonald, 1999) indicates that these phases of teaching may be accelerated for physical education teachers.

HPE programs are usually developed to align with teacher interests and skills (Siendentop, Mand & Taggart, 1986, p. 137). This way the teachers involved in these programs may remain more enthusiastic about what they are teaching. In a study by O'Sullivan, Siedentop & Tannehill (1994, p. 423) both parents and teachers viewed physical activity as a major goal of physical education. However, students perceived physical education as simply involving the playing of team games. O'Sullivan, Siedentop & Tannehill (1994, p. 423) showed that the teachers modified their program to match with the students' perception of physical education so that they would be "busy, happy and good" (Placek, 1980).

Students/adolescents

According to Taggart and Sharp (1997, p. 60) teachers need to understand the adolescent view of physical activity and sport to better serve the students needs. The evidence suggests that non participating students in sport are due to low skill levels, lack of opportunity and uneven competition (Taggart & Sharp 1997, p. 60). Taggart and Sharp (1997, p.23) state that 90% of students who were involved in community sport indicated that sport keeps them fit/healthy. Teachers may need to be aware of this information when

planning their HPE program and lessons. However, evidence suggests that teachers are one of last groups of people students ask about involvement in community physical activity outside of school (Taggart & Sharp, 1997, p. 26).

According to Booth et al. (1997, p. 2), "Childhood and adolescence is a critical phase in the development of health behaviours and provides the opportunity to maximise the long-term benefits of health education and health promotion efforts". In addition, ACHPER (1999, Overhead 16) states that "Regular Physical Education is able to slow the age-related decline in physical activity and help student establish lifelong, healthy habits."

Adolescence is a "prolonged period between childhood and adulthood that prepares the young person for occupation, marriage and mature social roles" (Muuss, 1996, p. 366). Typically, adolescence begins with puberty and ends with a defined social criterion (i.e. being able to provide for a family, or marriage). Adolescence involves finding an identity, belonging to a social group and adapting to society. It is during this time of change that students attend a secondary school. Through positive social interactions, teachers are able to influence students' forming beliefs, attitudes and values.

According to Marcia (cited in Muuss, 1996, p. 59) adolescence involves "crisis/exploration and commitment". This refers to the period in adolescence "when the individual actively examines developmental opportunities, identity issues, and questions parentally defined goals and values and begins to search for personally appropriate alternatives in respect to occupation, values and

beliefs" (Muuss, 1996, p. 59). Bootn et al. (1997, p. 2) suggest that adolescents experiment with many different behaviours including health behaviours. Therefore, if students have a positive experience of physical activity through their physical education then they may incorporate it into their mature lives as a 'personally appropriate alternative' to sedentary living (Muuss, 1996, p. 59).

In the past, educators and psychologists thought adolescence was a "period of storm and stress" (Hine, 1999, p. 70). Recently, neuroscientists have proved that the adolescent's brain is not complete until the early to late twenties (Brownlee, Hotinski, Pailthorp, Ragan and Wong, 1999, p. 44). The brain's last developments are the areas in charge of sound judgments and calming emotions (Brownlee, Hotinski, Pailthorp, Ragan and Wong, 1999, p. 44). Therefore, adolescents may not be equipped to make adult judgments and their emotions can be unpredictable and erratic. In attempting to understand adolescents, teachers should expect students' actions to reflect the level of maturity of their thought processes.

Schools are social institutions where interactions occur between teachers and students. In order for teachers to influence students, they may need to understand adolescents and assume mentor roles. According to Erickson (cited in Smith & Goc Karp, 1996, p. 30), adolescence is a "period of conflict between identity and role confusion, between intimacy and isolation". Adolescence changes over time and it is this period when

individuals learn to find their identity in the "historical moment" (Hine, 1999, p. 75). For today's adolescents this may be influenced by the presence of globalisation, technological advancements and media ascendancy.

Teachers can have an important impact on adolescents' personal growth (Rink, 1998, p. 203). Bain (cited in Saffici, 1999) found "that all students, regardless of ability, needed positive reinforcement to have positive attitudes towards physical education". Understanding adolescents can help teachers to reach and teach their students, which has a positive impact on their self-esteem. With this in mind, it is important that schools and Physical Education Departments understand adolescents and how to involve them in physical activity. The CDC (1997) provides a unique perspective on factors influencing adolescents' physical activity:

> Individual factors positively associated with physical activity among young people include confidence in one's ability to engage in exercise (i.e., self-efficacy), perceptions of physical or sport competence), having positive attitudes toward physical education, and enjoying physical activity. Perceiving benefits from engaging in physical activity or being involved in sports is positively associated with increased physical activity among young people. These perceived benefits include excitement and having fun; learning and improving skills; staying in shape; improving appearance; and increasing strength, endurance, and flexibility . Conversely, perceiving barriers to physical activity, particularly lack of time, is negatively associated with physical activity among adolescents. In addition, a person's stage of change (i.e., readiness to begin being physically active) influences physical activity among adults and may also influence physical activity among young people.

Adolescents are bombarded with images from the media of slim and well toned bodies (Tinning & Fitzclarence, 1992, p. 293). Many of these media images promote the CDC (1997) notion of perceived benefit in physical activity. However, according to Taggart & Sharp (1997, p. 60) there exists "powerful media links between sport, alcohol and fast foods". This many send a mixed message to adolescents and provide confusion between the importance of participating and their intake of alcohol and fast food. The health and physical education program within schools is charged with the responsibility to clarify these mixed messages for adolescents.

Parents

There is a diverse range of families within the community with different backgrounds (Woolfolk, 1998, p. 92). Many families are blended, that is, consist of step brothers or sisters with one or two parents. Some children may live with an aunt or grandparents, in foster homes or adoptive homes, or with an older brother or sister. (Woolfolk, 1998, p. 92) Parents influence their children with their opinions and beliefs. Parents carry experiences of physical education and physical activity. A child's opinion may be influenced by their parents and can be negative or positive depending on their experiences. Parents who enjoyed physical education may see it as more important than parents who did not.

Today, many parents provide children with transport. This may be to and from school, to a friends house, or to a sporting facility (National Heart Foundation, 2000). Children who walk to school at a brisk pace may be appropriately active. Many children may not participate in community sport or recreational activities because their parents do not provide with the opportunity or transport them to the venue.

Many parents believe that schools should be accountable for educating their children. According to DETYA (n.d.) parents expect schools and teachers to understand and support them in their role as primary educator and to treat them as partners in the education process. Many parents expect to be fully informed of their child's progress at school. Parents are providing the financial cost of the child's schooling therefore many feel that they should be accountable.

Socio-economic status

Woolfolk (1998) defines socio-economic status (SES) as the relative standarding in society, which is based upon income, power, background and prestige. According to Alexander (personal communication, November 30, 2000), socio-economic status is the "greatest predictor of health status". In support of this the Commonwealth Department of Health and Family Services (1998) state, "People from low socio-economic groups are less likely to be active". Taggart & Sharp (1997) have found that students from high SES

schools were more likely to participate in sport (72%) when compared to students from low SES schools (59%). In addition, a higher proportion of students from SES schools had not participated in sport in the last 12 months in comparison with students from high SES schools.

Garcia (cited in Woolfolk, 1998) offers five explanations for poor educational performance for students of lower SES:

1. Low Expectations – Low Self-Esteem

2. Learned Helplessness

3. Resistance Cultures (the rejection of behaviours that would make them successful – seen as "selling out")

4. Tracking (low ability grouping)

5. Childrearing Styles

These explanations may help explain the lower achievement of physical activity goals by students of low SES. Other factors that may impact on the participation of low SES students especially in community sport include cost factors, transport and lack of parental support. Indeed, Siedentop, Mand & Taggart (1986, p. 6) characterise children from wealthy districts as having many physical activity opportunities in the private sector and through well funded community programs, while children from poorer districts have more restricted access to private sector sporting opportunities and community programs with less funding.

Inside of School Contexts

Within schools, there are a number of people, including administrators, teachers, parents and the local community, who all exert different degrees of influence over the HPE program and its perceived purpose (Siedentop, Mand & Taggart, 1986, p. 53).

According to Siedentop, Mand & Taggart (1986, p. 130) a physical education program "consists of all the opportunities for participation in sports and fitness activities that a school provides its students". While sport is often given prominence when considering physical activity in school, the Sport Education in Physical Education Project (SEPEP) (Alexander, K., Taggart, A., Medland & Thorpe, 1995) also identifies games, dance, aquatics, recreation, outdoor, pursuits, fitness and adventure education as opportunities for student physical activity. At school, students have a range of opportunities, both inside and outside of PE classes, to engage in physical activity. These include time during PE classes, and periods before school, during recess and lunch, and after school. These provide a context within which HPE program purpose can be pursued.

Outside of school contexts

Siedentop, Mand and Taggart (1986) argue that for physical education to be fully successful, physical education needs to extend beyond the school and the school day. Further supporting this argument the Curriculum

Framework (Curriculum Council of WA, 1998) document focuses on a 'holistic' view of health for students both inside and outside of school.

A 1996 study showed that fifty-three percent of students in lower school participated in community sport in Western Australia (Taggart & Sharp, 1996, p. 55). Tinning and Fitzclarence (1992, p. 292) point out that students may enjoy community-based sport yet find PE classes 'boring'. Indeed, community programs have made a significant contribution toward encouraging physically active lifestyles (Australian Sports Commission cited in Taggart & Sharp, 1997). Additionally, fifty percent of local government authorities in Western Australia support junior sport beyond provision of facilities (Kennet cited in Taggart & Sharp, 1997).

The success of community sport in Western Australia has led to initiatives aimed at strengthening the links between physical education within schools and community based sport. An example of this is SEPEP(1995), which provides HPE Departments with the opportunity to link their programs with sport outside of school. Taggart and Sharp (1996) recommend that physical educators view PE as moving beyond bell times. They argue that creating effective school community link programs with sport related institutions in the wider community may help the development of physically active adolescents (Taggart & Sharp, 1996, p. 57). This also allows students, schools, and communities to all become aware of school sports programs, community facilities and competitions and may also encourage students to

become involved in sport for life (Alexander, K., Taggart, A., Medland & Thorpe, 1995).

Physical activity outside school does not necessary involve sport or games which are prominent in physical education. The National Heart Foundation Research Project on supportive environments (Booth et al., 1997) found that people also exercise when going to work or to school, going shopping, or as part of the day's activities. Additionally, this physical activity depends upon the structure of the environment. According to Booth et al. (1997) the following factors were identified as promoting physical activity. They include:

1. Being close to an open space, such as the beach, or a large park, especially when combined with being close to town.

2. Facilities such as parks, shops, recreation facilities, and schools.

3. Tree-shaded streets and footpaths.

4. Convenience of facilities and services, which is particularly important for older people, or for those who do not regularly use a car.

5. The use of school ovals, both for organised sport and for less structured activities like taking the dog for a walk.

6. The attractiveness of their area; street trees, wide grassy verges, and local parks.

7. Low traffic in suburban streets, for example, cul-de-sacs are seen to reduce traffic flow through an area.

Many opportunities have been described for students to engage in physical activity outside the school gate. Therefore, opportunities for student physical activity are not limited to those within school contexts or hours. Teachers, schools and communities need to be aware of the community-based opportunities for physical activity.

Quality of working life/teacher commitment

Evidence suggests that teachers who have a strong professional value system or commitment are more likely to reflect for improvement (Swain, 1998, p. 28; Macdonald, 1999, p. 41). Hunter (cited in Swain, 1998, p. 28) states:

> professional teachers continually reflect and modify their instructional strategies in order to serve the students more effectively and that enhancing the professional skills of teachers can positively affect their professional self image, their motivation for continuous learning and their personal outlook on life, ultimately influencing the school experience for students.

According to Seashore-Louis & Smith (1990) in order to have a high standard of quality of working life the following characteristics need to be evident:

1. Respect of colleagues/adults.

2. Have resources appropriate to the job.

3. Opportunity to use skills and knowledge.

4. Goal Congruence.

5. High level of Efficacy.

6. Contributes to decision making

7. Participates in frequent and stimulating professional discussion.

Graham (1996, p. 45) indicates that teachers who demonstrate the above factors generally demonstrate greater commitment towards teaching. As a result student performances have been shown to increase. Efficacy is one identified factor in quality of working life. Graham (1996, p. 45) defines it as "the extent to which the teacher believes he or she has the capacity to affect student performance". Therefore if a teacher has a high sense of efficacy there many be more opportunities for students to achieve better results.

However, according to Macdonald (1999 p. 42) many of the mentioned characteristics are problematic for physical education teachers. Teacher commitment is diminished by "lack of subject status, low expectations for success, inappropriate timetabling, role conflict and over commitment,

burdensome administration task, meaningless and unaccountable curricula, poor resources and equipment and the routinized nature of work" (Evans & Williams, 1992; Lawson, 1989; O'Sullivan, Siedentop, & Tannehill, 1994; Stroot, 1994; Templin, 1989 cited in Macdonald, 1999).

According to Macdonald (1999, p.41) "disempowering workplace conditions have contributed to unacceptable rates of teacher attrition across most developed and less developed countries". Huberman (cited in Macdonald, 1999, p. 41) indicates that as many as 40% of teachers were considering leaving teaching. Macdonald & Kirk (1996) found that many PE teachers (may be higher than 50%) left the profession early in their careers. This was a result of the negative effects of surveillance (Macdonald cited in Macdonald, 1999, p. 74).

School system

In Australia, children under the age of sixteen are required by law to attend a school. There are two types of school systems in Australia: government/state and non-government. State schools are funded by the government for the population of Australia thus providing universal access to education. Non-government schools are funded partly by the government and by fees usually serviced by students' parents. Many non-government schools are based upon a religious ethos. One such example is Catholic schools which provide a unique education or culture to students (Dorman, 1999). Also,

within the non-government system are elite private schools which charge enormous fees to their students. In return they supposedly receive a higher chance at academic or sporting success. This may be established from the West Australian newspaper (1999) in which eight out of the top ten schools were elite private schools.

In Australian government schools, educational spending has decreased from 5.6% of GDP in 1992-93 to 4.5% in 1998-99 (Newsweek, 2000). In comparison, the United States currently spends 6.9% (OECD, 2000) of GDP and is spending a further 11% of their $US165 billion surplus on education (Office of Management and Budget, 1999). However, in comparison to the other comparable countries, Australia has a relatively high proportion of private payments to educational institutions. This can be attributed to a high proportion of parents making the choice to send their children to private non-government schools.

Under new funding arrangements, the Australian Federal Government saves approximately $3,000 for every pupil who makes the choice to attend a non-government school (Potts, 1999). The money the government saves is not put back into education, creating a gap in funding (Potts, 1999). As a result, the state system will have less money to fund their schools, and will get less teachers so the quality of the education they provide may be diminished. The Federal Government is creating a deregulated market with legislation that acknowledges "the rights of Australian parents to choose the most appropriate

schooling for their children." (Kemp, 2000). This choice may be influenced by a perception that private schools are more accountable to parents and provide an "outstanding social climate, or culture, which gives them a special ethos or spirit" (Flynn, 1993, 22).

2.4 Theoretical framework

The theoretical basis of the study is now described by examining methodologies applied in the study of teaching and the conceptual framework.

According to Goetz and LeCompte (cited in Thorpe, 1994, p. 24):

> theoretical frameworks should indicate how the concepts and constructs that are abstracted from the research are expected to interact or interrelate. Where a suitable, case related empirical basis for the relationships is not available from a literature, as in this case, they consider a conceptual framework should be derived from theoretical background.

According to Dunkin (1974, p. 31), there are many models for teaching contained within the literature. Teaching is considered a complex activity which is made up of many factors (Dunkin, 1974, p. 31). For the purposes of this study it is appropriate to examine a directional model of teaching (see Figure 3). This provides a distinction between my conceptual framework when compared with directional models of teaching. The Dunkin (1974, p. 38) model is a directional model which involves two main subjects; the teacher and the pupil. The model contains a total of thirteen classes of variables. This

is model is neither "exhaustive nor definitive" (Dunkin, 1974, p. 39). The

model uses arrows which presume a causative relationship. For example, the

model presumes that teachers' formative experiences have a causative effect

on classroom events and not the other way around (Dunkin, 1974, p. 37). The

model tends to focus upon the pupils' growth and neglects the teacher product

variables. It is a heuristic oversimplification of the teaching process. The

directionality of the process is problematic and can result in confusion about

whic' variable is impacting on anot' ·r. This directional model contains no

fee .k loop for the teacher to reflect and improve their practices as with the

Pollard and Tann (1993) loop. Dunkin (1974, p. 37) admits that the model

below is only a simplistic representation and that the directionality
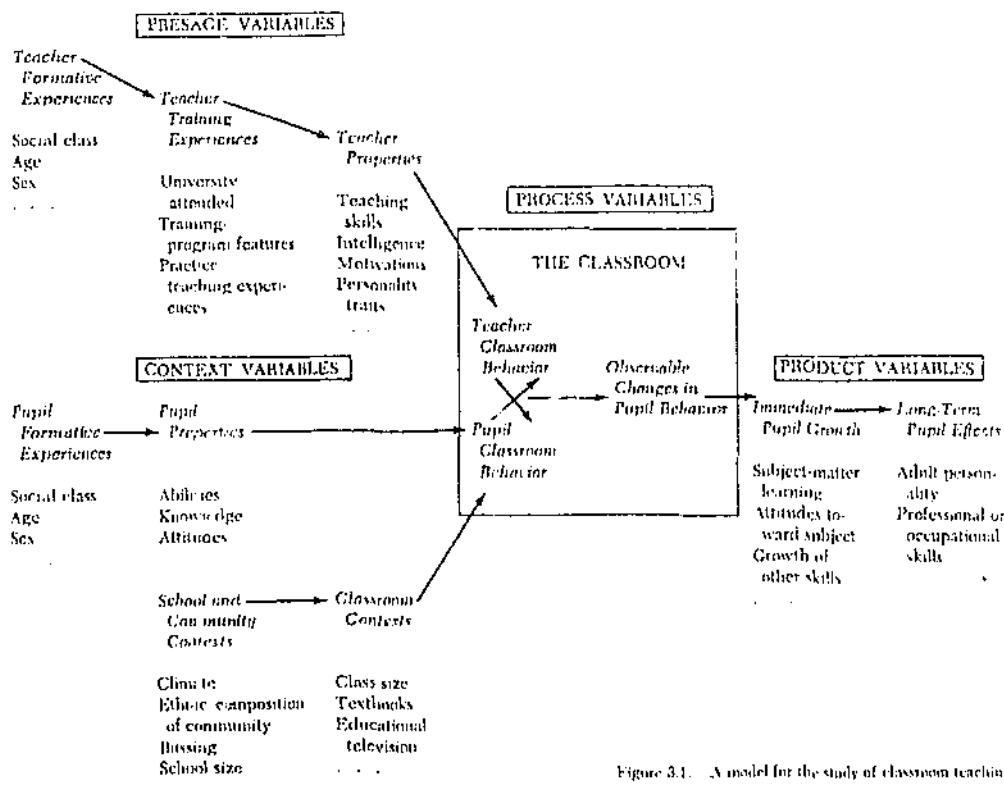
Figure 3. A model for the study of teaching (Dunkin, 1974).

In contrast, the conceptual framework (see Figure 2) used within this study uses a universe of contexts. These are the main factors that influence teacher function, which is working towards a particular purpose. Each factor in the universe of contexts impacts on teachers' behaviour in differing degrees and in different situations. Also, each factor can influence another factor with the universe of contexts. For example, parents can influence students and teachers can also influence students. It should be noted that the Pollard and Tann loop contained within the teacher behaviour entity may contain a number of barriers (lines) which may or may not result in reflective loop completion.

The different factors described in the literature review have been derived from my conceptual framework. (see Figure 2 for a diagrammatic representation).

CHAPTER THREE

MATERIALS AND METHODS

3.0 Introduction

This section outlines the process through which the data for the study was

gathered and analysed.

3.1 Target population

According to Leedy (cited in Thorpe 1994, p. 30), "the population for the

study must be carefully chosen, clearly defined, and specifically in order to set

precise parameters for ensuring discreteness of the population". The target

population for this survey was a selective sample of fourteen secondary school

HPE Heads of Departments (HODs) in the northern metropolitan high schools

of Perth, Western Australia. These include both government and non-

government institutions.

According to Fink & Kosecoff (1998, p.39), non-probability samples

"select only those respondents who are willing and available to complete the

survey". Therefore once contacted, only those schools willing to participate

were included.

The aim of this study was to focus on a particular district and provide a

detailed examination of one district, which can then possibly be used to

conduct further study of other schools. It does not aim to make generalisations

about wider Western Australia or metropolitan Perth. However, it does aim to

gather in-depth information regarding HPE Departments' reflective actions regarding the physical activity levels of their students in the northern metropolitan high schools of Perth. A non-probability smaller sample would be insufficient to achieve this.

3.2 Design of the study

Pilot Survey

A pilot survey was conducted with three HODs. According to Fink & Kosecoff (1998, p. 5) a pilot survey is necessary to reveal the ease and ability with which the respondents are able to provide the information needed. The teachers were asked to give specific feedback regarding the design and nature of the questions. This resulted in modifications to several questions, making the design more simplistic and streamlined. For example, an understanding of HODs schedules meant the survey length was kept to a minimum.

Questionnaire Design

The questionnaire (refer to Appendix C) consisted of three sections. Section A provided demographic information, which enabled the data to be placed in a particular context. Knowledge of the variables in each school such as the number of students, the years of teaching experience and the school system, was intended to allow context to be correlated with the data collected.
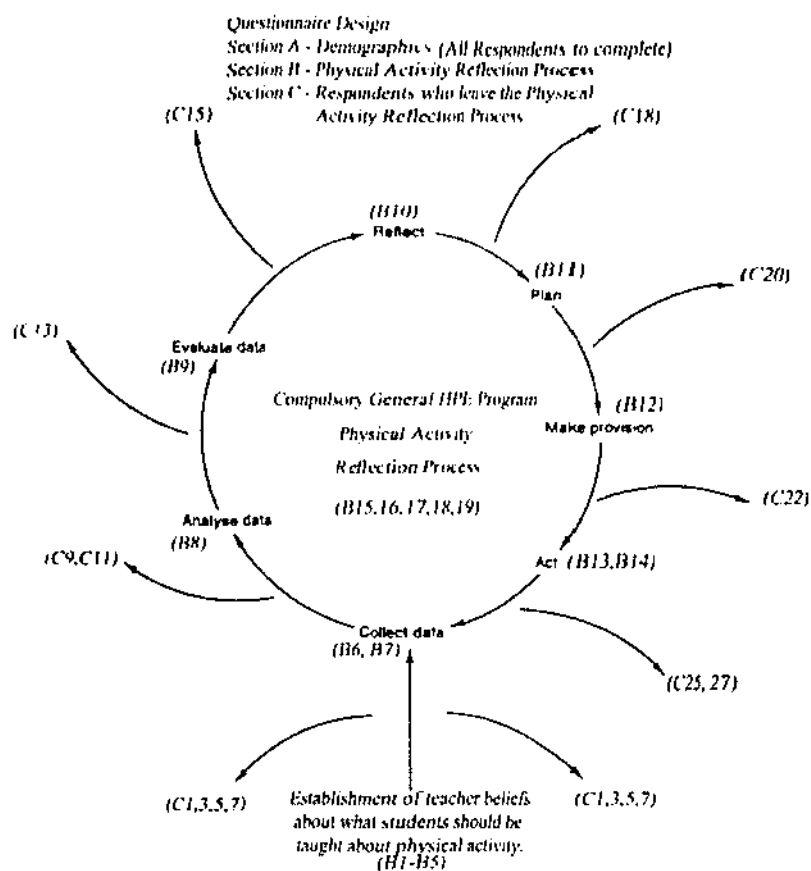
Figure 4. – Pathways respondents can take when completing the questionnaire. Adapted from the Pollard and Tann (1993) reflective teaching process.

In Section C, all teachers completed a compulsory section, which asked about the contextual factors of administrators (e.g., Principals or Curriculum directors), whether they required program evaluations, and how often this occurred. The respondents were then asked about the circumstances of these requests. They were not required to answer any further questions.

Section B of the questionnaire examined the Physical Activity Reflection Process (see Figure 4). The first five questions determined if physical activity promotion is the major aim of compulsory general HPE 8-10

in the northern metropolitan high schools of Perth. This provided direct answers to the first four research questions.

Once this had been established, the questionnaire used the Pollard and Tann (1993, p. 12) reflective teaching process to structure the questions. The questions were grouped under each of the headings or research variables as in Figure 4.

The questionnaire entered the Pollard and Tann (1993) reflective teaching process at the 'collect data' stage. Teachers were asked for any information recorded on students' physical activity. In question six teachers were asked about information recorded on students' physical activity levels inside school one of the entities identified in the universe of contexts (see Figure 2). This question asked HODs whether they used different methods of assessing these levels and when these methods were used. This determined not only if teachers collect data as in the Pollard and Tan loop but when and how they do. For example, teachers may have indicated they 'collect data' in the form of fitness testing which occurs once a year during PE classes, but that written records are not kept on student physical activity during lunch.

Teachers who did not record any data on student physical activity inside of school were redirected to Section C, question 9. This question examined the reasons these teachers left the Pollard and Tann (1993) reflective teaching loop at this point. Any reasons given, for example, 'insufficient time or resources', refer to contextual issues such as quality of working life and the

school system. This determined whether these contextual factors, identified in the conceptual framework, impact on the completion of the reflective teaching loop (see Figures 2 & 4).

Another form of data collection was examined in question seven. This involved asking the remaining teachers about the information that they collected on student physical activity outside of school. More specifically, on the weekend and before and after school. For example, the collection of written information on students' sporting activities on the weekend.

Teachers who indicated that they did not collect written information on student physical activity outside of school were directed to Section C, question 11. The question was phrased the same as question 9 except that it asked about the reasons they did not collect information outside of school.

Section B of the questionnaire then examined whether HODs analyse the information they record, which is the next step in the reflective teaching loop (see Figure 4). Question 8 consisted of two components. The first component asked if the respondents had any information, which indicated the proportion of students who were appropriately active. The second asked the proportion of appropriately active students in school year groupings. In order to know these proportions, the respondents would have had to analysed the data they recorded.

Those respondents who did not indicate that they had analysed the data collected to identify the proportion of students who were appropriately active,

were directed to Section C, question 13. This question asked why the HODs did not have sufficient information to determine the proportion of the class who were appropriately active. For example, teachers may have indicated here that they had not collected adequate information, were not required to perform the task or did not believe it was important.

The next step in the Pollard and Tann (1993) reflective teaching process (see Figure 4) was examined in Section B, question 9. This question asked if the teachers used their collected data to identify students with inappropriately low physical activity levels, i.e. Did they 'evaluate data'?

Respondents who did not identify students with inappropriate physical activity levels were redirected to Section C, question 15. They were asked for the major reasons why they did not identify students with inappropriately low physical activity levels. Again, they were provided with a number of factors that were identified from the conceptual framework (see Figure 2) and the literature review. These factors were related to quality of working life, teacher beliefs and HPE Program purpose. The teachers were then asked in question 16 to identify what conditions would enable them to identify students with inappropriately low physical activity. The purpose of this question was to provide extra information about contextual barriers to the evaluation of data and the continuation of the reflective teaching system.

HODs who had indicated that they evaluated data were directed to Section B, question 10 to determine if they reflected. This question asked

respondents whether they reflected on information by sharing it with other interested parties. For example, they may have indicated that they shared the information with the student concerned, parents, other teachers, the school nurse or administrators.

Teachers who did not reflect on the information were directed to Section C, question 18. This question asked why the information was not reflected upon or shared with others. This determined any ideological or contextual barriers to the 'reflect' step in the Pollard and Tann (1993) process.

The Pollard and Tann (1993) loop progresses from 'reflect' to 'plan'. The remaining HODs in Section B were asked about this entity in question 11. They were asked if a departmental policy on the collection and use of information for students with inappropriately low physical activity levels existed. Simply, did the HPE department have a plan for students identified as sedentary through the previous stages in the reflective teaching loop?

HODs who did not plan for students with inappropriate physical activity were directed to Section C, question 20. This question asked the HODs why there was no policy on collecting and using information for students with inappropriate physical activity levels. Again, teachers were asked to identify the contextual and ideological reasons.

Respondents who remained in the Pollard and Tann (1993) loop were then asked if they 'made provision'. Section B, question 12 asks if school staff provide advice and recommend a plan of action to 'at risk' students. This

determined whether the HPE Department made special provision for those students identified as having inappropriately low physical activity levels.

If the respondent answered 'no', then were asked to go to Section C, question 22. This question required teachers to indicate the major reasons for staff not providing advice and recommending a plan of action to 'at risk' students. Again, teachers were given prompts which were composed from the conceptual framework.

The remaining stage in the Pollard and Tann (1993) process is for teachers to 'act'. Section B, question 13 determines whether this occurs in the remaining population of the study. This question asked if school staff consistently attempt to inform and/or work with parents to increase 'at risk' students' physical activity levels. That is, do they act on the information on students' physical activity levels?

The respondents who did not act of the information were asked to go to Section C, question 24. In this question they were asked their major reasons for not informing/working with parents to increase a students' physical activity levels.

Finally, the respondents who completed the Pollard and Tann (1993) loop were asked about their process of reflection. The remaining questions asked about the frequency with which the loop occurs; the HODs commitment to this process and whether the process is successful in changing the HPE program for students with inappropriately low physical activity levels. The

teachers were asked to identify what motivated them to perform the reflective process. This allowed the questionnaire to identify contextual and ideological factors that promoted reflective teaching.

3.3 Instruments

The main instruments of the research were the interviewer and the questionnaire. Five interviewers were used in the study each volunteered to conduct the interviews. The training of the interviewers was paramount in the reliability of the research. According to Fink & Kosecoff (1998, p. 32), training should ensure that all interviewers know what is expected of them and that all questions are asked the same. The questionnaire (refer Appendix C) was used so that the questions were asked in the same way, decreasing variations caused by different methods of asking the questions. The interviewers were expected to introduce the questionnaire to the respondents, answer any questions they may have had, collect relevant supplementary evidence and thank them for their time.

Interviewers were also justified through their authority to ensure that the respondents completed the questionnaire in a reasonably uniform environment. It was preferable that the respondents completed the questionnaire with only the interviewer present. This minimised distraction, which could have altered the results. To reduce the distraction the interviewer's presence may have caused during training an emphasis was placed on the neutrality of attitude of the interviewer and avoiding creating a

distracting physical presence i.e. Clothes, appearance etc. (Fink & Kosecoff, p. 32).

3.4 Procedure

Validity and reliability

According to Fink & Kosecoff (1998, p. 33) a reliable instrument "will provide a consistent measure of important characteristics despite background fluctuations". The use of the questionnaire enabled a consistent form of asking the HODs for information. Every participant was asked the same questions in the same manner. This eliminated any fluctuations in the data, which may have occurred due to variations in the way information was obtained. In addition, the questionnaire was structured so that teachers were given clear definitions of the possibly ambiguous terms e.g. what constitutes an 'appropriately active' student. The questionnaire also allowed the use of the same example to explain a question for all respondents. As a result, the answers given to the questions were more reliable.

An interviewer administered the questionnaire. As the interviewer was available to answer queries and request evidence this further improved the validity of the answers. For example, the interviewer may have requested information to be provided on the collection of physical activity levels data inside and outside of school. In doing so, this enabled the data to be more verifiable. The presence of an interviewer also allowed further clarification of

terms and an explanation of the structure of the questionnaire to avoid any confusion affecting the data collected.

Interview Procedure

In this study, the HODs were given the questionnaire, while an interviewer was available within the room to provide clarification. This used aspects of the face-to-face interview method described by Fink & Kosecoff (1998, p.32) wherein an interviewer introduces the questionnaire, and the importance of the subject matter, and is available to clarify any questions that the respondents may have.

However, instead of the interviewers asking the questions as in the face-to-face method, respondents were provided with the questionnaire to complete by hand. This is a characteristic of self-administered questionnaires as described by Fink & Kosecoff (1998, p. 31). It could thus be described as a face-to-face interviewer administered questionnaire. The presence of interviewers was appropriate for this questionnaire as this provided greater accountability, rapid data collection and clarification of the questionnaire.

It was discovered early in the data collection period that many teachers were eliminated early. Therefore, the research assistants were given authority to ask further questions remaining in the questionnaire, such as how teachers identify students with inappropriately low levels of physical activity. This provided extended data for the study. This data was used to determine if

teachers actually performed some of the other tasks outlined in the questionnaire even though they were eliminated.

3.5 Data analysis

According to Thorpe (1994, p.37), "data analysis must be systematic and rigorous". The majority of the data from this study was part of the quantitative research paradigm. Descriptive statistics were the major source of data analysis. According to Fink & Kosecoff (1998, p. 60), these are the most common form of data analysis used. Proportions were used to describe the percentage of respondents who answered a particular way to a particular question or set of questions.

Section C of the questionnaire asked teachers why they did not perform a particular task it provided some qualitative data in which conceptual categorisation and demographic data were examined. The demographic data was intended to be used to determine if there was a relationship between teachers who completed Section B of the questionnaire and class size, school system, class gender, experience and allocated time to health and physical education.

The questionnaire was coded so that each question was allocated a numerical value. For example 'yes' was given a value of 1 and 'no' a value of 0. This made it easier to tabulate the results using SPSS and Microsoft Excel for analysis.

Research Questions 1-4

1. Do HPE teachers believe it is important for students to know how various forms of physical activity are related to their fitness and health?

2. Do HPE teachers believe students should learn how to assess whether the level physical activity in their own lives is appropriate, in terms of maintaining or improving their health status?

3. Do HPE teachers believe students should gather information about the appropriateness of their physical activity levels, for example through an activity diary?

4. Do HPE teachers believe they should examine the information collected about physical activity levels?

The questionnaire was designed to answer these research questions using the first five questions in Section B. In question one, the respondent had to rank the five learning outcomes as specified in the Curriculum Framework (1998) for Physical Education and Health Education. A percentage figure was determined in respect to the respondents who ranked Skills for Physical Activity (1) for PE and Knowledge and Understanding for HE. This percentage figure allowed a determination of the number of teachers who agree that physical activity promotion is a major goal of PE.

Questions two to five in section B align with each of the research questions and were analysed to examine how many teachers agreed or

disagreed with each statement. Teachers' responses that disagreed with any of the statements were examined in terms of conceptual categorisation.

Research Question 5

Do HPE Departments keep records on their students' physical activity levels inside and outside of school?

This research question was answered using Section B, questions six and seven. A percentage was calculated which was given the number of respondents who collected data on their students' physical activity levels both inside and outside of school. Separate figures for inside and outside school were also determined. Any teachers who did not collect data on their students both inside and outside of school were redirected to Section C where they were asked the reasons for this. Data collected in this section were correlated with the demographic data in section A to determine if a particular factor was the cause for not collecting data on students' physical activity inside and outside of school.

Research Question 6

Are records on physical activity levels used by teachers to identify students whose health may be at risk from inappropriately low levels of physical activity?

This research question was analysed in two parts (section B, questions 8 and 9): whether teachers had sufficient evidence to determine which proportion of their students were appropriately active and whether they used the records to identify students with inappropriately low physical activity levels.

Primarily, question 8 from the questionnaire was used to indicate whether teachers use their records to identify students with inappropriate physical activity levels. From the proportion of teachers who completed section B, question 9, the percentage who actually used the data was determined.

Research Question 7

Is information about students whose health may be at risk from inappropriately low levels of physical activity used in a reflective HPE program improvement process?

The number of respondents who completed Section B of the questionnaire determined the answer to this particular question.

Research Question 8

What motivates teachers, to collect, analyse, evaluate, reflect, plan and act on the information about students whose health may be at risk from inappropriately low levels of physical activity?

Respondents who were eliminated in the questionnaire were not considered in this section, because they were unable to reach the criteria stated in the research question. Data analysis of section B question 18 and 19 provided the information for this research question. Teachers were requested to rank a number of factors, which were identified in a pilot of the questionnaire. In the questionnaire there was also space for respondents to add or report other factors.

3.5 Problems with the method

There were a number of limitations encountered in preparing the questionnaire. These included the use of skip patterns, length, possible implicit value judgements within the questionnaire, and the lack of previous research to build upon.

The first limitation encountered was the use of skip patterns in Section B of the questionnaire. This pattern asked respondents, for whom the next sequential question was not relevant, to continue the questionnaire at another point (Fink & Kosecoff, 1998, p. 30). This may have constituted a limitation to the study as some researchers suggest that this method is confusing (Fink & Kosecoff, p. 31). To minimise confusion, the questionnaire consistently asked respondents to move to Section C if the remainder of Section B was no longer relevant. In addition, each section in the questionnaire was colour coded to ease navigation between sections. The presence of an interviewer was also intended to help overcome the skip pattern limitation, as they were able to help navigate through the questionnaire.

The skip pattern may also have implied that respondents should stay in Section B. As those who did not complete each stage of the reflective loop were redirected to another section, the respondents may have felt that they were being prematurely eliminated from the questionnaire. To overcome this limitation, interviewers were instructed to ask teachers to provide records as proof of the authenticity their responses. The knowledge that they had to

provide evidence during the questionnaire may have ensured that respondents answered more truthfully. Also, the evidence allowed verification of the data collected through the questionnaire.

The length of the questionnaire may also have contributed to negative attitudes towards the questionnaire by respondents. However, most respondents did not have to complete every question within the questionnaire. To limit the effect of this factor, interviewers were instructed to explain to the respondent that they may not have to complete every section.

A further consideration was the analysis of data. Respondents who were redirected from Section B to Section C of the questionnaire did not provide data for the remaining Section B questions. There was a possibility of having few respondents able to provide the data for the latter Section B questions. Nevertheless, findings on the proportion of teachers who could not complete the questionnaire constituted valid data for the study as one of the research questions asked whether records on physical activity were kept. To overcome this particular shortcoming a larger sample would be required. However, this was beyond the scope of this study.

The lack of previous research on this topic may also have been a limitation to this study. There was a limited opportunity to build upon already established research frameworks or questionnaires for this particular area. However, the simple nature of the research questionnaire targeted the specific research variables as established by Pollard and Tann (1993). While there was

a limited research framework in the area of study, the questionnaire was based

on an established reflective teaching process.

CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter commences with a description of the respondents to the questionnaire. Their backgrounds should be considered as the results are presented. The results from the questionnaire and follow-up interview are presented using the structure of the steps outlined in the design of the study (see Figure 4) i.e. the Pollard and Tann (1993) reflective teaching system. Due to the small population in this study, these results are not intended to represent schools beyond the District chosen.

Description of the population

The population in the study included twelve state schools and two private schools. The mean number of students in the schools was between 601-800 students. Two schools had more than eight hundred students each. Average class sizes in the population were 26-30 students per class. A private school indicated a class size of 16-20 students.

On average, greater than sixty but less than eighty percent of compulsory general PE classes were taught on a single sex basis. One school recorded less than or equal to twenty percent single sex classes, and another only had single sex classes.

The Heads of Departments had an average of 21-25 years of teaching experience, with six having greater than 26 years' experience. In addition, the Heads of Department had held their positions for, on average, 6-10 years, with one respondent having been Head of Department for over 21 years.

The mean number of staff hours devoted to compulsory general 8-10 PE was 120 hours per week and for compulsory HE was 46 hours. The average time allocated for physical education per week was 120 minutes, for year 8, 118 minutes, for year 9, and 121 minutes for year 10. One private school offered students 240 minutes of physical education class time per week for compulsory year 8-10 general PE.

4.1 Beliefs about student physical activity

The questionnaire began by asking teachers to rank the HPE Curriculum Framework strands in order of importance (Table 1). A ranking of one indicated the most important outcome and five the least.

Table 1 illustrates the five Curriculum Framework HPE outcome strands and the percentage of teachers who assigned each strand a ranking. The majority (70%) of teachers perceived the major focus of PE lessons as the Skills for Physical Activity outcome strand. The data indicated that teachers identified interpersonal skills (42%) and self management skills (25%) as secondary priorities. The least important PE outcome identified by the participants was the knowledge and understanding outcome (50%).

Table 1

Percentage of respondents who ranked the outcomes in order of teaching priority for physical education (PE) and health education (HE).

Strand	K&U		SPA		IPS		SMS		A&V	
Ranking	PE	HE	PE	HE	PE	HE	PE	HE	PE	HE
1	-	46%	70%	8%	15%	15%	-	8%	15%	23%
2	8%	23%	17%	-	42%	23%	25%	38%	8%	15%
3	17%	8%	8%	-	8%	54%	33%	15%	33%	23%
4	25%	8%	-	17%	33%	8%	25%	42%	17%	25%
5	50%	8%	8%	83%	-	-	17%	-	25%	8%

*NB: One participant did not rank all the outcomes but was included in the tabulated data resulting in a slight variation in percentages for SPA and SMS.

In HE lessons, teachers' responses revealed an inverse relationship to physical education. Knowledge and understanding (46%) was the most important outcome to the participants. Skills for physical activity was the least important (83%). The attitudes and values outcome showed an even distribution of responses. It was seen as neither the most important nor the least important outcome in health or physical education. Interpersonal skills and self management skills were identified as important (i.e., rankings 2, 3, & 4) but were not significantly identified in rankings one and five.

After question 1 teachers were given four other belief statements and asked to indicate whether they strongly agreed, agreed, disagreed or strongly disagreed with each statement. If they either strongly disagreed or disagreed they were asked to give reasons for this in Section C. These teachers did not

complete any further questions in Section B. However, some teachers were asked to provide additional data by the interviewers.

Figure 5 shows the percentage and number of respondents who were eliminated from the questionnaire after each of the belief statements. The responses are given on the right hand-side under the Section C heading. The number of respondents reacting to each successive belief statement decreases, as fewer teachers found themselves able to reply in the affirmative to the practice of gathering and processing information about students' physical activity levels. For example, fourteen respondents answered Question 2, Belief Statement 1, but only eleven were able to continue to Question 3, Belief Statement 2 (see Figure 5).

Section B
Questions 2-5

Section C
Teachers'
Responses

Statement 1:
It is important for students to know how various forms of physical activity are related to their fitness and health.

3/14 respondents
21% S/Disagree/Disagree

1 "only so much teachers can do with time and resource constraints"
"I believe it is important to value recreation and sport through the enjoyment side - if the activity is fun they are more likely to be involved - then the health and fitness benefits will come "
One respondent did not provide reasons why they disagreed with this statement

11/14 respondents
79% Agree/Strongly Agree*

Statement 2:
Students should learn how to assess whether the level of physical activity in their own lives is appropriate, in terms of maintaining or improving their health status

1/11 respondents
9% S/Disagree/Disagree

2. "Disagree with assess -students are not interested in health assessment"

10/11 respondents
91% Agree/Strongly Agree*

Statement 3:
Students should gather information about the appropriateness of their physical activity levels e.g. Activity Diary

3/10 respondents
33% S/Disagree/Disagree

3 "Will take the spontaneity and fun element out of sport and recreation A general knowledge of how and why is all that needed Participation and fun are the key elements at their age We don't want to turn them off Some collection of data in health done."
"Their level of physical activity would be the major information gathering system with knowledge of how personal fitness can affect their general well-being then this would be sufficient No need to itemise in a diary the amount"
One respondent did not provide a reason why they disagreed with this statement

7/10 respondents
70% Agree/Strongly Agree*

Statement 4:
PE teachers should examine the information collected about students' physical activity levels.

1/7 respondents
14% S/Disagree/Disagree

6/7 respondents
86% Agree/Strongly Agree*

4. "We have not built in formal evaluations as we have felt that this may be threatening over prescriptive for students. A great deal of work for staff. It could make PED too formalised and regimented"

6/14 (43%) respondents continue to
Question 6
Collection of Information.

Figure 5 – Percentage and number of respondents who were eliminated in the belief statements section and their reasons for disagreement.
*Percentages are based upon the number of respondents who remained in the questionnaire at each statement.

In Belief Statement One, three respondents were eliminated from Section B. This statement provided a significant removal of respondents from the questionnaire. The reasons given varied. One respondent, redirected to Section C, indicated that sport should be fun, and that health benefits would flow from participation in enjoyable sport. Another indicated that there was "only so much teachers can do in the face of resource and time constraints". The other two respondents did not state a reason.

In Belief Statement Two, one respondent was eliminated, indicating that they disagreed with the word "assess". The respondent said that students were not interested in health 'assessment'.

In Belief Statement Three, three respondents were eliminated. One indicated that, if students were required to gather information about the appropriateness of their physical activity levels, this would remove the spontaneity from students' involvement in sport and recreation. Another indicated that there was no need to itemise the amount of physical activity in a diary. A third respondent did not provide any reasons for disagreeing.

In the final belief statement, one respondent was eliminated. This respondent indicated that there were no formal evaluations of HPE programs because it may be threatening to students; "A great deal of work for staff. It could make PE Departments too formalised and regimented".

Examining the written, open-ended responses in Section C using conceptual categorisation identified that 'fun' and 'work' appeared to be the

major barriers to teachers' completion of the belief statements. The work

category (4 respondents) meant that the gathering and examination of

information on students' physical activity levels was too much extra effort. In

addition, two respondents indicated that performing what these statements

suggested would take the fun out of physical education for students.

4.2 A modification to the questionnaire structure

Of the fourteen respondents, eight were redirected to Section C as they

disagreed or strongly disagreed with the belief statements. It was intended that

any teachers who were directed to Section C would not complete the

remainder of Section B.

However, after examining the first questionnaires and before the

remaining interviews had occurred, it was found that teachers were being

eliminated from Section B at the Belief Statements stage. This limited any

data pertaining to the remaining questions on the Pollard and Tann (1993)

reflective teaching loop. In an effort to provide additional data, several

respondents were asked by the interviewers to continue on to answer questions

on the collection of data inside and outside of school. Subsequently, ten

respondents remained in Section B of the questionnaire.

4.3 The collection of information about students' physical activity levels

Following questions about beliefs, teachers were asked whether they collected information inside and outside of school. They were given a number of categories to choose from to indicate whether they collected written information inside and outside of school. If respondents were found to have collected information in written form, then they were asked how frequently this occurred. If they did not collect written information inside school, then they were eliminated from Section B and asked their reasons for not doing so. This also happened for outside school information collection.

Table 2 illustrates the percentage of respondents who completed the inside school section of the questionnaire and their responses including the frequency of data collection. The categories presented in the table are those given in the questionnaire. As all remaining respondents (10) indicated that they collected data inside school about student physical activity levels, no respondents were redirected to Section C.

In Table 2, all respondents collected information about students while they were engaged in PE classes. The major types of data collection identified were fitness testing (70%) and unit evaluation (70%). In year 8, fitness testing was conducted on average 1.4 times per year; however, this figure dropped in year 9 to 0.86, with a further decrease in year 10 to 0.72 times per year. Unit evaluation also showed a slight decrease in frequency from 1.2 per unit in year 8 and 9 to 1.0 in year 10.

Seventy percent of all respondents completing Question 6, indicated that they collected information in health education classes using fitness testing. Again, there was a decrease in the frequency of collection from 1.85 per term in year 8 to 0.14 in years 9 and 10. Unit evaluation, student surveys and other assessments, when used, also decreased from year 8 to year 10. This decrease in collection was more pronounced than the decrease shown for PE classes.

No respondents kept written information on students' physical activity levels during recess and lunch. Eighty percent of respondents did not collect information in Other Classes (not general HPE). The remaining twenty percent showed a high frequency of data collection. For example, they collected information on regular occurrences.

Table 2

Number of respondents who completed the 'inside school' section of the questionnaire and their responses including the frequency of data collection on students' activity levels.

Inside School Category

	Percentage of all Respondents	Mean Frequency of Data Collection		
		Yr 8	Yr 9	Yr 10
General PE Classes	100%			
Fitness Testing	70%	1.4	0.86	0.72 (per year)
Other Assessments	-	-	-	-
Unit Evaluation	70%	1.2	1.2	1.0 (per unit)
Intensity of Physical Activity	10%	4.0	4.0	4.0 (per year)
Health Education Classes	70%			
Fitness Testing	70%	1.85	0.14	0.14 (per term)
Student Survey	50%	1.0	0.8	0.6 (per term)
Unit Evaluation	30%	1.0	1.0	0.66 (per term)
Other Assessments	10%	1.0	-	- (per year)
Recess/Lunch	0%			
Student Physical Activity	-	-	-	- (per term)
Other Assessments	-	-	-	-
Other Classes (not general HPE)	20%			
Students PA Levels (Not HPE)	20%	15	15	15 (per year)
Student PA Levels (Specialist PE)	10%	2	2	- (per term)
Other Assessments – fitness	-	-	-	-
No Information Collected Inside School	0%			

Note: Percentages are based upon the number of respondents who completed this section.

As all respondents indicated that they collected information inside of school, all continued on to Question 7. Table 3 illustrates the percentage of respondents answering Question 7 who collected information on students' physical activity levels outside of school. The categories and contexts of data collection align with those given in the questionnaire.

In Table 3, only twenty percent (2/10) of respondents indicated that they collected information on students outside of school. One of the respondents indicated that the school ran a two-week health program, in year 9, and collected some written information on the categories shown in Table 3. However, this information was kept by the students and not utilised in any way by the HPE department. Additionally, one respondent kept information on students' sporting activities before and after school.

Table 3

Number of respondents who completed the 'outside school' section of the questionnaire and their responses including the frequency of data collection on students' physical activity levels.

Outside School Category

		Mean Frequency		
	Percentage of all Respondents	Mean Frequency of Data Collection Yr 8	Yr 9	Yr 10
Weekend Physical Activity	10%			
Student Sporting Activities	10%	-	0.25	- (per term)
Student Work Activities	-	-	-	-
Student Leisure Activities	10%	-	0.25	- (per term)
Other Assessments	-	-	-	-
Before and After School Physical Activity	20%			
Student Sporting Activities	10%	1.0	1.0	2.0 (per term)
Student Work Activities	10%	-	0.25	- (per term)
Student Leisure Activities	-	-	-	-
Other Assessments	-	-	-	-
No Information Collected Outside School	80%			

*Percentages are based upon the number of respondents who completed the section of the survey

Eighty percent (8/10) of respondents answering Question 7 did not collect information on students' physical activity levels outside of school. These respondents were directed in the questionnaire to provide reasons for this in Section C. Of the possible reasons for non-collection given in the questionnaire, respondents agreed with three: Insufficient Time (3/3),

Insufficient Resources (2/3) and Not required to perform this task (1/3). In addition, one respondent added that the focus was on student participation rather than data collection.

4.4 Teachers who collected information inside and outside of school

None of the respondents who collected data on students both inside and outside of school indicated that there was enough information to determine which proportion of the class was sufficiently active. Therefore, the two remaining respondents were eliminated at Question 8 of the questionnaire. One respondent, who was eliminated to Section C, said there was a "failure for school administration to give adequate time to an adequate Health Curriculum". The other respondent, who was eliminated, gave the following reasons for being unable to determine the proportion of students who are appropriately active: "Not required to perform the task, Insufficient information collected to make a valid judgement and Insufficient Time".

4.5 Program evaluation

The accountability of PE Departments within this population was also examined in Section C. Every respondent redirected to Section C was invited to indicate if their Principal or curriculum leader ever asked them to provide an evaluation of their PE program. In addition, the frequency and

circumstances of these requests were examined. Two respondents did not

provide information on the accountability of their HPE department.

Table 4 shows the percentage of respondents required to provide PE

program evaluation and the mean frequencies of these evaluations. This table

shows that thirty-three percent (4/12) of the respondents never received

requests from the Principal or curriculum director for an evaluation of the PE

program. Sixty-six percent (8/12), did provide information at an average

frequency of 1.2 times per year. However, one respondent indicated that a new

system was being trialed that would increase the frequency of program

evaluation in that school.

Table 4 --

Illustrates the percentage of respondents who were required to provide information about

their PE program to a Principal or curriculum leader and the mean frequency of those

requests.

PE Program Evaluation		Mean Frequency of Evaluation
Not provided	Provided	
33%	66%	1.2 times per year

The respondents were asked to describe the circumstances of the

requests for HPE Program evaluation. Several conceptual categories were

identified through the responses given. Four of the eight respondents who

received requests for program evaluations identified performance management

as a primary type of evaluation. In addition, four of the respondents also indicated that curriculum improvement, an initiative at the school system level, was a major area of program evaluation. Two respondents identified the need to report through a chain of command involving the District Director or Office. Two respondents also identified a requirement to achieve 'school goals' as a means of accountability for their programs.

4.6 Attitudes to gathering information

Information collection

Additional information was gathered during the questionnaire interviews in order to clarify the results. Several teachers indicated that they did not have time to collect information on students' physical activity levels. One respondent indicated that the aim of HPE is to provide opportunities for physical activity. He stated that "We don't have time to fill in forms. I would rather have the kids active". Another respondent stated that to collect enough information, a "personal trainer would be needed for every four students". One comment indicated that gathering written information was not a high priority and that it would be better to maximise physical activity for the time the kids are in class.

Identifying students with insufficient activity levels

Several respondents indicated that they used fitness testing as a major source of identifying whether a student was sufficiently active. Respondents indicated that if students failed fitness tests, then they were considered "not appropriately active". The fitness tests were also used to identify students with elite levels of fitness. A respondent indicated a process that the HPE department utilised involved conducting a fitness test and then identifying students with weak cardiovascular fitness. A letter would be sent to the parents, which included advice. However, no further monitoring of fitness levels occurred, except for the fitness tests conducted twice yearly.

Another method of identifying students with insufficient activity levels involved teachers' 'knowledge of students'. One respondent indicated that he was able to identify students from his 'knowledge' of the students this involved using 'visual' and 'verbal' information. He did not use fitness testing, except in Year 8, to make the students aware of the components of fitness. He further elaborated on his method for identifying students who may be insufficiently active by indicating that he looked at them to see whether they were obese. A process was established whereby obese students would be spoken to privately about their obesity problem. They would be asked whether they would like any assistance. If their answer was 'no' then nothing would happen. If assistance was welcomed, they would be placed into a specialist program with the school's laboratory technician, an unqualified physical

education specialist with an interest in helping students 'at risk'. The laboratory technician performed this task because of the lack of staff resources available to the HPE Department.

One respondent indicated that there was no formal procedure for identifying students who were extremely sedentary. The respondent, who was an experienced teacher but not a HOD, believed that the school or department should have a policy on students with low physical activity levels. In addition, this particular school did not have a continuous health program except for two weeks in the middle of year 9.

4.7 Clarification of questionnaire data

Initially, the results of the questionnaire indicated that one respondent had completed Section B of the questionnaire. That is, they appeared to have completed the Pollard and Tann (1993) loop. Another formal interview (See Appendix D for full transcript) was arranged to clarify several issues arising from this respondent's answers to the questionnaire. This interview found that this respondent should have been eliminated from the questionnaire when answering the collection of information outside of school section. However, this data check did provide some valuable additional information for the study.

Several notable issues emerged from the interview. The respondent indicated that ACHPER fitness testing, which was conducted once a year, was

the major form of formal identification of students with insufficient physical activity levels. If a student was below a certain percentile for their cardiovascular fitness, then a letter was sent home to parents. However, there was no follow-up after the letter was sent. The respondent indicated that it did not matter how many times kids were told what they should be doing they needed to discover it for themselves. For example, one student who was 25kg 'overweight' took up cycling of his own volition (not a HPE department initiative) in the Christmas holidays and lost 28kg.

In his questionnaire, this respondent also stated that student surveys and unit evaluation were forms of data collected on students' physical activity levels. However, in the interview it was discovered that this data was informal and did not relate to physical activity levels. Therefore, this data was excluded from the inside school category. The respondent also revealed that he did not collect information on students' physical activity levels outside of school. Therefore, this data was excluded from the outside school category.

The respondent used qualifying statements to justify some of the answers given in the interview, repeatedly stating that actions 'probably' took place. For example, when asked about information collection the respondent hypothesised that "it's probably more on an informal basis". In addition, any teachers who provided advice to students with insufficient activity levels would 'probably' do so on a one-to-one basis.

In referring to the future, the respondent described his goal of communicating with parents. He stated that "Once we get the letter all tidied up and inform parents with what we are actually doing and how we are doing it, what the results mean [sic] and all those sort of things then I think we will get a much more positive response from the parents".

The implications of the results of the questionnaire and the follow-up interview will be discussed in Chapter 5.

CHAPTER FIVE

DISCUSSION OF THE RESULTS

5.0 Introduction

This chapter presents a discussion of the questionnaire results. Initially, discussions of the limitations of the study will be presented. These limitations should be considered when reading the discussion which follows.

5.1 Limitations

The exploratory nature of the research has within it inherent limitations. With no prior studies to draw upon, it was difficult to know how the questionnaire would be received by the teachers and what information it would yield.

A pilot study was conducted prior to data collection and it was well received. Due to its structure it was not possible to test all possible combinations in the questionnaire. All respondents in the pilot study agreed with all belief statements at the commencement of section B. One respondent in the pilot study completed the entire questionnaire, meaning that he not only collected information but also used it to evaluate his program. This result was not replicated in this study. The number of teachers eliminated from Section B to Section C in the belief statement section (57%) was surprising in light of the pilot study.

A limitation to the study was the teachers' apparent confusion of the terms 'fitness' and 'physical activity'. This was indicated by some teachers' reliance on fitness testing as a measure of physical activity levels. Teachers appeared to understand physical activity as interchangeable with physical fitness. Despite efforts to clarify terms, teachers tended to use fitness and physical activity interchangeably. However, the questionnaire may have also contributed to this confusion by implying that fitness testing may indicate physical activity levels in Question 6 parts i) and ii).

The questionnaire's elimination strategy minimised the amount of data collected. This made it difficult to draw conclusions between the demographic data, collected in Section A, and the information supplied by teachers in Section B. For example, it was not possible to determine if HODs' years of experience was a significant factor in the collection of written information on students' physical activity levels. Also, there were limited data for research question eight which asks what motivates teachers to collect, analyse, evaluate, reflect, plan and act on the written information on students who are insufficiently active.

However, because it became clear early in the data collection process, that the elimination strategy limited the data being collected on the later research questions, a change was made in the procedure. Early in the data collection phase, the research assistants were advised to ask teachers some of the questions that remained in section B even after they were to be eliminated.

This gave additional data on what information teachers collect, the frequency of collection and how they report on those students who are insufficiently activity. However, it was not possible to ask all teachers these additional questions because this procedural change occurred part-way into the study.

One teacher initially appeared to have completed the second section of the questionnaire and provided some insights into what motivated him to collect, analyse, evaluate and plan using written information. However, a subsequent one-to-one interview revealed that he should have been eliminated at question 8 of the questionnaire. This question asked if teachers collect information on students' physical activity levels outside of school. The implications of the difference between this teacher's understanding of what was being asked and the intentions implicit in the questionnaire are discussed in Section 5.2.

The research assistants used to collect the data for the questionnaire also provided some limitations to the study. Age differences between the teachers and the younger research assistants may have had an impact on the teachers' willingness to share information. Those younger or less experienced than the teachers may have been perceived as being less understanding of the teachers' contexts. It is possible that responses given to these data collectors were more defensive and limited, or perhaps, even misleading. The research assistants who were closer in age and background to the Heads of Departments may

have appeared to be more understanding about the reality of teachers' contexts, which may also have influenced responses.

Some research assistants were motivated to participate for financial benefit while others had a genuine interest. Also, the assistants had varied levels of understanding of the concepts involved and may have been less likely to be able to ask questions beyond the bounds of the questionnaire, which may have provided valuable data about teachers who were eliminated from the questionnaire.

As a result of this, some of the research assistants did not ensure all necessary data was received. For example, some teachers did not give reasons for their disagreement with the four belief statements. In addition, documentary evidence was not collected to verify teachers' statements. This was especially important when one teacher completed Section B. However, due to the lack of documentary evidence the senior researcher conducted a follow- up interview. Subsequently, it was found that this teacher should have been redirected much earlier in the questionnaire. Nevertheless the questionnaire was designed to minimise the chances of accepting a 'false positive' (i.e., finding that teachers completed the Pollard & Tann (1993) loop). The prospect of having to verify claims was present during questioning, contributing to the conservatism of the inquiry. The chances of a 'false negative' finding (i.e., saying HPE Departments do not gather and act on information about students' physical activity when they really do) remains

unknown. However, it may be somewhat safe to assume that teachers who do a considerable amount of data gathering and follow-ups would be likely to convey this to researchers.

Research assistants were given a one-hour training session explaining the structure of the questionnaire and how to conduct themselves. While this was helpful, a senior researcher had less control once the research assistants began the data collection process. Regular contact and follow-up procedures were used to make sure the research assistants were complying with research protocols.

It is important to consider that the population for this particular study is Heads of Department in northern coastal metropolitan Perth. It is not possible to make generalisations about a larger population, such as metropolitan Perth or Western Australia.

Despite these limitations, the questionnaire was constructed in a way that answered all research questions. Therefore, the raison d'être of the questionnaire was fulfilled, with all research questions yielding results. The results for all questions will be discussed in the section below.

5.2 Issues arising from the results

Recall from the literature review that "schools have the potential to be the primary source of physical activity promotion" (McKenzie, 1999, p. 16). The majority of teachers within the population studied believed that teaching

students skills for physical activity was the highest priority for compulsory lower school (years 8-10) physical education (70%). Despite this, a majority of teachers (65%) disagreed with the belief statements given regarding student knowledge and physical activity. Several issues have been identified which may provide insights into these views.

Context and data collection

Verbally, and in the questionnaire, many Heads of Department described their immediate workplaces as characterised by limited resources and time. From this context, the process of data collection and subsequent program evaluation is seen as an added burden on PE Departments. One teacher stated, "there is only so much teachers can do with time and resource constraints". The comments about this context may indicate that data collection and reflection is seen as extra work rather than fundamental to their teaching.

Where students are concerned, teachers seemed to believe that if they gave students the task of gathering and examining information about their physical activity levels, the 'fun' would be removed from physical education. This was used to explain why no data was collected.

<u>Ideological positions regarding data collection and physical activity</u>

Effective data collection is largely described by the respondents as competing with the goal of keeping students physically active. This attitude seems to form a barrier to teachers' collection of data: "We don't have time to fill in forms. I would rather have the kids active" one respondent explained. Several Heads of Department echoed this sentiment, with one teacher stating that to achieve the level of quality data collection they believed was implied in the questionnaire. a "personal trainer would be needed for every four students". This attitude, that data collection may limit the opportunity for physical activity in class and pose extra work burdens, may help explain many Heads of Departments apprehension and lack of motivation for data gathering.

This apprehension is also apparent in the teachers' comments regarding the 'fun' aspect of physical education. One respondent stated that "it is important to value sport and recreation through the enjoyment side... then health and fitness benefits will come". Perhaps this teacher believed that physical activity, enhanced through enjoyable physical education, would be threatened by a requirement that students gather data on their physical activity levels. This fear was expressed by several teachers who worried that data collection might "take the spontaneity and fun element out of sport and recreation" or will make PE "formalised and regimented". It seems that these teachers feared that data collection would negatively affect students' attitudes

to physical activity. Data collection does not appear to be perceived by the teachers as helpful in promoting students liking of physical education.

Data collection and program evaluation were not uniformly seen as a burden. One teacher indicated that there was no process of evaluation in place to identify students with low levels of physical activity and no program to accommodate their needs. However, this teacher added, "it would be nice though". Heads of Departments may be open to these concepts but contextual factors such as having limited time and resources may be seen as a barrier to an effective process of identifying students who are insufficiently active. Where processes were identified, this contextual barrier was also apparent. At one school, a science technician took the remedial class of obese students in their spare time due to a lack of resources. Therefore, those students who were most in need of help were being removed from specialist care due to this contextual issue.

The teacher who initially completed Section B of the questionnaire demonstrated a different understanding of data collection. Instead of identifying this as extra work, this teacher claimed to already be carrying out all steps described in the questionnaire. However, a follow-up interview found that while he believed data collection on students' physical activities by members of his department aligned with the steps described in the questionnaire, this was not the case. This teacher appeared to perceive ad hoc, informal data collection and written data collection as synonymous.

Methods and frequency of data collection

ACHPER (Australian Council for Health, Physical Education and Recreation) fitness testing was the predominant way these teachers collected data. Several teachers indicated that their major justification for fitness testing was to show students their level of fitness. However, the results of this testing were also used to form assumptions about the physical activity levels of the students. For example, one teacher used cardiovascular testing. If the students scored under a certain percentile, this teacher then assumed that students were not sufficiently active. This process was used to identify the proportion of sufficiently active students across different year levels.

Several teachers were using fitness testing as a predictor of physical activity levels. The validity of using fitness testing for this purpose could be questioned. The results of fitness tests simply show that a particular student reached a certain level of percentile for a particular outcome (e.g., endurance). It does not indicate their physical activity patterns (e.g., Frequency, Intensity, Time, Type of physical activity). In addition, factors such as students' natural ability or specific fitness may have masked low levels of physical activity. Any conclusions drawn regarding student physical activity levels from their fitness testing results were thus flawed.

The ACHPER fitness tests require maximal effort by the participants. The accuracy of these tests relies on the motivation of the students to perform to the best of their ability. Students who choose not to perform at optimal

levels may receive scores that do not reflect their actual fitness percentile levels. Therefore, teachers may be collecting data that are inaccurate. The validity of using these data to draw conclusions about students' physical activity levels is further reduced.

While teachers continue the practice of ACHPER fitness testing and conflating measures of student's physical activity, students will continue to be denied access to information about the appropriateness of their own physical activity patterns.

The frequency of fitness testing could also be questioned as the maximum in year 8 was twice per year and this decreased with age. Even if fitness testing represented an adequate measure of physical activity levels, this frequency is insufficient to determine changes in students' physical activity patterns. At this frequency it would be difficult for valid comparisons to be made between historical results and the current level of physical activity.

Results from the questionnaire indicated that data collection decreased in frequency as students' progressed from years 8 to 10. Taggart & Sharp (1997, p. 27) have indicated that this is the period when students often drop out of sport. The reduced frequency of data collection during the latter years of secondary school may have created difficulty in identifying changes in students' physical activity patterns. The design of appropriate PE programs to help students maintain physical activity may have been less successful as a result.

Methods of identifying students with insufficient levels of physical activity

This study sought to discover whether teachers collect written documentation on students' physical activity levels. Many teachers said they could do this without gathering any recorded information. Several teachers said that they could tell if students were insufficiently active by simply looking at them or talking to them. The teachers' belief that, through verbal/social interaction or visual identification, they could identify a student's physical activity level was repeatedly the reason given for not collecting data on physical activity levels. In other words, why go to the trouble of data collection when you can simply look at and talk to the students?

Visual identification may occur through the observation of student performance in PE classes and from student appearance. In one instance, a teacher reported taking aside students who were overweight, asking them if they would like help to increase their physical activity levels. Unlike a policy of continuous year-to-year monitoring through data collection, this practice relies on incidental teacher perception, which may be less objective than written evidence. This may risk neglecting those students whose lack of physical activity is not visually apparent. Also, it is possible for all students to improve their physical activity levels, not just those at risk from very low physical activity.

Similarly, verbal identification may occur through social interaction with students. For example, teachers may ask a student how they went at

football on the weekend. Students may also voluntarily provide teachers with information about their sporting and leisure pursuits. Socially confident students may have an advantage in that the teachers may be made more aware of these students' activities and overlook less socially forthcoming students.

Figure 6 represents the three methods of physical activity data collection reported by the teachers in this study. Predominantly, teachers claimed they looked and listened rather than collected written data. Teachers interpreted these methods to make judgements on the level of physical activity of their students. However, it is significant that none of the teachers could identify students who were insufficiently active. Despite their 'faith' in the look and listen strategy they could not identify students 'at risk', and never did anything about insufficiently active students in a formal/documented way.
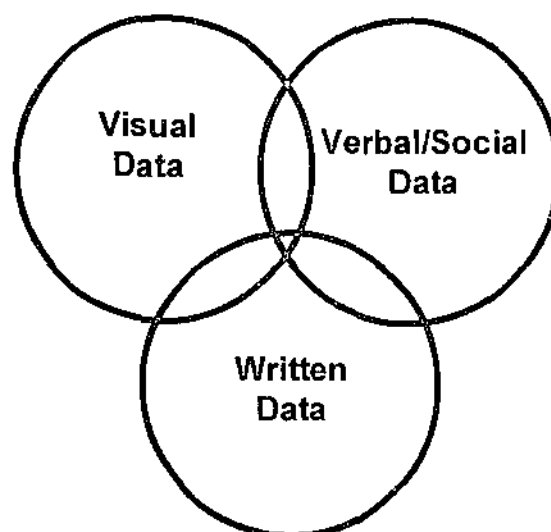
Figure 6 – Different methods used for data collection in physical education.

It is important to understand that the amount of data is variable for each of the three methods represented in Figure 6. For example, in this population the 'written data' component of Figure 6 would be relatively small due to the teachers' reliance on verbal and visual data. The areas of intersection indicate where teachers use multiple data sources to determine whether students are insufficiently active. Verbal and visual data collection methods are cognitive processes. Written data may be created from visual and verbal data but stays constant over time and may be less subjective than relying on memory.

Claiming success

Despite being unable to identify insufficiently active students, several teachers maintained that their programs were successful in promoting physical activity. There was a tendency for teachers to claim successes that did not result from departmental initiatives as indicators of a systematic approach to physical activity. For example, two teachers indicated that they had a number of state representatives within their school. In addition, one teacher claimed that the school helped students with insufficient physical activity. The supporting evidence was a student who was obese taking up cycling in the summer holidays and returning to school 28kg lighter.

Program evaluation and accountability

Of the teachers who collected information inside and outside of school, the majority did not use the data to modify their programs to accommodate students with inappropriately low levels of activity. In addition, the purpose of data collection is not just the identification of students with low physical activity levels but, presumably, to improve HPE programs and to allow HPE Departments to know how far they may be from their educational targets or 'exit competencies' for students. For example, the teacher who described his vision for future improvements in reporting to parents was unable to articulate a specific goal. With a fragmented and vague vision, it may be difficult for teachers to see how they can better help students with insufficient physical activity levels.

According to the Ministry of Education (cited in Zehnder, 1995, p. 261), "Teachers are expected to implement teaching strategies aimed at achieving the specific student outcomes derived from the performance indicators and to monitor the effectiveness of these strategies in terms of the outcomes achieved". HPE Departments in the study seemed not to pursue a practice of monitoring students' physical activity levels. This is despite the Curriculum Framework addressing physical activity as a major learning outcome for HPE in all strands. However, physical fitness is not emphasised as an outcome. There appears to be confusion among Heads of Departments about the major emphasis of the HPE learning area.

The results clearly indicate that these Heads of Departments did not operate using the Pollard and Tann (1993) loop structure. No teachers in the population used written data to modify their PE programs. Program improvements are not likely to flow when the reflective process is broken at the point of information gathering. Therefore, in the absence of data, it may be difficult for PE Departments to judge whether their programs develop their capacity to address the needs of students who are insufficiently active.

A majority (63%) of teachers indicated that the Principal or Curriculum Director/Leader did ask them to provide an evaluation of the PE program. But the question arises, how meaningful are these evaluations? They could be very superficial. Students who are insufficiently active may not be part of such discussions/evaluations. It may be possible to draw an analogy with other learning areas. For example, it would be disturbing to think of an English Department that is not requested to show that each student has acceptable literacy skills. This is an area worth further study.

Also of interest is that those schools that did provide a program evaluation were only required to provide information, on average, 1.2 times per year. This frequency may be insufficient to provide a continuous evaluation of program as advocated by Pollard and Tann (1993). The infrequent administrative requests for program evaluation may mean that, while HPE Departments may or may not be achieving targets, they are not required to formally attest to this.

CHAPTER SIX

RECOMMENDATIONS

6.0 Introduction

After consideration of the findings this chapter presents a number of recommendations which target specific institutions and what they may be able to do to help students with inappropriately low physical activity levels.

6.1 Health & Physical Education Departments

Recommendation One: Addressing references to physical activity in the Curriculum Framework.

This study found much confusion about the terms 'physical activity' and 'fitness' among HPE Department Heads. During the implementation of the Curriculum Framework (1998) HPE Departments need to develop a clearer understanding of these terms in order to best meet the needs of the students.

Recommendation Two: Increase in the importance of written data collection on students' physical activity levels

In this study's population, the tracking of student physical activity levels was made more difficult by the decrease in written data collection as students aged. The collection of information at more regular intervals will enable teachers to perceive any noticeable changes in students' physical activity levels. This may be especially important when considering that this is

the age when students drop out of community sport. This more frequent

tracking of levels would give the PE Department the opportunity to assist

those students who may be in danger of becoming inactive as they grow older.

Recommendation Three: An ideological shift to see the collection of information by student's about their physical activity as helpful to the teacher

A further ideological shift is required to remove fears that data

collection will prevent physical education from being enjoyable. Methods of

data collection need to be developed that will integrate with the 'fun' aspects

of physical education. An understanding that written data collection does not

have to be rigid or formal may alleviate teachers' fears that this might reduce

students' enjoyment of physical activity and therefore reduce students'

physical activity levels; a major barrier, according to teachers in this study, to

the collection and use of written data and reflection processes.

6.2 School Systems

Recommendation Four: Establish specialist programs within schools to cater for students identified with low levels of physical activity

In order to assist HPE Departments, educational authorities need to

consider establishing professional development programs to help teachers to

cater for students with low physical activity levels. This would require an

increase in resources to the HPE learning area. Other subject areas have strong

remedial programs (e.g., English and maths).

Recommendation Five: More frequent requests by administrators for program evaluation

An increase in the number of requests by administrators may force Heads of Department to evaluate their programs on a more frequent basis. At present, HPE Heads of Departments have little accountability to outside parties. While more rigorous evaluation procedures may not be greeted with enthusiasm, they may provide the opportunity for improvements in HPE programs.

6.3 Australian Council for Health, Physical Education and Recreation

Recommendation Six: Promote the collection of information on students' physical activity levels

ACHPER has provided schools with a standardised set of fitness tests used by the majority of schools in this study. It should also provide a method of gathering information on students' physical activity levels. A survey method could be utilised to help schools gather information on students' physical activity levels. The survey may include the different activities the students may participate in and the time of the day that they are conducted. Interestingly, a package called "The school health index" is already available from the CDC to schools in the U.S. that engage these concepts. This may be used as a starting point for ACHPER to develop new material and/or ask permission to use current material contained within the document. The internet address of the document is http://www.cdc.gov/nccdphp/dash/SHI/index.htm. A software package could

also be developed from this material to input the data and provide information on those students who may be at risk from low physical activity levels.

Recommendation Seven: Offer programs using exemplar teachers to demonstrate how to make existing practice less fragmentary and more cohesive.

ACHPER has an important role in identifying HPE departments with exemplary practices. Once identified, these departmental practices should be shared with other HPE Departments to provide a less fragmentary and more cohesive vision.

6.4 Tertiary Institutions

Recommendation Eight: Educate undergraduates about the importance of collecting data on students' physical activity levels for program improvement.

With the increased scientization of physical education at university level many graduates are more interested in sports science than student's physical activity levels (Tinning & Fitzclarance, 1992). Pre-service HPE teachers need to be trained to see students' physical activity levels as important. A shift needs to be made from a focus on physical fitness to presenting methods on gathering written information on students' physical activity levels. Once the data has been gathered, clear pathways need to be established for the use of the information for program improvement.

Recommendation Nine: The development of a HPE program model that integrates physical activity with data collection and the Pollard and Tann reflective process of teaching

Teachers have reported that data collection competes with students' physical activity. It is a major obstacle in their acceptance of reflective teaching processes. To combat this obstacle, a model must be developed that incorporates data collection with student physical activity. This needs to be accompanied by a conceptual shift that sees data collection and reflection as increasing students' physical activity levels in the long term through year-to-year monitoring. Data collection could be done in HE which would not prevent students from being physical active in PE. For example, teachers may perceive data collection as filling in a form, which prevents students from being physically active in class. Data collection needs to be seen as a tool, which can help teachers identify whether student activity levels should be increased and HPE programs improved.

CHAPTER SEVEN

CONCLUSION

7.0 Introduction

This study has demonstrated that teachers do not routinely gather and follow through on information about students' physical activity levels.

7.1 Findings of the study

This study produced a number of significant findings. These findings are organised below in research question order.

1. Do HPE teachers believe it is important for students to know how various forms of physical activity are related to their fitness and health?

Seventy-nine percent (11/14) of respondents believed it was important for students to know how various forms of physical activity are related to their fitness and health. One fifth (21%) did not.

2. Do HPE teachers believe students should learn how to assess whether the level physical activity in their own lives is appropriate, in terms of maintaining or improving their health status?

Ninety-one percent (10/11) of respondents agreed that students should learn how to assess whether the level physical activity in their own lives is appropriate, in terms of maintaining or improving their health status.

3. Do HPE teachers believe students should gather information about the appropriateness of their physical activity levels, for example through an activity diary?

Seventy percent of respondents (7/10) agreed that students should gather information about the appropriateness of their physical activity levels, for example through an activity diary.

4. Do HPE teachers believe they should examine the information collected about physical activity levels?

Eighty-six percent of respondents (6/7) agreed that they should examine the information collected about physical activity levels

5. Do HPE Departments keep records on their students' physical activity levels inside and outside of school?

Two out of fourteen (14%) respondents were able to indicate that they collected information on students' physical activity both inside and outside of school. This information was collected infrequently and did not provide detailed data.

A major finding of the study was that the teachers weren't concerned with physical activity but were concerned with fitness. All ten teachers collected information inside of school. The main method of data collection inside of school was fitness testing. Teachers believed that fitness testing would provide an indication of the physical activity levels of the students.

Several teachers indicated that they did not need to collect written information on students' physical activity levels. Instead they believed that the use of verbal and visual information could determine a student's physical activity level. Written information was seen as unnecessary, provided that verbal and visual identification took place. Teachers indicated that they wanted to have their students engaged in physical activity not collecting information about it.

The teachers had little information on students' physical activity levels either inside or outside of school. Data collection did not appear to be perceived by the teachers as helpful to achieving the goals of HPE.

6. Are records on physical activity levels used by teachers to identify students whose health may be at risk from inappropriately low levels of physical activity?

This study has shown that these teachers did not have a valid or reliable method of data collection. Many teachers indicated that they do identify students whose health might be at risk because of insufficient physical activity. The major written source of information was the use of fitness testing. Several teachers used the results of the cardiovascular component of the ACHPER fitness tests to determine a student's physical activity level. However, this fitness testing has three important limitations. First, fitness tests only test components of physical fitness. Secondly, their accuracy relies on students giving maximal effort. Finally, the testing only occurred on average 1.2 times (Year 8) or less (for year 9 & 10) per year. By using ACHPER fitness testing, which is subject to validity and accuracy problems, and conflating it with measurement of physical activity, teachers are denying students access to information about the appropriateness of their own physical activity patterns.

7. Is information about students whose health may be at risk from inappropriately low levels of physical activity used in a reflective HPE program improvement process?

If students with insufficient physical activity levels were identified teachers indicated that it was the student and not the program that was the object of the improvement process. That is, teachers attempted to motivate students to change their behaviour. When a letter was sent home to parents, there was no planned two-way communication between the HPE Department and the parents. There was no evidence of a follow-up with parents or a further monitoring of student physical activity.

No effort to change a program as a result of information about students with insufficient activity levels was identified in the study. It appears that the teachers perceived the problem as lying with the student and not the HPE program. Further, claims to have addressed 'suspicions' about students' low physical activity levels were not able to be substantiated.

8.   What motivates teachers to collect, analyse, evaluate, reflect, plan and act on the information about students whose health may be at risk from inappropriately low levels of physical activity?

None of the teachers in the sample followed the Pollard and Tann (1993) loop to its conclusion. Information was collected but was not used for program improvement. A number of barriers prevented teachers from completing the Pollard and Tann (1993) reflective teaching process. These included contextual factors such as lack of time, resources and the absence of requests from administrators for the process to be completed. Ideological factors also contributed. These included a belief that data collection reduces activity time during class, that the fun aspect of PE would be removed if data were collected and that data collection and reflection was not helpful for teaching success but simply represented more work.

7.2 Areas for further study

This exploratory study has highlighted several areas for further research. These are presented in the section below:

Indicators of program effectiveness

An important area for further study emerging from the results is teachers' belief that fitness is to be tested whereas physical activity is not; that

it is sufficient to verbally or visually inquire (on an ad hoc basis) about students' physical activity levels.

An interesting further area of study would be to interview students about their physical activity, and then ask the teachers questions about individual students' physical activity levels to see if they match. This would clarify whether the perceptions of the teachers aligned with the actual physical activity levels of the students.

However, there are several ethical issues involved in conducting a study of this kind. For example, for the students to be interviewed the teacher must be notified and this may prompt the teacher to ask the students about their physical activity. However, this study would provide further information to whether teachers' perceptions align with students' physical activity levels.

Program evaluation reports

Another area of further study would be to critically analyse the program evaluation reports that are supplied to Principal or Curriculum Leaders. This would shed light on the information that is requested by administrators. This study has shown that the frequency of requests is, on average, 1.2 times per year. It would be of interest to interview Principals and Curriculum Leaders to determine what information is requested and what happens with the reports after they are submitted. Is there a request for information on students'

physical activity levels and is it seen as important? In addition, what further

information do Principals or

Curriculum Leaders gather to determine the merit of the PE program?

Decrease in data collection

An unexpected finding of this study was the apparent decrease in written data

collection after year 8. Further research involving a larger sample may assist

in validating this finding.

Exemplary heads of department

This study identified no Heads of Department who followed the Pollard and

Tann (1993) loop. It would be of interest to identify and detail a research

paper on an exemplar. This further study may provide a model that could be

shared with other schools. This "best practice" model may be beneficial in

identifying a successful data collection method.

Job description vs job reality

Some HODs claimed that data collection was not part of the job. A

further area of research could examine the job description for Heads of

Department and their perception of their job role. The question could be

asked: Do Heads of Department duties align with their job description?

What prompts program modification?

As an extension to this study it would be of interest to determine what prompts PE Departments to make modifications to their programs. Is there any data collection method used in the modification process? How often does this occur? The study might begin by determining the major goal of the program. Heads of Departments then could be asked about practices that help them reach goals.

7.3 Concluding Comment

This study has examined HPE Heads of Departments' collection of information on students' physical activity levels and asked if programs are changed in response to data gathered. In addition, areas of further research have been identified which build upon the information gathered in this study.

This study has been successful in as much as the questionnaire was able to provide data for all pre-determined research questions. It used a small population, but in most cases, provided adequate information about this sample. It now remains for further study to examine implementation and applications for the wider community of HPE Departments.

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APPENDIX A:

A SCHEDULE OF THE STUDY

A schedule of the important dates in the study is listed below:

November 27th – December 1st 2000   First Contact made with schools

Friday December 1st 2000   Research Assistant Questionnaire

   Briefing

Wednesday December 6th 2000   Ethics Clearance

Thursday December 7th 2000   Conducted Proposal Seminar

Friday December 8th 2000   Data Collection Commenced

Friday December 15th 2000   Data Collection Finished

Monday December 18th 2000   Data Analysis Commenced

Wednesday January 31st 2001   Data Analysis Completed

APPENDIX B:

CONSENT FORM

EDITH COWAN
UNIVERSITY
PERTH WESTERN AUSTRALIA
MOUNT LAWLEY CAMPUS

FACULTY OF COMMUNITY SERVICES,
EDUCATION AND SOCIAL SCIENCES
School of Education

2 Bradford Street, Mount Lawley
Western Australia 6050
Telephone (08) 9370 6111
Facsimile (08) 9370 2910

Dear Teachers,

As discussed on the phone previously, you have agreed to participate in a project
to investigate compulsory 8-10 HPE program collection of recorded information
on students physical activity levels.

This study is being carried out as a requirement for the completion of a Bachelor
of Education with Honours course at Edith Cowan University.

All that will be required of you is the short duration of time (10-20 minutes) it
will take you to answer the questions given overleaf. There are no expected risks
or discomfort to you from participation in the project.

As promised a package of research literature will be sent out to your school or to
an address that is convenient to yourself. Also, the results of the project will be
sent out next year.

Any questions concerning the project entitled "Teachers' Collection of
Information on Student Physical Activity Levels for Program Evaluation" can be
directed to, Simon Tonkin, on 92682945, or to the supervisor of my project, Mr
Ken Alexander, lecturer in Health and Physical Education, Edith Cowan
University on 93706433.

Please sign the statement below and complete the attached questions. Please
complete all questions, unless instructed to do otherwise.

Thank you for your assistance

Simon Tonkin

_____

I have read the information above and any questions I have asked have been
answered to my satisfaction. I agree to participate in this activity realising I may
withdraw at any time.

I agree that the research data gathered for this study may be published provided
that neither myself or my school is identified.

School _____

_____   _____
Participant (Signature only)   Date

JOONDALUP CAMPUS
100 Joondalup Drive, Joondalup
Western Australia 6027
Telephone (08) 9400 5555

MOUNT LAWLEY CAMPUS
2 Bradford Street, Mount Lawley
Western Australia 6050
Telephone (08) 9370 6111

CHURCHLANDS CAMPUS
Pearson Street, Churchlands
Western Australia 6018
Telephone (09) 9273 8333

CLAREMONT CAMPUS
Goldsworthy Road, Claremont
Western Australia 6010
Telephone (09) 9442 1333

ECU SOUTH WEST CAMPUS (BUNBURY)
Robertson Drive, Bunbury
Western Australia
Telephone (08) 9780 7777

APPENDIX C:

RESEARCH ASSISTANT GUIDELINES

HPE DEPARTMENTS COLLECTION ON INFORMATION ON THE PHYSICAL ACTIVITY LEVELS OF STUDENTS IN GENERAL 8-10 HPE PROGRAMS

EDITH COWAN UNIVERSITY
SIMON TONKIN

PROTOCOL AND INSTRUCTION MANUAL

Contacting the School

First Contact

First contact has already been established. Teachers on the list have agreed to participate in the survey.

Confirmation of a Time

Most teachers have not given a specific time and date for the questionnaire to be conducted. Therefore, you will need to ring them and organise a time and date that is convenient to both of you. Do this between the 5th and 9th of December.

IMPORTANT: Write down the exact time and date so there is no mix up.

Here is a calendar of December. Write the school and time in this calendar if you wish.

				December 2000		
Mon	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**	**Sun**
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Research Assistant Script for Phone Conversation?

* Here is a script – try and stick closely to the script but don't make it sound like you are reading. Answer any questions that the teacher may have. (i.e. how long will it take? A. 10-20 minutes)

First of all ask for the teacher on the contact list.

"Hello my name is [insert name] from Edith Cowan University. Can I please speak with [insert teachers name].

"Hello my name is [insert name] from Edith Cowan University. A Mr Simon Tonkin contacted you regarding your participation in a questionnaire on the collection of information on students physical activity levels. I need to organise an exact time and date for myself to come out to your school to conduct the questionnaire. I understand that [day – e.g. Thurs afternoon] is a good day. What time would be convenient for you? ... Reply from teacher Once again I thank you for your participation."

Confirmation

A day before the meeting it is a good idea to cal; the teacher and confirm and remind them about the meeting.

Unable to Attend

If for unforeseen circumstances you are unable to attend the meeting time then please get in contact with the teacher or school as soon as possible preferably before the questionnaire was to be conducted. Organise an alternative time if possible.

Interviewer's Protocols

Your main tasks as an interviewer is to answer any teacher concerns and prompt the teacher at certain points in the questionnaire.

Introduce yourself and inform the teacher that you are from [name of institution]. Tell them that the questionnaire is in respect to students physical activity levels in the compulsory general 8-10 HPE program should take approximately 10-20 minutes. Also, that they do not need to answer all questions within the questionnaire and that you will be there to answer any question they may have in respect to the questionnaire.

**Environment – Very Important

Where possible, please make sure that the environment is free from distractions. If it is not then request to conduct the questionnaire in another room. The only two people in the room should be the HOD and yourself. Have a notebook or paper handy to write down questions etc.

A) INTRODUCING THE QUESTIONNAIRE

   i)   Give the questionnaire to the teacher to complete your job is to sit beside them

   ii) EMPHASIZE: That the information provide is only in respect to the 8-10 general HPE program.

iii) If they have any questions in respect to the question that you

will do you best to answer them.

iv) The answers given are strictly confidential.

B) ADMINISTERING THE QUESTIONNAIRE

i) Sit beside the teacher so you can see the questionnaire but

don't overcrowd them (i.e. get too close).

ii) Section A is straight forward and should not require any

assistants except perhaps question 7. This may require

clarification read example for more information

iii) Section B requires prompts and possible questions may be

asked (see the questionnaire section for prompts and answers).

C) GUIDELINES FOR INTERVIEWERS

i) Do not push the teachers for an answer. Allow thinking time.

ii) Answer any questions – please write them down and place

them in the questionnaire at the end.

iii) Also, if you are unsure about a questions and the teacher

believe that they have written evidence then ask if you could

photocopy the information at the end of the questionnaire

(more about this in the next question).

iv) Prompt the teachers when necessary but don't give them ideas to write down.

v) Ask questions if answers seem exaggerated

Thank the teachers for their participation in the questionnaire. Provide them with the package of material (professional research literature) as a thankyou for their time.

The Questionnaire – Prompts & Problems

Characteristics of the Questionnaire

SECTION A

Demographic Questions

Problems

Question 7:

Make sure you understand what is meant by this question. The objective of this question is to determine the amount of teaching time in the compulsory general HPE program.

An example,

There are 5 staff members in the HPE Department. 3 of them spend 75% of their time of the PE program and 25% of their time on the health program. Therefore, teacher places a 3 in the 75% box in PE and a 3 in the 25% in the HE.

SECTION B

Main Section

Prompts & Problems

Make sure teachers adhere to the strict skip patterns in this section.

Question 1:   *Problems:* Check that all boxes are ranked and filled

in

Question 6&7:   *Prompt:* Before teachers complete question 6&7.

Indicate that they may be asked to provide written

evidence of physical activity of their students.

Problems: a marks book is not sufficient to indicate

physical activity however fitness test results are. If

you are unsure about the information then either get a

photocopy of it or write down a summary of the

information

Question 11:   *Prompt:* If teachers answer 'yes' to this question

ask them if they have a written copy of the policy. If not

then write the policy by asking them what it is.

Question 13   Problems: Consistently means regularly.

Question 16   Problems: Another way to put this question is do you
               modify things in your HPE program for students that are
               physically inactive.

Question 17   Prompts: How does the information influence the HPE
               program.

Question 19   Prompt: ask for things that motivate them to collect
               information on students physical activities and i   identify
               and help students with low physical activity
               levels.

Section C

Skip Section
Aligns with Section B to ask teachers why they choose not to do a particular

function.

General Statement:

The purpose of this section is to ask why teachers don't perform certain functions. If their answers is very brief then try and prompt them to give more detail.

Repetitive Questions:

Each Skip section has a question about Principals/curriculum directors (i.e. question 4):

Attempt to get teachers to explain what sort of requests are given regarding HPE program evaluation i.e. are they often, what is the Principal asking you for etc.

APPENDIX D

FOLLOW-UP INTERVIEW

I = Interviewer
H = Head of Department

I: There was a statement in the beginning of the questionnaire that you strongly disagreed with and that was it is important for students to know how various forms of physical activity are related to their fitness and health and I was wondering if you could provide a reason why you disagreed with that particular statement?

H: Did I say that?

I: Yes.

H: I think that I agree strongly with that statement.

I: Ok. Also, you said you collected a lot of information on within the school about students' physical activity within the school fitness testing, student surveys and unit evaluation. Could you describe the actual fitness testing form? Is it one that was made up?

H: No. It's based on the ACHPER Australian fitness award. We do their height, their weight, sit and reach, we do sit-ups, we do a shuttle run, we do an endurance 1600m run [pause] and a basketball throw.

I: Is the fitness test twice a year?

H: No. We only do them once a year at the moment.

I: You said you did a student survey on physical activity how many times a year and what sorts of questions are asked about that?

H: We are involved in lightning carnivals for our year 8, 9 and 10's. We have our year 11 and 12's who act as coaches and managers for that particular carnival. A person actually surveys the kids to find out responses from the kids what aspects they enjoyed most and that sort of thing. That's probably done once a year

I: Also, unit evaluation you have something about physical activity.

H: Yeah, that's probably more on an informal basis, where we seek feedback from the kids in regard to what was covered in the unit and whether they would like to see any changes that sort of approach.

I: Is any information written down on a sheet?

H: No. It's just collected informally by the teachers and relayed to me at a faculty meeting.

I: Oh right, so they discuss it with you in the meeting?

H: yes.

I: You indicated you collected information about students' physical activity outside of school (eg. Students sporting activities). Could you give me an indication of what sort of form or document you give to the kids? For example, they write down which sport they do on the weekend or after school.

H: Arr. No what we do where kids are involved in our after school sport at an inter-school level we actually have their names recorded and place it on their student files.

I: They've got student files?

H: Yes.

I: Is their any other documentation in those files on students' physical activity levels?

H: Arr. To my knowledge no.

I: In the survey you mentioned that the proportion of kids who where appropriately active and you mentioned 68% of year 8, 59% of year 9 and 62% of year 10 who were appropriately active and I was wondering how you worked out those figures?

H: We just use those figures from the results of our fitness tests particularly with the cardiovascular side Umm [pause] anyone who didn't score over a certain percentile then we just assumed that their activity level was down because their results weren't up as high. So, we basically use the fitness test as a basis for those figures.

I: So you use the ACHPER standards to work out whether they are appropriately active?

H: Yes.

I: You also mentioned that you identified students from the tests was it?

H: Yer from the tests with particular weaknesses particularly you know a lot of the boys flexibility isn't as good. If we do have for example some of the girls that show up and actually one of my staff identified a kid with Sclerosis [means Scoliosis] of the back umm because her flexibility was very poor we followed it up with the school nurse and identified this kid with having a back problem so.

I: The criteria was the ACHPER test and once they have been identified you mentioned that you share this information with

H: Our staff in our faculty and if those particular kids are in their classes then we aim to give them some sort of remedial type work within our classes and suggest they follow it up with some other stuff outside of school.

I: So you actually talk to the student about it?

H: Arr the teacher will on an individual basis. Yes.
I: Also, you did mention that you did provide information to parents as well.

H: Yes. We are having a few problems with our computer package it didn't go out last year. Umm. The results wouldn't print properly so we did not send it out last year but we made the kids aware of their results.

I: Is there a letter that goes to parents?

H: Yes there is.

I: Is it a standard type letter?

H: Yes. Your son or daughter requires extra work in the following area that sort of letter.

I: Once the letter is sent out in there a follow up phone call or something?

H: No there hasn't been to this stage. We're just getting this up and running. We have been doing fitness testing for a while but we haven't done the parent follow-up because we are still working on it. Once we get the package out to parents and they can see the results then we will follow it up with phone calls.

I: Ok. You mentioned that school staff consistently attempt to and or work with parents to increase 'at risk' students' physical activity levels.

H: Where a kid is right down then individual contact with parents is made. Most the staff just point out where they are at as far as their umm cardiovascular work is concerned. And I mean it doesn't matter how many times you tell kids, you know, what they should be doing. I mean we had a typical example, a year 11 student last year he was about 25kg overweight and during the Christmas holidays gone out on his own back and decided he would take up cycling. And came back to school and we didn't recognise him because he lost so much weight I think he lost about 28kg.

I: If you work with the parents is it only informal communication or is there any two-way communication?

H: There hasn't been a great deal at this stage. Umm. It seems to be one way at the moment.

I: With the letter?

H: Yeah. Once we get the letter all tidied up and inform parents with what we are actually doing and how we are doing it, what the results means and all those sort of things then I think we will get a much more positive response from the parents

I: So do teacher ever provide advice and recommend a plan of action to 'at risk' students (i.e. students with inappropriately low physical activity levels)?

H: Arr. Probably on a one-to-one basis they would I mean I know if I have a kid in my class I'd try and stem them towards an activity that they would like and if they like that particular activity try and encourage them to mould a program around it.

I: And when you say individual between the teacher and parent on the phone or ...

H: Personally with the student

I: Personally with the student so the student has to relay the message home.

H: At this stage, yeah. Once we get that form sorted out umm I think it will help solve a few of our teething problems we are having at the moment.

I: There is a question towards the end that asked "Does the HPE program change for students who are identified as inappropriately active?" you actually

answered 'no' to that but you said that it does happen within the group. What did you mean by that?

H: Well they basically do the same course. And because our groups aren't based on physical groups at all they're are random groups across the board Umm. It's very very difficult to have, you know ,have two or three program running within the one class we have found in the past that we try to teach at what we thought is a level that is appropriate to that particular class. Umm. But you then may have to umm stage for some of the weaker type kids and try some other strategies with them and again with the stronger type kids. So It's probably a little bit difficult where you don't stream kids.

I: So are you saying try and extend the physically active kids and try and bring up the inactive kids.

H: Yes. That's what we try and do a lot of times it backfires on you.

I: So does that mean they're all together in the class, for example, some of them work harder and some of them work less?

H: Yes.

I: Does that mean they are split into two separate groups?

H: No. Basically, we work as one group until we get into the smaller groups. When you get into some of you're smaller groups then, then some of the physically active kids tend to pick groups and the less active pick less active kids. But you can overcome this by putting the less active kids with the more able kids. It's one thing that impresses me about my staff once they get into a small group situation they are aware of that problem.

I: You said you had a strong cardiovascular program?

H: Yeah. Most of our warmups include a bit of cardiovascular work. Umm. We try and encourage kids. We run a cross-country, an inter-house cross country event, and follow it up with those students who perform well at that going on to state cross country and hopefully selected in the state cross country team as a result of that.

I: Could you please describe your departmental policy on the collection and use of information for students with inappropriately low physical activity levels? Is there a document.

H: No we do not have a written policy. I am in the process of writing a policy all physical education/outdoor education guidelines.

I: Does that included physical activity at all?

H: It will do.

I: And what happens with the less activity students?

H: Something we haven't formalised but I suppose we could formalise it and include that as part of our guidelines.

I: Lastly, How you HPE program caters for students with low physical activity levels overall?

H: I think in the health area with the outcomes based units we have got running. It's probably helping kids with low self-esteem. Probing into our health program now in Year 8 on self-esteem. In Year9 we do a section on you can do it involving goal setting and Umm a little bit on management and self esteem and that sort of thing so I suppose that the health teachers. I don't know a lot about health because I have only one class this semester. A year 8 class. But know within that class umm because we haven't done any fitness testing with these kids we haven't identified any of them with low physical problems. One of the primary school actually sent the results of their ACHPER fitness tests to us so we could have a little bit of information on one of the classes. As far as PE is concerned I think what we do with the unit outcomes is because you are looking at the kids probably a little bit more closely with regard to how they with what outcomes they are achieving then you tend to do a little more remedial work with the ones who aren't achieving. I suppose that is one of the good aspects of the outcome statements that we are getting through to the school.

I: Thankyou for your time.

APPENDIX E

THE QUESTIONNAIRE

Edith Cowan University –
Questionnaire General HE&PE Program Years 8-10

The following questionnaire is estimated to take up to 20 minutes to complete at most. In order to get an accurate estimate of the time taken to complete the questionnaire - please indicate how long the questionnaire took to complete in the box below:

☐ minutes

The following questionnaire is to be completed by Secondary HPE Head's of Department or a teacher that has significant involvement in the general 8-10 HE&PE program.

It has three sections:
i)   **Section A** : To be completed by all participants.
ii)   **Section B** : Complete this section until instructed to go on to section C.
iii) **Section C** : Complete until you are instructed that it is the end of the questionnaire.

As an **incentive** to complete the questionnaire, a package of brief (5 pages) discussion papers on a range of topics related to the planning, teaching and evaluation of secondary PE programs is offered. These materials will be invaluable as discussion strategies for PE department based professional development. The papers include:

- Recent Physical Activity Research   - Affective Domain
- Recent Physical Education   - 10 point Plan
  Research   - Alice and the Cheshire Cat
- Quality of Working Life

Tick the box below if you would like to receive the information described above:
☐ I would like to receive the program information.
☐ No Thanks.
If you would like to receive the package then please provide the following information:
Name:
School:
Address:
Fax:

IMPORTANT: All questions in this questionnaire are related to the year 8-10 compulsory general HE/PE program.
EDITH COWAN UNIVERSITY

Secondary General Physical Education Program - QUESTIONNAIRE

SECTION A – Demographics: Schools and Staffing

1. Under which system is your school governed?

☐ State

☐ Private/Independent

☐ Catholic

2. Provide below an estimate of the number of lower school (years 8-10) students that attend your school.

☐ 0-200   ☐ 601-800

☐ 201-400   ☐ 801-1000

☐ 401-600   ☐ > 1001

3. What is the typical lower school compulsory general PE class size?

☐ Below 15   ☐ 26-30

☐ 16-20   ☐ 31-35

☐ 21-25   ☐ Above 35

4. What proportion of the compulsory general PE classes are taught on a single sex basis?

☐ All classes are single sex   ☐ > 40%

☐ > 80%   ☐ > 20%

☐ > 60%   ☐ <= 20%

5.   Please indicate below how many years you been teaching.

☐ 0-5 years   ☐ 16-20 years

☐ 6-10 years   ☐ 21-25 years

☐ 11-15 years   ☐ >26 years

6.   How many years have you been PE head of department at this particular school?

☐ Not a HOD   ☐ 16-20 years

☐ 0-5 years   ☐ 21-25 years

☐ 6-10 years   ☐ 26-30 years

☐ 11-15 years   ☐ 31 years and above

7.   Please indicate in the space provided below the number of staff that are involved in your lower school compulsory general 8-10 HE & PE program?

Example: Place a 2 in HE 100% if two staff members spend 100% of their teaching time on the HE program. Place 3 in PE 75% if three staff members spend 75% of their teaching time in the 8-10 PE program.

	100%	75%	50%	25%	Not Involved
HE					
PE					

8.　　Complete the following table by indicating the average number of minutes in one week allocated to compulsory general PE.

	Year 8	Year 9	Year 10
Term 1			
Term 2			
Term 3			
Term 4			

END OF SECTION A

SECTION B

1. Please rank and indicate the extent to which the following outcomes are used in your lower school general HE&PE programs according to their level of importance.

(Rank each outcome for PE & HE from 1 to 5 on the left
1 has the highest priority; 5 the lowest).

**Rank
PE**   **Rank
HE**

☐   ☐   Knowledge and Understanding

☐   ☐   Skills for Physical Activity

☐   ☐   Interpersonal Skills

☐   ☐   Self Management Skills

☐   ☐   Attitudes and Values

For questions 2-5 please read the following statements and indicate to what extent you agree/disagree with each statement.

2. It is important for students to know how various forms of physical activity are related to their fitness and health.

☐ Strongly Disagree   ☐ Disagree   ☐ Agree   ☐ Strongly Agree

If you answered 'Agree' or Strongly Agree' then continue.

If your response was 'Disagree' or 'Strongly disagree' please go to section C-1 question 1.

3. Students should learn how to assess whether the level of physical activity in their own lives is appropriate, in terms of maintaining or improving their health status?

☐ Strongly Disagree   ☐ Disagree   ☐ Agree   ☐ Strongly Agree

If you answered 'Agree' or Strongly Agree' then continue.

If your response was 'Disagree' or 'Strongly Disagree' please go to section C-2 question 3.

4. Students should gather information about the appropriateness of their physical activity levels e.g. Activity Diary

☐ Strongly Disagree   ☐ Disagree   ☐ Agree   ☐ Strongly Agree

If you answered 'Agree' or Strongly Agree' then continue.

If your response was 'Disagree' or 'Strongly Disagree' please go to section C-3 question 5.

5. PE teachers should examine the information collected about students' physical activity levels.

☐ Strongly Disagree   ☐ Disagree   ☐ Agree   ☐ Strongly Agree

If you answered 'Agree' or 'Strongly Agree' then continue.

If your response was 'Disagree' or 'Strongly Disagree' please go to section C-4 question 7.

*Questions 6 & 7 relate **to information recorded** about students' physical activity. **Recorded information** is defined as any information that is written down or electronically documented. If you state 'yes' to recording information of any type listed then please indicate how often it is collected.*

6. Information Recorded about '**At School**' Student Physical Activity:

i)   **Do you collect any of the following information during 'general 8-10 PE classes' (not HE)?**

	Year 8	Year 9	Year 10

Fitness Testing

☐ Yes   ☐ No   No. times per year ☐   ☐   ☐

Other Assessments of students' health-related fitness.

☐ Yes   ☐ No   No. times per year ☐   ☐   ☐

If *yes*, please specify method:

_____

Unit Evaluation
(Example: the extent to which students have involved themselves in physical activity opportunities throughout the unit)

☐ Yes   ☐ No   No. times per unit ☐   ☐   ☐

Intensity of Physical Activity Levels during Class (e.g. Heart Rate Monitor, observation checklist etc.)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

ii)   Do you collect any of the following information during 'Health Education classes'?

	Year 8	**Year 9**	**Year 10**

Fitness testing

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

Student Survey on physical activity levels or interests
(e.g. student activity log, diary or self report)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

Unit Evaluation
(Example: the extent to which students have involved themselves in physical activity opportunities throughout the unit)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

Other Assessments of students' health-related fitness.

☐ Yes   ☐ No   No. times per year ☐   ☐   ☐

If *yes*, please specify method:

_____

_____

iii)   Do you collect any of the following information during 'recess' (i.e. Morning/Afternoon break)?

			Year 8	Year 9	Year 10

Student Physical Activity during Recess
(e.g. Running, Swimming, Soccer, Cricket, Volleyball, etc.)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

If *yes*, is the intensity and effort of the activity determined?
☐ Yes   ☐ No

Other Assessments of students' health-related fitness.

☐ Yes   ☐ No   No. times per year ☐   ☐   ☐

If *yes*, please specify method:

---

iv)   Do you collect any of the following information during 'lunch'?

			Year 8	Year 9	Year 10

Student Physical Activity during Lunch
(e.g. Running, Swimming, Soccer, Cricket, Volleyball etc.)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

If *yes*, is the intensity and effort of the activity determined?
☐ Yes   ☐ No

Other Assessments of students' health-related fitness.

☐ Yes   ☐ No   No. times per year ☐   ☐   ☐

If *yes*, please specify method:

---

v)   Do you collect any of the following information during any 'other classes' (not including General PE & HE classes)?

	Year 8	**Year 9**	**Year 10**

Student Physical Activity during other Curriculum Areas - other than HPE.
(e.g., Dance, Science, Music etc.)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

Student Physical Activity during other PE Classes -other than General PE
(e.g., Specialist PE.)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

Other Assessments of students' health-related fitness.

☐ Yes   ☐ No   No. times per year ☐   ☐   ☐

If *yes*, please specify method:

_____

If you answered 'yes' to at least one 'At School' category then continue.

If you did not indicate at least one 'yes' for the 'At School' categories listed above then please go to section C-5 question 9.

7. Information Recorded about 'Outside School' Student Physical Activity.

i)   Do you collect any of the following information on students, in respect to 'weekend' physical activity?

	Year 8	Year 9	Year 10

Students' Sporting Activities
(e.g. Swimming, Soccer, Cricket, Volleyball, etc.)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

             If *yes*, is the intensity and effort of the activity determined?
             ☐ Yes   ☐ No

Students' Work Activities
(e.g. Paper round, Gardening, Cleaning/vacuuming, Walking to the shops).

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

Students' Leisure Activities
(e.g. Kicking a football with friends, Bush walking, Mountain bike riding, Walking along the beach, Dancing, Chasing games etc.)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

Other Assessments of students' health-related fitness.

☐ Yes   ☐ No   No. times per year ☐   ☐   ☐

If *yes*, please specify method:

ii)   Do you collect any of the following information on students in respect to 'before and after school' physical activity?

| | Year 8 | Year 9 | Year 10 |

Student Sporting Activities
(e.g. Gymnastics, Swimming, Soccer, Cricket, Volleyball, etc.)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

If *yes*, is the intensity and effort of the activity determined?
☐ Yes   ☐ No

Student Work Activities
(Examples: Method of transportation to school (i.e. walk), Paper round, Gardening, Cleaning/vacuuming, Walking to the shops.)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

Student Leisure Activities
(Examples: Kicking a football with friends, Bush walking, Mountain bike riding, Walking along beach, Dancing, Chasing games etc.)

☐ Yes   ☐ No   No. times per term ☐   ☐   ☐

Other assessments of students' health-related fitness.

☐ Yes   ☐ No   No. times per year ☐   ☐   ☐

If *yes*, please specify method:

_____

If you answered 'yes' to at least one 'Outside of School' category then continue.
If you did not indicate at least one 'yes' for the 'Outside of School' categories listed above then please go to section C-6 question 11.

Please read the following statement to answer question 8:

*It is now widely accepted that an '**appropriate**' level of physical activity for health benefit is 20-30 minutes of moderate to vigorous physical activity 4 times per week.*

---

8. a) Do you have any written information that indicates which proportion of your students might fit into the above appropriate category?

☐ Yes   ☐ No

If you answered 'yes' then continue.

If you answered 'no' please go to section C-7 question 13

---

b) What proportion of students are appropriately active in the following lower school year groupings.

(From the written information place a percentage figure in the three boxes below).

Year 8	Year 9	Year 10

9. Do you use the written information you collect to identify students whose overall physical activity levels are inappropriately low? (i.e. students who are not active for a minimum of 20-30 minutes on 4 days per week at moderate to vigorous levels of exertion).

☐ Yes   ☐ No

If you answered 'yes' then continue.

If your response was 'no' please go to section C-8 question 15.

---

10. When you identify students with inappropriately low physical activity
levels is the information shared with any of the following?

(You may tick more than one box)

☐ The student with the inappropriately low physical activity level

☐ Parents

☐ Other teachers in PE department.

☐ School Nurse

☐ Family Doctor

☐ Deputy or Principal

☐ Information is kept in my own records but not shared with other parties.

☐ Other _____

If you ticked at least one of the above categories then continue.

*If you did not tick any category in question 11 then go to
section C-10 question 18.*

---

11. Is there a departmental policy on the collection and use of information for
students with inappropriately low physical activity levels?

☐ Yes   ☐ No

If you answered 'yes' then continue.

If you responded 'no' to question 11 then go to section C-11 question 20.

---

12. Do school staff provide advice and recommend a plan of action to 'at risk' students (i.e. students with inappropriately low physical activity levels)?

☐ Yes   ☐ No

If you answered 'yes' then continue.

If you responded 'no' to question 12 then go to section C-12 question 22.

13. Do school staff consistently attempt to inform and/or work with parents to increase 'at risk' students' physical activity levels?

☐ Yes   ☐ No

If you answered 'yes' then continue.

If you responded 'no' to question 13 then go to section C-13 question 24.

14. Is the process of gathering information on students' physical activity levels pursued regularly?

☐ Yes   ☐ No

If you answered 'yes' then continue.

If you responded 'no' to question 14 then go to section C-15 question 27.

15. Is the PE department committed to continuous year-to-year monitoring of students' physical activity levels?

☐ Yes   ☐ No

If you answered 'yes' then continue.

If you answered 'no' to question 15 please go to section C-16 question 29.

16. Does the HPE program change for students who are identified as inappropriately active?

☐ Yes   ☐ No

If you answered 'yes' then continue.

If you answered 'no' then go to Section C-18 question 32.

---

17. Please describe below how information about 'at risk' students influences the HPE program?

_____

_____

_____

_____

18. What motivates you to collect, analyse, evaluate and plan using written information in respect to student physical activity levels?

Rank the following from 1 to 7:

☐ Desire to perform the job well.

☐ Concern for the health of students

☐ Systemic Policy

☐ Pay

☐ Promotion of Physical Activity

☐ Best Approach to monitoring/motivating physical activity levels.

☐ Other. Please Specify: _____

_____

19. Explain further other reasons that motivate you to collect, analyse, evaluate and plan using written information in relation to student physical activity levels.

_____

_____

_____

_____

_____

_____

_____

_____

Because you are a teacher who is involved in monitoring students' overall levels of physical activity on a regular basis and acting on that information, we are interested in learning more about your approach would you be prepared to share your ideas with us?

☐ Yes   ☐ No

If *yes*, please indicate the following:

Name: _____

Telephone: _____

Fax: _____

E-mail: _____

**END OF QUESTIONNAIRE – THANKYOU FOR YOUR TIME
DO NOT COMPLETE SECTION C**

END SECTION B

SECTION C – DATA EVALUATION

1. Why do you believe that it is not important for students to know how various forms of physical activity are related to their fitness and health?

_____

_____

_____

_____

_____

_____

2. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE – THANKYOU FOR YOUR TIME

3. Why do you believe that it is not important to teach students how to assess whether the level of physical activity in their own lives is appropriate in terms of maintaining or improving their health status?

_____

_____

_____

_____

4. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE – THANKYOU FOR YOUR TIME

5. Why do you believe that students should not gather information about the appropriateness of their physical activity levels?

_____

_____

_____

_____

_____

_____

6. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE – THANKYOU FOR YOUR TIME

7. Why do you believe that a PE teacher should not examine the information collected about student physical activity levels?

_____

_____

_____

_____

_____

_____

8. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE – THANKYOU FOR YOUR TIME

9. Indicate below your major reasons for not collecting information on student physical activity levels when students are '**at school**'.

   (you may tick more than one box)

   ☐   Insufficient Time

   ☐   Insufficient Resources

   ☐   Not required to perform this task

   ☐   Do not believe it is important

   ☐   Other:_____

10. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

   ☐ Yes   ☐ No

   If *yes*, how often do requests for an evaluation occur?

   ☐ times per year

   What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

   _____

   _____

   _____

   _____

   _____

   _____

END OF QUESTIONNAIRE – THANKYOU FOR YOUR TIME

11. Indicate below your major reasons for not collecting information on student physical activity levels when **outside** of school.

(you may tick more than one box)

☐   Insufficient Time

☐   Insufficient Resources

☐   Not required to perform this task

☐   Do not believe it is important

☐   Other:_____

12. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE – THANKYOU FOR YOUR TIME

13. Indicate below your major reasons for not having enough written information to determine which proportion of the class is appropriately active.

> **Reminder:** It is now widely accepted that an **'_appropriate_'** level of physical activity for health benefit is 20-30 minutes of moderate to vigorous physical activity 4 times per week.

(you may tick more than one box)

☐   Insufficient information collected to make a valid judgement

☐   Not required to perform the task

☐   Do not believe it is important

☐   Other:_____

---

14. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

         ☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

      ☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)?*

_____

_____

_____

_____

END OF QUESTIONNAIRE – THANKYOU FOR YOUR TIME

15. Indicate below your major reasons for not identifying students with inappropriate physical activity levels?

(you may tick more than one box)

☐   Insufficient Time

☐   Lack of Resources

☐   Not a required to perform

☐   Do not believe it is important

☐   Other:_____

_____

16. Under what conditions would enable you to identify students with inappropriate physical activity levels?

_____

_____

_____

_____

_____

_____

_____

17. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE – THANKYOU FOR YOUR TIME

18. Why is the information on students physical activity not shared with anyone?

_____

_____

_____

_____

_____

19. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE - THANKYOU FOR YOUR TIME

20. Indicate below the major reasons for not having a departmental policy on the collection and use of information for students with inappropriately low physical activity levels.

☐   Insufficient Time

☐   Lack of Resources

☐   Not required to perform

☐   Do not believe it is important

☐   Other:_____

_____

21. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)?*

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE - THANKYOU FOR YOUR TIME

22. Indicate below the major reasons for staff not providing advice and recommending a plan of action to 'at risk' students (i.e. students with inappropriately low physical activity levels)
(you may tick more than one box)

☐   Insufficient Time

☐   Lack of Resources

☐   Not required to perform

☐   Do not believe it is important

☐   Other:_____

_____

23. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE - THANKYOU FOR YOUR TIME

24. Indicate below the major reasons for not informing/working with parents to increase a student's physical activity level:

(you may tick more than one box)

☐   Insufficient Time

☐   Lack of Resources

☐   Not required to perform

☐   Do not believe it is important

☐   Other:_____

_____

25. What conditions would enable you to improve a student's inappropriately low physical activity levels?

_____

_____

_____

_____

_____

_____

_____

26. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE - THANKYOU FOR YOUR TIME

27. Why is the process of gathering information on student physical activity levels not pursued regularly? Indicate below your major reasons:

☐   Insufficient Time

☐   Lack of Resources

☐   Not a required to perform

☐   Do not believe it is important

☐   Other:_____

_____

28. Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE - THANKYOU FOR YOUR TIME

29. Indicate below the major reasons for not including (monitoring) students' physical activity levels as a systematic feature of your program? - *You may tick more than one box.*

- ☐   Insufficient Time

- ☐   Lack of Resources

- ☐   Not a required to perform

- ☐   Do not believe it is important

- ☐   Other:_____

_____

30. Why is the process of gathering information on student physical activity levels pursued regularly? Is it a systematic feature of your teaching or program?

_____

_____

_____

_____

_____

_____

_____

_____

31. Does the Principal, or curriculum director or leader ever ask you to
provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE - THANKYOU FOR YOUR TIME

32. Why does your teaching, or the PE program, not change to accommodate those students who are identified as inappropriately active?

_____

_____

_____

_____

_____

_____

33.Does the Principal, or curriculum director or leader ever ask you to provide an evaluation of your PE program?

☐ Yes   ☐ No

If *yes*, how often do requests for an evaluation occur?

☐ times per year

What are the circumstances of the request(s) *(i.e. performance management, merit selection, contracts, accountability)*?

_____

_____

_____

_____

_____

END OF QUESTIONNAIRE – THANKYOU FOR YOUR TIME