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Aquatic programmes and swimming activities in health and physical education : a case for differentiation

P. R. Whipp
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**AQUATIC PROGRAMMES AND SWIMMING ACTIVITIES IN HEALTH AND
PHYSICAL EDUCATION: A CASE FOR DIFFERENTIATION**

BY

EDITH COWAN UNIVERSITY
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Faculty of Community Services, Education and Social Sciences

Edith Cowan University

Mount Lawley Campus

PERTH

WESTERN AUSTRALIA

2004

To Katherine Elizabeth

USE OF THESIS

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ABSTRACT

This research study provides a ‘snap-shot’ of the current status of teaching aquatic programmes in Western Australian secondary schools. This study also encapsulates the thoughts and feelings of the teachers and the students engaged in these programmes, scrutinises the outcomes of existing programmes and advances practical recommendations to address the problems identified. The study was conducted within a contemporary context where little innovation in aquatic education has accompanied the Australian and state-wide curriculum development based on outcomes-focused education. The research was underpinned by a conceptual framework which conforms to the principles of constructivist learning (Kirk & Macdonald, 1998; Wittrock, 1978; Woods, 1996) and was viewed through Tomlinson’s (1999, 2000, 2001) differentiated classroom and Shulman’s (1986, 1987) pedagogical content knowledge, and articulated through Choi’s (1992) curriculum dimensions.

The study incorporated empirical/analytic and interpretive research paradigms, collecting data from 33 Teachers in Charge of Health and Physical Education Departments (TiC’s), 43 teachers of Health and Physical Education (HPE) swimming, and 1532 students Year 8/9 in both Government and Independent schools. In addition, case study observation and interview data (4 HPE classes) were used in the triangulation of common happenings, issues, perceptions and experiences to provide an in-depth analysis of aquatics in HPE.

Teacher data were presented for school sector (Government, Independent) and schools with and without a swimming pool; while student responses for differing year levels, gender, school sector, swimming ability, ethnicity and perceived parental swimming ability comparisons are offered. Observation and interview data were inductively analysed employing a thematic cross case analysis process.

The results indicated that there was a lack of HPE swimming and formalised aquatic award programmes offered in Western Australian secondary schools. At the conclusion of the HPE swimming unit, which was defined by ‘stroke technique analysis and correction,’ more than 40% of students did not meet the requirements that define a competent swimmer (Ministerial Swimming Review Committee - Report, 1995). Girls and students of ethnic origin were under-represented in the higher swimming categories. On an annual learning continuum, Year 8/9 students appeared to ‘tread-water.’

Staff/student ratios typically exceeding 1:20 impacted negatively on teacher effectiveness and the student outcomes. Additional issues impacting on programmes included: inadequate time and pool space; varied swimming abilities; students feeling cold; student related personal, interest/readiness, maturation, gender and cultural dynamics, and inadequate teaching resources. School HPE programmes that were required to access a public swimming venue for lessons were disadvantaged from a range of perspectives.

This study makes recommendations with the ultimate goal to increase the number of secondary schools offering this curriculum and the number of Western Australian children who are aquatically competent. Findings and conclusions highlight the need for new HPE aquatic policy, differentiated teaching and professional development aimed at meeting students' readiness and interest levels. Recommendations for further research to consider how contemporary HPE aquatics might be presented to accommodate student needs, to identify and map the aquatic competencies of Western Australian school children, and the minimum aquatic proficiency for students exiting the compulsory HPE years, are offered.

DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:


- (i) incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;
- (ii) contain any material previously published or written by another person except where due reference;

is made in the text; or

- (iii) contain any defamatory material.

Name: Peter Raymond Whipp

Signature:



Date:

16. September 2004

Principal Supervisor: Associate Professor Andrew Taggart

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CHAPTER ONE

INTRODUCTION

The study aimed to ascertain the current status of secondary school Health and Physical Education (HPE) aquatic programmes and activities, to develop knowledge in this area and to postulate effective student-based pedagogies to enhance the learning experience for all students.

Recognising that swimming is a skill that must be acquired to avoid the very real dangers of drowning, it is of concern that many pupils are apparently not making aquatic competency progress during the secondary school years. Based on personal experience, anecdotal evidence and pilot research (Whipp & Taggart, 2003b) it appeared that in some secondary schools, the teacher expectations, the curriculum offerings and the student knowledge/performance levels are falling short of what could be expressed as appropriate. At best, much of the physical education (PE) curriculum offered is commensurate with keeping students active, busy, happy and good (Placek, 1983), whilst ignoring the specific needs of the non-swimmer and strong swimmer.

The availability of swimming instruction at school, along with proximity to an aquatic environment, socio-economic status (Langley & Silva, 1986) and psychological factors such as the level of introversion (Nias & Hardy, 1971) have been identified as influential in a child's potential swimming ability. While schools with a pool have been shown to allocate more time to swimming than those without a pool, the emphasis placed by the teachers on children's swimming proficiency and teaching methods have long been considered important factors influencing secondary school aquatic programmes (Page, 1976).

School-based aquatic programmes represent a substantial investment of human, financial and temporal resources at state and local levels, yet have been under-served in terms of research-based policy development. It appeared that little innovation in aquatic education has accompanied the Australian and state-wide curriculum development based on outcomes-focused education. In response to this shortfall, this project sets out to evaluate the current status of secondary school HPE aquatic programmes and assist in determining effective pedagogies to enhance the learning experience for all students. Recent reports of low levels of HPE swimming in schools (Beale, Lynn & Jackson, 2002), water-based tragedies, changing policy of staff/student

ratios in aquatic environments and out-sourcing of the system-based swimming programmes have heightened the need for this research.

With students in HPE classes possessing a range of abilities (Cross, 1997; Whipp & Taggart, 2003b), an individualised programme designed to alleviate pupils' fears and improve the students' aquatic skills presents as a major pedagogical challenge. Given the existing school HPE class format, programmes allowing weak swimmers, who are generally reliant on school swimming lessons alone (Hardy, 1991a; Royal Life Saving Society Australia (RLSSA), 2001), to overcome their fears and raise their standards are unlikely. Furthermore, by focusing the lessons toward the middle ability group, those who succeed too easily may also lose their motivation to learn (Rikard & Woods, 1993; Tomlinson, 1999).

While the issue of student/teacher ratios (Cross, 1997; EDWA, 1995) and varied ability levels (Arbogast & Lavay, 1987) are not new, they do present the physical educator charged with teaching an aquatics class with a difficult pedagogical challenge. When compared to the most demanding definitions of swimming ability conducted in a recent pilot study (Whipp & Taggart, 2003b), nearly a third (32.5%) of those deemed to be safe swimmers by parents, would be classified by teachers as non-swimmers in the Year 8 HPE programme. Alarming, these parent impressions, perhaps built on the requirements to play in the family pool (Shaw. G. personal correspondence, June 5, 2001), may leave many young people precariously placed at risk, even in the most calm aquatic environment (Dukes, 1986; Elkington, 1971).

Macro-political variables impacting on schools and the work of teachers over the past decade have seen major changes implemented. The world-wide push for outcomes-based education, the call for student-centred programmes and pedagogies and the subsequent Western Australian (WA) Curriculum Framework have ensured changes in all schools. Swimming and water-safety programmes are now being challenged to respond to these developments. Water safety is also seen as a national priority for the health and safety of adolescents and adults engaged in boating (O'Connor, 2002). It was hoped that the findings of this project might assist educators to focus on delivering quality aquatic programmes that improve student outcomes via improved aquatic proficiency and quality of life.

Rationale, Significance and Aims of the Study

The climate, a coastline with a seaboard population, and a high rate of private swimming pool ownership all contribute to making swimming an integral part of the Australian lifestyle (Pearn & Nixon, 1979). Moreover, in a Ministerial Swimming Review Committee - Report (MSRC-R, 1995) commissioned by the Education Policy and Coordination Bureau (1995), access to an aquatic lifestyle was seen by many Western Australians as important. Furthermore, the Australian beach is likened to a town square, forming a meeting place with the informality that is synonymous with the Australian way of life (Lane, 2001). Entrée to this lifestyle has important economic, cultural, educational and health implications for Australian society. More particularly, the health, physical activity and recreational needs of young West Australians (MSRC-R, 1995; Zubrick, Silburn, Gurrin, Teoh, Carlton & Lawrence, 1997) are closely tied to the many aspects of aquatic education. While it is accepted that no Western Australian child should leave primary school without having the opportunity to learn the swimming and water safety skills to survive (MSRC-R, 1995), programmes for adolescents are crucial for developing advanced water safety and swimming skills. In England many weak swimmers are only exposed to a regular swimming experience through school and choose not to go swimming in their own time (Hardy, 1991a). The Royal Lifesaving Society of Australia (RLSSA) report similar trends for many weak Australian swimmers and, in addition, state that do not go to private lessons (RLSSA, 2001). For pupils to become aquatically proficient and life-long water participants, the secondary school programme should focus on moving pupils beyond the 'I can swim' and 'I won't drown' stage.

Physical educators rank swimming highly as an important part of the school curriculum (Whipp & Taggart, 2003b). The importance of swimming as a life-long recreational activity, its capacity to contribute to health and fitness outcomes, and its prevention of drowning are reasons why swimming is highly valued.

To better understand and evaluate HPE aquatic programmes and their pedagogical implications, it was proposed that a conceptual model that incorporates the 'differentiated classroom' (Tomlinson 1999, 2000, 2001), pedagogical content knowledge (PCK) (Shulman, 1986, 1987), and the curriculum dimensions (Choi, 1992) frame this research.

Tomlinson (1999) aptly described the differentiated classroom as using an individualised pedagogical approach; one in which the struggling, advanced and in-

between students are all valued equally. Three main approaches to differentiation have been identified previously as 'differentiation by task,' 'differentiation by outcome' and 'differentiation by support' (Harrison, 1997). Furthermore, these forms of differentiation are not mutually exclusive and they can work concurrently. While responding to the needs of all learners, this approach demands that teachers do not reach for standardised, mass-produced instruction assumed to be a good fit for all students. Rather, teachers are required to begin where students are, thereby matching instruction to the student's level of competency. Differentiation also invites students to teach one another. Health and physical education (Kirk & Macdonald, 1998) and indeed aquatic programmes appear to need a pedagogical reconceptualisation that a differentiated approach, as a sub-category of constructivist learning, may provide.

In discussing curriculum, pedagogy and the application of the differentiation model to HPE, it is important to recognise that such work is relatively new to the discipline of human movement studies (Choi, 1992). Furthermore, Choi (1992) identified five curriculum dimensions that must be considered when discussing the HPE curriculum. These dimensions were textual (documented work), teacher thoughts (perceptual), operational (teacher practice), hidden (unintended messages) and null (those that do not exist in the other four dimensions) dimensions. In addition, while discussing curriculum and pedagogy in HPE, the construct of pedagogical content knowledge (Shulman, 1986, 1987) was incorporated. Pedagogical content knowledge (PCK) is based on the manner in which teachers relate their pedagogical knowledge (what they know about teaching) to their subject matter knowledge (what they know about what they teach). In summary, it is "the ways of representing and formulating the subject that make it comprehensible to others" (Shulman, 1986, p. 9). In line with these works, this project reflects an understanding of the multidimensional curriculum and pedagogical characteristics that exists within the HPE domain.

The Department of Education Services of WA (2001) released a report 'Investing in Government Schools: Putting children first,' which recommended an adaptive rather than prescriptive implementation strategy for 'putting children first.' In line with the recommendation, this swimming in schools research study investigated local issues through case studies and a series of student interviews. A snapshot of the 'big picture' was then sought via questionnaires. It was anticipated that this work would enhance the delivery of flexible approaches to improve the outcomes of students. The research was designed to describe current programmes and practices, school/teacher and

student perceptions of these, and in turn examined factors affecting the implementation of quality aquatic programmes.

The objective of the study was to ascertain the current status of the secondary school HPE aquatic programmes, to develop knowledge and to postulate effective strategies to enhance the learning experience. To further consolidate the understanding of the Year 8/9 HPE data, questionnaire responses from a sub-set of Year 6/7 students are presented. These data provided a reference point from which to evaluate secondary school HPE swimming.

More specifically, this study sought to:

- i) determine and report what was happening in Western Australian school aquatic programmes for the Year levels 8 and 9;
- ii) encapsulate the thoughts and feelings of the teachers and the students engaged in these programmes;
- iii) scrutinise the relative level of success/outcomes of existing programmes, and
- iv) advance practical recommendations to address the problems identified.

Statement of the Problem

While there is high priority and expectation for adolescents to develop aquatic skills and acquire related knowledge in HPE programmes, existing secondary school programmes may not foster student progression along the learning continuum. Given the contemporary curriculum surge to outcomes-focused education, this is unacceptable. Teachers of aquatics are confronted with many issues. They are uncomfortable with staff/student ratios and the issues associated with the delivery of a lesson using an aquatic learning environment (Cross, 1997; EDWA, 1995; Whipp & Taggart, 2003b). Consequently, physical educators appear to be primarily focused on professional survival, keeping students busy, happy and good, and student safety. The middle of the ability range is generally the target of the teachers' pedagogy and student needs at either end of the ability spectrum are neglected. Noteworthy, is that this feature is probably not unique to HPE.

While school can spark life long interests in swimming, it can also extinguish them permanently (Glyptis, 1982). Given that swimming in schools appears to have lost the fun element (Hardy, 1989), it is appropriate that a critical evaluation of swimming

practices take place. Prevailing discourse on school aquatics identifies a range of problematic issues including:

- i) factors influencing a child's potential to swim are diverse and are inadequately considered in school aquatic programmes (Langley & Silva, 1986; Nias & Hardy, 1971; Page, 1976);
- ii) impressions of child proficiencies and existing false parent expectations of what defines a safe swimmer (EDWA, 1995; Shaw. G. personal correspondence, June 5, 2001);
- iii) dealing with varied ability levels in the one class (Arbogast & Lavay, 1987; Barrell & Trippe, 1973; Langley & Silva 1986);
- iv) the inappropriateness and resultant limitations imposed through existing staff/student ratios (Cross, 1997; EDWA, 1995);
- v) the significant impact that teacher and student attitudes to the importance of aquatics, and their existing swimming proficiencies has on the development of students' swimming abilities (Barter, 1992; EDWA, 1995; Hardy, 1991a; MSRC-R, 1995; Pearn & Nixon, 1979; RLSSA, 2001), and
- vi) concern for the existing level of safety in school aquatic programmes (AUSTSWIM, 2001; Catholic Education Office of Western Australia, 2000; Hardy, 1989) and the curriculum (Curriculum Council, 1998; EDWA, n.d.,b; FME, 2000; Hardy, 1991b; Slater, 2000).

These and related issues (e.g., body image, culture and ethnicity) impact on adolescents in their pursuit of physical activity and add to the broad problem focus that this study addresses.

The provision of an inclusive, developmental secondary school HPE programmes and activities, appropriate to the needs of a population, are a challenge. The researcher undertook this project with the belief that the issues associated with the school aquatic curriculum are complex. Furthermore, their impact on teaching and learning were unknown. It was the researcher's intention through this work to develop a knowledge and understanding of the current status of secondary school aquatic programmes and based on the evidence to advance practical recommendations. Where appropriate variable comparisons include; student gender, Year level, school sector, self-perceived ability level, ethnicity, and the teacher's years of experience, Year level taught and school sector. In addition, data are also differentiated for the Teacher in

Charge of the HPE Department (TiC) and the teacher, and the swimming facilities used (school pool versus public pool).

Research Questions

The research was framed by three research questions:

- Q 1. What goals, activities and outcomes define school Health and Physical Education (HPE) aquatic programmes?
- Q 2. Which issues may account for and influence HPE aquatic programmes and activities?
- Q 3. What is the role of differentiation in HPE aquatic programmes and activities?

The Curriculum Framework for Kindergarten to Year 12 Education (K-12) in Western Australian schools aims to improve the learning outcomes of all students. It plans to achieve this through providing direction about learning, teaching and assessment in outcomes-focused education. As a Framework, it assists teachers to develop programmes and to reflect on the effectiveness of their teaching by assessing student outcomes (Curriculum Council, 1998). These learning outcomes were developed to ensure that all students have the necessary knowledge, understanding, skills and values to lead successful lives now and in the future. The new curricular-inspired mapping exercises have occurred in a range of learning areas and, in spite of research and development activities in physical and sport education (Alexander & Taggart, 1995), the programme area of aquatics has not been considered. In response, curriculum development and more specifically the development of new aquatic programmes and innovative student-centred pedagogies are needed.

Whilst utilising the empirical/analytic and interpretive research paradigms, the researcher transposed the teacher and student questionnaire responses, observation and interview data; identifying common happenings, issues, perceptions and experiences to develop an understanding of the current practice. This appraisal is detailed and expansive, one that suitably encapsulates the perceived and actual curriculum, and the participants and their beliefs. All served to make meaning of HPE swimming.

Definition of Terms

The following definitions of terms are provided to assist the reader with common understandings.

Aquatic programme; HPE swimming: Water based activities, practical and knowledge-based, undertaken within allocated HPE class time. Typical compartments of the aquatic programme are water safety, rescue and survival skills, along with water confidence, learn to swim, stroke development/proficiency and fitness development, and water-based games. Provided the above listed activities are undertaken as a part of the formal/compulsory HPE curriculum they have been included within this definition.

Curriculum Framework: An outcomes-based framework provided by the Curriculum Council (1998) to assist teachers to develop programmes and assess the effectiveness of their teaching by the outcomes students achieve.

Differentiation: “Teachers reacting responsively to a learner’s needs” (Tomlinson & Allan, 2000, p 4).

Differentiated classroom and differentiated instruction: Consistently using a variety of instructional approaches to modify content, process/support, and/or products in response to the learning readiness and interest of students.

Educators: Combined Teacher in Charge of the Health and Physical Education Department (TiC) and Teacher data.

Educational continuum: Fluid reference point attached to the developmental status in one’s education.

Education Department of Western Australia (EDWA): State Government Department responsible for the administration of all Western Australian non-independent and non-catholic primary and secondary schools and home-based education. During the course of this study EDWA was re-titled, Department of Education and Training (WA).

Independent School: Non-Catholic and Non-Government primary and secondary schools.

Interm swimming programme (ISP): Swimming lessons for primary school students, organised and delivered by the Education Department of Western Australia: Swimming and Water Safety Section.

Pedagogical Content Knowledge (PCK): Pedagogical content knowledge incorporates subject-specific knowledge of pedagogy, including the ability to choose tasks and progressions, communicate learning tasks so that students can understand and connect key ideas, and knowledge of learners and learning, aims/objectives, curriculum and context.

Physical Education (PE): Term used in the research questionnaire and interview schedule to represent Health and Physical Education. This term is consistently used in the cited literature where specific reference is made to traditional physical activity-based physical education.

Health and Physical Education (HPE): Combined health (often classroom lessons) and physical education subject domain, as defined by the Curriculum Council (1998) and delivered in Western Australian schools (2002).

Teacher/s data: Year 8 and/or Year 9 teacher of HPE swimming.

Teacher/s in Charge (TiC): Teacher in Charge of the Health and Physical Education Department.

Vacswim: Holiday/vacation swim programme of 350 minutes (10x35 minutes) class time, organised and delivered by the Education Department of Western Australia: Swimming and Water Safety Section.

Varied swimming ability: People presenting with aquatic skills, knowledge, experiences and perceived comfort levels that determine the variance in their water competence.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This literature review provides an overview of research concerned with developing an understanding of secondary school health and physical education (HPE) aquatic programmes. The focus of this review was to critically analyse relevant research findings which focus on adolescents, aquatic proficiencies, school HPE curriculum, pedagogy, teaching effectiveness and the differentiation of instruction.

A high proportion of Western Australian primary school children (85%, EDWA, n.d., c) participate in the Department of Education and Training Interm Swimming Programme (ISP). Given that this provides the grounding from which secondary school programmes begin, an understanding of the outcomes derived was considered imperative to the needs of the secondary school programme. Reference is made to personal communication with Mr Gary Shaw (June 5, 2001). During this time Mr Shaw was the Manager of the Swimming and Water Safety section of the Department of Education and Training in Western Australia. He had occupied this position for more than a decade. Mr Shaw was responsible for administering the Western Australian ISP and the vacation swimming (Vacswim) programmes and also in-serviced the teachers of this programme.

The review is presented in eleven sections:

1. Physical Activity and the Adolescent;
2. School Curriculum;
3. Contemporary Research on the Teaching of Physical Education;
4. Effective Teaching and Teacher Effectiveness;
5. Pedagogical Content Knowledge (PCK)
6. Aquatic Programmes and Activities in Schools;
7. Implications of Swimming Ability Levels;
8. Differentiated Instruction;
9. Differentiation and Constructivism Discussed in Educational Theory;
10. Conceptual Framework; and
11. In Review.

Physical Activity and the Adolescent

The importance and benefits of sport, physical activity and recreation have been well documented (Biddle & Chatzisantris, 1999; Siedentop & Tannehill, 2000) as have the physical, emotional and social skills gained by adolescents engaged in these pursuits (Taggart & Sharp, 1997). Regular physical activity "has been shown to increase life expectancy and to assist in the prevention and management of coronary heart disease, hypertension, diabetes, osteoporosis, obesity and mental health problems" (Zubrick, Silburn, Garton, Burton, Dalby, Carlton, Shepherd & Lawrence, 1995, p. 27). Furthermore, it has been suggested that adolescents who are physically active on a regular basis can gain physiological, mental health, self-esteem and self-efficacy benefits (Taggart & Sharp, 1997). Regular physical exercise is not only important for the existing health of the adolescent, but it also is a critical time period for the development of life-style physical activity and health-related habits. Alternatively, the adoption of a sedentary lifestyle during adolescence has been associated with implicit health risks (Rowland, 1990). Approximately 80% of Year 8 Australian boys and girls (school summer term) were reported to be physically active, with slightly less (78%) of the Year 10 girls and more of the Year 10 boys (86%) being active (Booth, Macaskill, McLellan, Phongsavan, Okely, Patterson, Wright, Bauman & Baur, 1997). The value of physical activity during the school years is supported by the work of Anderssen and Wold (1992) who reported that adolescence is an "important period of learning health-related behaviour patterns, including physical activity, that will carry over into adulthood" (p. 341). An effective reduction strategy in those living a sedentary lifestyle, and therefore, experiencing an associated high level of chronic disease is seen to lie within the domain of school and community programmes that promote regular physical activity (US Department of Health and Human Services, 1997). This was supported by the Australian Sports Commission (1996) who stated that one of the Active Australia goals is to increase and enhance Australians' lifelong active association with sport and recreation.

While Taggart and Sharp (1997, p. 1) warned that sport needs to "respond to key issues of inclusivity, meaning and enjoyment ... to impact positively on the social cohesion and health of our community," Hunter (2000) suggested that there is a requirement for greater curriculum relevance, negotiation and the multi-disciplinary integration of all members of the HPE class. Physical education is seen as a potentially powerful agent of change. However, as Corbin (2002) suggested, it must focus on

lifetime physical activity promotion. In the new millennium, health and physical educators are being challenged to engage young people through additional emphasis on meeting their needs and interests (Blanksby & Whipp, 2004; Taggart, 2003).

Health and physical educators who can create opportunities for adolescents to connect in meaningful ways are working to ensure a more positive future (Corbin, 2002; Hunter, 2000). A deep understanding of what will elicit and develop these qualities in school aquatic activities is required. This is particularly important given that adolescents since the 1980's, as a consequence of many societal changes, appear to be shaped by television and the information society. Hence they are "engaging with radically new cultural conditions and bring with them new sensibilities, needs and expectations" (Tinning & Fitzclarence, 1992, p. 49).

The Influences on Activity Participation

In general, impediments and motivators to physical activity include both social and personal influences. Social variables include the influence of peers (Brown, Frankel & Fennell, 1989); teachers (Biddle & Goudas, 1996; Kirk, Burke, Carlson, Davis & Glover, 1996); parents (Taggart & Sharp, 1997) and, in particular, fathers (Anderssen & Wold, 1992). Others have reported personal factors such as a lack of ability, a high win-at-all costs ethos, and limited pleasurable sport/social (Australian Sports Commission, 1996), self perception (Embrey & Drummond, 1996), socio-economic status (Booth et al., 1997; Kirk et al., 1996; Taggart & Sharp, 1997), and limited time availability (Embrey & Drummond, 1996; Taggart & Sharp, 1997). The availability of, and participation in, sport and recreation was seen to increase with those whose parents deemed to be of higher socio-economic status (Kirk et al., 1996).

Despite our awareness of the importance of 'enjoyment' in HPE, the concept remains some-what elusive (Biddle & Chatzisantris, 1999). Csikszentmihalyi (1975) described how the relationship between the difficulty of activity in association with personal skills and abilities, and the resultant flow (enjoyment channel), is important to the understanding of motivation. Perhaps the existing HPE curriculum does not excite the adolescent and, where opportunity prevails to review the nature of school HPE, it should be taken (Tinning & Fitzclarence, 1992). Commensurate with these thoughts, this research served to evaluate the issues experienced by those in the post-modern youth culture.

Social influences.

The transition from primary to secondary school is for many students a difficult process and changes to the dynamics of family, school sport, sports clubs and social settings can impact significantly at this time (Brettschneider, 1989; Kirk et al., 1996). While the reasons are unclear for the influential relationship between social and family support of the active and physically motivated adolescent (Biddle & Chatzisantris, 1999), it is believed that the teacher provides the most important source of sporting motivation to the secondary school student (Biddle & Goudas, 1996). In contrast, the main reasons for non-continuance and the value decision process placed on physical activity by adolescents appear to be unresolved. While boredom has been highlighted as a barrier to participation, making new friends and socialisation, are considered to be important considerations for the motivation to pursue sporting activities during adolescent years (Taggart & Sharp, 1997).

Personal influences.

For the young adolescent female; self perception, body weight, body image and perception of physical competence consistently have been shown to influence levels of participation in physical activity (Tappe, Duda & Mengas-Ehrnwald, 1989). In contrast, gender differences were not found in physical activity levels, or attitudes towards physical activities for school children aged 9 to 11 years (Hagger, Cale & Almond, 1997). James (2000) argued that most girls are very conscious of their appearance in preparation for swimming in public and that this can affect the quality and quantity of their participation. During co-educational HPE swimming lessons, some girls felt strange, naked, embarrassed, stared at, talked about and self-conscious (James, 2000). There is no other school activity that generates the opportunity for inter-play between these variables like the HPE aquatic programme. With the potential negative motivational impact that presents with personal self-perception issues, and the dynamics of the bored post-modern youth (Tinning & Fitzclarence, 1992), it is possible, as with gymnastics, the HPE swimming programme is an endangered species (Taggart, 1988).

School Curriculum

Siedentop & Tannehill (2000) suggested that “translating the intent of that curriculum (one that is meaningful and challenging) into units of instruction, then a series of lessons, each of which has an appropriate progression of well-designed

learning tasks, is the basic stuff of good planning” (p. 129). Furthermore, they suggested that the design and implementation of an appropriate curriculum was a key element in building a successful education, and more specifically, Physical Education (PE) programme.

Within the global and Australian educational contexts, changes at the administrative and curriculum levels are evident. Dimmock (1995) referred to two such policy initiatives as change and the reshaping of schools. He described the decentralisation of school-based governance and management as the first policy initiative, while the second concerned school restructuring in an attempt to remodel the curriculum, teaching and learning. The primary focus of the second initiative was referred to by Browne (1998) as “introducing more flexible, responsive and student-orientated service delivery by targeting change in work organisation, pedagogical practices and learning processes” (p. 13). In Western Australia, this initiative has manifested itself in the perceived need for greater curriculum accountability and development of the Western Australian Curriculum Framework (Curriculum Council, 1998).

Choi (1992) investigated dimensions of the curriculum and this provided a theoretical framework for viewing teacher action and analysis of HPE. Five curriculum dimensions were identified for discussing the HPE curriculum. These were documented teacher written work (textual dimension), teacher thoughts (perceptual dimension), teacher practice (operational dimension), hidden (unintended messages), and null dimensions (those that do not exist, things that are absent) (Choi, 1992). Given its specific focus on aquatics in HPE and the use of case study observation, interview and questionnaire; this project incorporated three of the above dimensions, namely the textual, perceptual and operational. Whilst preparing for the lesson, during the lesson, and in response to undertaking HPE aquatic lessons, information was gathered and analysed based on Choi’s dimensions of the curriculum (see Table 1). As research on teaching HPE involves more than just examining instruction, Choi (1992) claimed that curriculum as an area of study had been marginalised. Furthermore, he suggested that research should involve consideration of different modes of inquiry and thereby provide a possible new perspective for research, teaching and PE teacher education.

The Western Australian Curriculum Framework

It was over a decade ago that Gibbons and Bressan (1991) suggested that learning outcomes, as defined in performance terms, could be the lenses through which instructional objectives were viewed. Using the unique features of the school and local community, they suggested that teachers should develop their own lists of outcomes. However, in doing so, they should consider the application of thinking skills, attitudes and interests, appreciation and adjustment to the environment, as well as the traditional cognitive and psychomotor outcomes. More recently, Melograno (1994) suggested that a student outcomes approach would assist schools to define curriculum intent with greater clarity, allow the communication of student progress and provide a focus for teacher assessment of student performance.

Table 1: Curriculum Dimensions Related to HPE Aquatic Programmes and Activities (Adapted from Choi, 1992)

Dimension	Process	Description
Textual	Written document analysis	Curriculum in the written form: lesson plans, unit plans, assessment criteria, student assessment/performance records, HPE departmental policy, school information.
Perceptual	Interview and questionnaire	Aspects of the curriculum that exist in the participants' minds: teacher and student quotations confirming thoughts, perspectives, insights and beliefs.
Operational	Observed and questionnaire	Aspects of the curriculum in which the teaching and learning process occurs: activities, time allocate to task, pedagogy and assessment processes.

In response to numerous and extensive reviews and reforms at both the State and Federal levels, the Curriculum Framework for Kindergarten to Year 12 Education in Western Australia (Curriculum Council, 1998) was developed. The Curriculum Framework was ready for implementation in 1998 and has been phased in over a five-year period. It will be fully operational in Western Australian schools in the year 2004 (Curriculum Council, 1998). The Western Australian Health and Physical Education Learning Area (WA HPELA; Curriculum Council, 1998) has a broad emphasis on student knowledge; including the mental, emotional, social and spiritual dimensions. Whilst a primary goal of the WA HPELA is the empowerment of students to be critical

consumers of health and physical activity, it was predicted that this may take considerable time and resources (Macdonald, Glasby & Carlson, 2000). In addition, students will need to be highly motivated, mature and receptive to self-reflection and be responsible contributors. A big ask for adolescents and teachers!

The defined aim of the WA HPELA is to improve the learning outcomes of all students. It professes to achieve this aim through providing direction about learning, teaching and assessment in outcomes-focused education. As a framework, it assists teachers to develop programmes and assess the effectiveness of their teaching by the outcomes students achieve (Curriculum Council, 1998). The WA HPELA was designed to provide students with an understanding of health-related issues and promote the importance of existing within healthy lifestyle guidelines. In addition, the Framework authors assert that it promotes the development of the necessary skills needed for participation in sport and recreational activities. Five strands have been defined and are seen to contribute to the development of healthy and active lifestyles for students. These five outcomes are presented under the headings: knowledge of understanding, attitudes and values, skills for physical activity, self-management skills and interpersonal skills.

The Curriculum Framework claims to be a holistic and integrated package which emphasises knowing, evaluating, participating and determining ones sense and level of well-being. Importantly, the rationale demands the coordination and cross-curricular interaction of individual teachers, departments and the school policy/curricula administrators. Whilst highly desirable, Macdonald et al. (2000) queried how school HPE programmes could be truly integrated, coordinated and cohesive within the current structures with which they are surrounded.

Whilst recognising that education for a healthy lifestyle must involve more than teaching fitness in isolation (Medland & Taggart, 1997), it must be asked whether teachers are in a position to facilitate this new HPE. Kirk (1997) suggested that the current physical educator may not be well placed to present important cultural, exercise and sport/leisure patterns. Moreover, with the existing unsuccessful implementation of some PE programmes, especially in the primary sector (Taggart, Medland & Alexander, 1995), one can only speculate as to the potential success of this more complex, all-encompassing curriculum. A significant assumption, critical to the rationale, was that students are ready, willing and able to acquire this holistic concept of health. With the students studied by Placek (1983) primarily focused on having fun and being active during PE lessons (Placek, 1983), it is possible that a proportion of students will share

little interest in conceptualising the rhetoric evaluating the potential for a better quality of life, now and in the future. In addition, it may be that such a student will find it difficult to identify and overcome the influence of peers and outside agencies, particularly those that persuade one to act in a manner contrary to their own well being.

The diversity of the Curriculum Framework suggests a complexity of assessment and evaluation procedures are required. Indeed, to determine the relative acquisition of all the knowledge, skills, attitudes and values, as defined by the outcomes, appears demanding, if not impractical.

Contemporary Research on the Teaching of Physical Education

In its most simplistic form, PE can be seen as skilling participants for the movement culture (Taggart & Alexander, 1993). A more descriptive suggestion confirmed that PE is “any process which increases an individual’s ability and desire to participate, in a socially desirable way in the movement culture (*read games, dance, outdoor/adventure activities, sport and other active recreational pursuits*)” (Alexander, Taggart & Medland, 1994, p. 5).

One could speculate that the most recent changes to HPE identify a conceptual transition of HPE from a focus on skill acquisition to the concept of HPE as a tool to maximise self-development. Such thoughts were echoed by the work of Dougherty and Bonanno (1987) who professed that the nineteen-eighties witnessed the beginnings of a focus transition in PE. According to these authors, the focus shifted from a subject-centred curriculum, where imparting skills was the teacher’s main objective, to a student-centred curriculum, which encourages teachers to develop each student’s maximum potential through the use of movement experiences.

Two streams of research have been identified as particularly important to the current teaching of PE. These include motor-on-task behaviour that is associated with high levels of success and secondly, the employment of instructional strategies that serve to facilitate high levels of motor-on-task behaviour during PE lessons to be important (Grant, Ballard & Glynn, 1990; Siedentop & Tannehill, 2000). Some school PE classes have been reported as “irrelevant and boring for many adolescents” (Tinning & Fitzclarence, 1992, p. 45) and are typified by teacher control, student passivity, drill and practice, rendering it potentially miseducative (Taggart, 1992, 2003). Others would suggest that this situation remains common, with Carlson (1995) reporting that

“physical education does not fill a need in their (read adolescent) lives (p. 474) and that HPE is failing to engage and make connection with students lives (Hunter, 2000).

Effective Teaching and Teacher Effectiveness

Teacher effectiveness refers to “... the ability of a teacher to foster mastery of the formal curricula, to socialise students, and to promote their (*student*) affective and personal development” (Brophy & Good, 1986, p. 375). Despite significant progress, Dill (1990) declared that the understanding of teacher effectiveness was relatively poor. Hindered by a lack of resources, such as release time for research and inadequate funding, Dill (1990) further described “... the complexity of classroom settings, involving countless interacting and changing variables that make understanding instructional effectiveness a difficult task” (p. 18). More specifically, Yerg (1983) and Rink (2001) suggested that the complexity of the PE environment was much in evidence, engulfed in a myriad of contexts in which the lessons are delivered, which serves to make evaluation difficult. Much of the previous work relating to teacher effectiveness has not evaluated the effect of teaching on students, further adding to the lack of understanding (Silverman & Skonie, 1997). Indeed, agreement as to what is good teaching was seen as problematic and portrayed as “... something that you cannot describe or define, let alone prescribe” (Rink, 1996, p. 171). Moreover, the difficulty in defining effective teaching in relation to student goals and outcomes was seen as complex, longitudinal, multidimensional and difficult to quantify (Rink, 1996).

When evaluating effective teaching in PE, research has generally focused on teacher interactive behaviours (Arrighi & Young, 1987), using a process-product design (Rink, 1996) in which “the behaviour of the teacher constitutes the process and student learning is regarded as the product” (Parker, 1995, p. 128). In a review of all research of teaching PE, Silverman and Skonie (1997) confirmed that 22.9% was process-product focusing on teaching methods, with 85.5% categorised as effectiveness studies. Identification of the variables that contribute to student achievements through classroom observation has consistently been the mode of operation (Arrighi & Young, 1987). According to Rink (1996) the effectiveness of a physical educator should consider:

- i) identifying intended outcomes of learning;
- ii) planning learning experiences to accomplish those outcomes;
- iii) presenting tasks to learners;
- iv) organising and managing the learning environment;

- v) monitoring the learning environment;
- vi) developing the content, and
- vii) evaluating the effectiveness of the instructional/curricular process.

Effectiveness is achieved by those who know when and how to apply the above listed principles to realise the prescribed objectives in the unique context (Rink, 1996, 2001). Silverman (1991) concurred by suggesting that effective teaching involves a dynamic interrelationship of these qualities in context. Therefore, they are discussed in the following review, not under sub-headings or in isolation, but to thematically guide the following discourse of effectiveness.

Effective Physical Education Practice

To be effective, teachers need to be responsive to the learning needs of their students through mastering important subject content, integrating concepts and implementing teaching strategies that are responsive to a diverse clientele (Dill, 1990; Jewett & Bain, 1985). According to Tinning and Fitzclarence (1992) there is relatively scant provision of effective PE in Australia. This was no different to most North American secondary school PE programmes, which are seen as “not meeting students’ needs and, in general are an irrelevant, negative educational experience” (Rink, French, Werner, Lynn & Mays, 1992, p. 67). Placek (1983) wrote that PE teachers are more concerned with “keeping students busy, happy and good” (p. 49), rather than student learning being underpinned by sound educational objectives. It should be noted that Placek (1983) herself did question that perhaps teachers do view learning as an ultimate goal and that being busy, happy and good may be necessary pre-requisites for learning – a means to an end. Irrespective, it is worth considering that Placek’s (1983) discourse was generated from the observation of only four physical educators over a two week period, in conjunction with the teachers’ written plans and interviews. Subsequently, others have expressed concerns such as students being engaged in motor activities for less than 30% of class time and only half of this at a level appropriate to student needs and readiness (Silverman, 1991); teaching to the top five or ten percent in skill level (Goodwin, 1997) and “... little obvious progress made by students from one lesson, unit and year to the next,” and students declaring PE to lack educational importance (Kirk, 1995, p. 370). Despite these poor depictions, the majority (usually 80% or more) of students enjoyed the subject (Carlson & Hastie, 1997; Rice, 1988; Williams & Nelson,

1983). Similarly, less than 10% of Australian Year 8 and Year 10 male and female students declared a dislike for PE (Booth et al., 1997). However, the proportion of boys who liked PE fell from 82% in Year 8 to 71% in Year 10, and for girls, the proportion fell from 70% to 62%, respectively. More specifically, it was those students who are at the lower-end of the ability spectrum who have reported PE to lack fun (Portman, 1995). Furthermore, some described it as humiliating, frustrating and embarrassing (Portman, 1995). When questioned, physical educators laid blame for poor educational outcomes with the students, and "... some blamed the school for only giving them two periods of PE per week," whilst "... few teachers blamed PE, its aims, content, and pedagogy" (Kirk, 1995, p. 370). While the outcomes of contemporary PE are debatable, two messages present. Firstly, the majority of students appeared to see PE in more positive terms than many researchers. Secondly, PE whilst discussed in general terms must, also be referenced to context. Further to the latter point, Rink (2001), notes that: "There may be no best way to teach, but there may be a best way to teach particular content to particular learners" (pp. 123-124).

Physical educators see effective teaching as a "hierarchy of pedagogical practices in which organisation, management, discipline, and control (primary goals) form the base, with student success at the apex (the ultimate goal)" (Parker, 1995, p. 136). Primary goals are fundamental to student success, this being the key or ultimate goal. It follows on that effective teachers create more practice time to enhance learning by doing, and reduce management and instruction time (Behets, 1997). However, not only should one consider the volume of practice, but also the level of engagement in the allocated schedule. Good practice, and the extent to which tasks are matched to the learner's motor ability, needs and interest levels are important (Byra & Jenkins, 2000; Chen, 1996; Duda, 1996; Graham, 1995). Lee (1997) agreed, and stated that there was a need to offer: "... opportunities to engage (*read students*) in tasks that are meaningful and valued" (p. 262). Adding to the complexity of education, effective teaching is improved by the teachers' levels of dedication, enthusiasm, interaction with students, and skill and fitness (Parker, 1995).

Experienced teachers include efficient classroom management as an antecedent to effective teaching (Parker, 1991, 1995; Rink, 1996). Maximising opportunities for student achievement was dependent on establishing goals, class organisation and a well framed management scheme (Parker, 1991). Management involved dimensions of developing and maintaining a learning climate, and organisational skills (Rink, 1996).

However, according to Rink (1996), “good managers are not necessarily effective teachers, but effective teachers must be good managers” (p. 179). Schempp (1992) also identified effective management principles which included establishment of clear rules and procedures, stopping disruptive behaviours, punishing behaviours rather than people, and administering with clear, concise instructions and directions. As well as the need for efficient instruction, Behets (1997) described effective teaching as characterised by limited instruction and management time. It is not just a matter of keeping students highly active, but required quality engagement (Rink, 1996). Hence efficient management practices that maximise student participation in engaging and worthwhile activities are most wanted.

Contemporary physical education, be it in Australia (Taggart, 1992, 2003; Tinning, Macdonald, Wright & Hickey, 2001) or overseas (Rink, 1996), is characterised by considerable off-task student behaviour and management is a major concern. When accountability and assessment were applied to the instructional task system, alignment occurs and effective physical education was more likely (Lund, 1992). When student evaluation is interwoven in harmony with goal setting, quality lesson planning, good managerial systems and effective teaching qualities, students can be challenged to do more than merely meet uniform and attendance demands (Lund, 1992; Rink, 1992)

In preparation and the during classroom interaction, teachers have a responsibility and should be accountable for the learning outcomes. Commensurate with this responsibility and teaching-learning behaviour is the chain of decision making (Mosston & Ashworth, 2002). The question of who, be it the teacher or student, makes the decisions about what and when forms the basis of the Command to Discovery spectrum offered by Mosston and Ashworth (1994, 2002). This spectrum is specific to physical education and is framed by the relative emphasis of teacher/student decision making during the pre-impact, impact and post-impact phase of the teaching event. This construct has been used in the research of teacher effectiveness (Golberger, 1983; Goldberger & Gurney, 1986; Siedentop & Tannehill, 2000) and to frame the development of other teaching style inventories (Himberg, Hutchinson & Roussell, 2003). The Mosston and Ashworth (1994) spectrum was used in this study to describe the teaching pedagogy employed during HPE swimming classes. A summary of definitions and the eleven styles, with diagrammatic representation, are attached to the observation schedule used in the case study evaluation of this thesis (Appendix D).

Effective teaching qualities have been described as high in active learning time, practice and teacher-movement time, and supplemented with encouraging feedback. Also, less time is allocated to providing information, non-academic tasks, removal of equipment and attention to pupil behaviour (Behets, 1997). In summary, effectiveness is maximised by engaging students at a high level through appropriate progressions for prolonged periods of time and incorporating some form of student choice (Rink, 1992, 1996; Rink et al., 1992). The provision of feedback and silent observation has been discussed as task/activity specific (Behets, 1997; Hastie, 1994). However, Behets (1997) did confirm that the least effective teachers provided significantly more ineffective feedback.

According to Dill (1990) effective teachers reveal superior content knowledge as a major component. Dill (1990) postulated a direct correlation between the teachers' content knowledge and teacher instruction, and the outcomes related to student performance. Moreover, he further clarified that content knowledge alone was not sufficient and stated that knowledge of teaching methods was also a critical determinant of successful teaching. This is defined as possessing pedagogical content knowledge (PCK). Pedagogical content knowledge incorporates subject-specific knowledge of pedagogy, including the ability to choose tasks and progressions, communicate learning tasks so that students can understand and connect key ideas (Dill, 1990; Doutis, 1997), and knowledge of learners and learning, aims/objectives, curriculum and context (Peterson & Knapp, 1993). In reading the necessary qualities of an effective teacher, it is not surprising that teaching was described as "difficult" (Dill, 1990, p. 29) and "complex" (Rink, 1997, p. 17), whilst further complicated by the diverse and fluid working environment.

In stating the obvious, Graham (1995) said the task of delivering PE would be substantially easier if students had identical interests, abilities and background; the 'one programme fits all' adage was described as inappropriate. Yerg (1983) summarised the complexity of the PE learning environment and effective teaching and referred to three pertinent and influential aspects. The developmental level of the learners dictated the opportunities and limitations for instruction, and their stages of learning (beginner, intermediate, advanced) impacted on the teaching and learning strategies. Furthermore, the task itself dictated the most appropriate instructional strategies to be adopted. Teachers of PE "... have stressed the importance of self-efficacy in relation to desired outcomes in performance, motivation, and enjoyment for children" (Chase, 1998, p. 87).

Given that self-efficacy refers to "... people's judgment of their capacity to successfully perform a task" (Chase, 1998, p. 76), the importance of the individualised approach as suggested by Yerg (1983) and Graham (1995) is placed in context.

Good teachers reflect students' different needs and interests in their programmes (Graham, 1995). This could be exemplified by the provision of two activities, one more difficult than another (Pellet & Harrison, 1996); or the provision of the choice to swim with or without a floatation device or fins (Block & Conaster, 2002). Poor or inexperienced teachers also are aware of student diversity, but they tend to rationalise this as the students' problem (Graham, 1995; McCaughtry & Rovegno, 2003). Worthy of note, in researching the merits of various types of individualised instruction as compared to a traditional teaching model has resulted in some equivocal results (Lee, 1991). In contrast, by addressing individual differences, it was proposed that one may assist students to enhance participation in PE (Williamson, 1996) and to develop tendencies toward healthy, physically active lifestyles (Helion & Fry, 1995). While Lee (1991) discussed the merits of individualised teaching methods cautiously in 1991, she later challenged teachers to "design activities that are meaningful to each student and planned at an appropriate level of difficulty" (Lee, 1997, p. 264), referring positively to the constructive rather than acquisitionist framework. Lee (1997) stated that this would assist students to persist and exert effort, because they would adopt task-orientated goals, expect to succeed and value the content. Persistence, in particular when working with indirect or minimal teacher supervision is potentially a challenge for some students. Those who learn analytically (Jewett & Bain, 1985) are more likely to be successful when working without extensive teacher attention when compared with those who prefer to work more toward the social end of the continuum. Providing a balance of activities in an appropriate format to meet student needs, readiness and interest levels is paramount (Jewett & Bain, 1985, Manross & Templeton, 1997; Napper-Owen, 2003). Whilst the need for a differentiated approach is well established, the task is difficult (Pellet & Harrison, 1996; Rink, 1996) because the level of challenge and willingness is different for each student in each context. Effective teachers will find ways to encourage and assist students by manipulating the task, pedagogy, opportunity to learn, monitoring, support and the assessment process.

In summarising the characteristics of effective teachers of motor skills, Silverman (1991) conceded that no one characteristic should be considered in isolation and that effectiveness must be framed in context. The literature does not clearly identify

contextualised contemporary working examples in HPE. In particular, there is a dearth of information relevant to the teaching of HPE aquatic programmes and the application of effective teaching principles and the subsequent outcomes.

This study describes HPE aquatic programmes and activities in Western Australian schools through questionnaire, case study observation and interview techniques. In addition, effective teaching behaviours and outcomes were considered. By listening to the perspective of those involved in the day-to-day realities of school swimming activities (Arrighi & Young, 1987) it aimed to add an important dimension to the understanding of effective teaching in the aquatic domain. Moreover, this project meets with Dill's (1990) request for continuing research "to describe more adequately what constitutes quality teaching in various contexts" (p. 24).

Pedagogical Content Knowledge (PCK)

The effective delivery of the HPE curriculum and the focus of daily formal classes (Siedentop, Mand & Taggart, 1986), and teacher determined goals and outcomes, require the teacher to possess an adequate knowledge of the curriculum content. This is called pedagogical content knowledge (PCK) and is one of seven suggested knowledge bases required for teaching (Shulman, 1986, 1987). Good (1990) suggested that "PCK indicates teachers' abilities to use effectively (from the knowledge they possess about a subject) those ideas that are important to teach to students" and "especially includes the ability to communicate or to structure learning activities so that students can understand" (p. 40). Grossman (1990) defined PCK as incorporating four categories: knowledge of students' conceptions of content, curriculum, teaching strategies, and purposes for teaching. In short, PCK is knowledge of how to teach specific content in specific contexts, a form of knowledge in action (Mellado, Blanco & Ruiz, 1998) and in the current educational context was taken for granted as though representing common sense (Bullough, 2001). Whilst still seen as difficult to define, PCK has been generalised as unique content to teacher education, reaching beyond the standard academic teacher education course and encompasses the question of what it means to know a subject so that one can teach it (Bullough, 2001). In postulating this concept, researchers have considered the ways in which teachers think about the subject they teach, the range of the physical educator's teaching style repertoire, their ability to meet instructional goals and the extent to which the teacher's PCK has been seen to influence the quality of their teaching.

Initially, PCK was suggested, along with content knowledge and pedagogical knowledge, as a third major construct of teaching expertise (Shulman, 1986, 1987; Good, 1990; Grossman, Wilson & Shulman, 1989; Wilson, 1997). The other four categories referred to by Shulman (1987) included general pedagogy, learners and their characteristics, educational contexts and educational purposes. Pedagogical content knowledge provided the perspective through which a broader understanding of teaching could be viewed.

It has been proposed that both the teachers' pedagogical knowledge (what they know about teaching) and teachers' subject matter knowledge (what they know about what they teach) are crucial to developing students' understanding of the content and quality teaching practices (Appleton & Harrison, 2001; Buchmann & Schwille, 1983; Buchmann, 1984). Moreover, it is the manner in which teachers related their pedagogical knowledge to their subject matter knowledge that formed the basis of PCK. Shulman (1986) adds:

Pedagogical content knowledge embodies the aspects of content most germane to its teachability. Within the category of pedagogical content knowledge I include, for the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations and demonstrations; in a word, the ways of representing and formulating the subject that make it comprehensible to others... It also includes an understanding of what makes the learning of specific concepts easy or difficult; and the conceptions and preconceptions that students of different ages and backgrounds bring with them to learning. (p. 9)

This work advanced the argument that PCK is influenced by content knowledge, general pedagogical knowledge and the knowledge of the learners and that the key to distinguishing the knowledge base for teaching lies in their intersection (Shulman, 1987). Whilst he pointed out that PCK is derived from subject content knowledge and pedagogical knowledge, it is more than a teacher's knowledge of a particular content area and the pedagogy that enables them to teach that content.

PCK and Teacher Effectiveness

Although it is argued that content knowledge alone is not enough to guarantee successful teaching, it is apparent that knowledge of teaching methods is also a critical determinant of successful teaching (Good, 1990). Whilst examining the relationship

between subject matter expertise and the conduct of a teacher's instructional system, Hastie and Vlaisavljevic (1999) concluded that a higher level of expertise resulted in the provision of more extending tasks and accountability centred more on quality of performance than levels of participation or effort. While examining subject matter expertise, there are clearly some links to this work and that relating to PCK. However, in responding to their own question: "How much does a PE teacher have to know... to plan and deliver an effective unit of instruction to diverse groups of learners?" Siedentop and Tannehill (2000) suggested "that depends on how long the unit is, who the students are, and how serious the teacher is about students actually gaining important knowledge and skill as a result of experiencing the unit" (p. 31). While a minimal amount of PCK incorporating the beginning skills and tactics may suffice for short units, Siedentop and Tannehill (2000) suggested that to foster the accomplishment of important learning goals over an extended period of time, the teacher would have to know more about the activity and how to transform that knowledge and use it to directly assist student goal attainment.

Pedagogical content knowledge has been recognised as assisting teachers to develop an awareness of classroom organisation (Dodds, 1994; Harari & Siedentop, 1990; O'Sullivan, 1996; Schempp, Manross, Tan & Fincher, 1998). Shulman's (1987) discernment between content knowledge, pedagogical knowledge and PCK was a conceptual proposition that has subsequently been explored by a number of researchers. However, while the research field of science teaching has used the term most often (Van Driel, Veal & Janssen, 2001), research studies on teacher knowledge in PE are relatively few in number (Siedentop & Tannehill, 2000). It has been suggested that teachers who have developed their PCK are better able to accommodate diverse learners, sequence activities, detect common errors and correct them, and plan for remedial activities (Dodds, 1994; Harari & Siedentop, 1990; O'Sullivan, 1996; Schempp et al., 1998). Recognition of the importance of PCK and its development within pre-service training (Siedentop & Tannehill, 2000) and beyond has been identified as critical in bridging the link between the organisation of subject content knowledge and curriculum delivery within the PE classroom. Pre-service PE teachers can develop their PCK through being taught observational skills (Barrett, Allison & Bell, 1987; Matanin, 1993) and through watching children learn as a consequence of their own teaching experience (Barrett & Collie, 1996).

Pedagogical content knowledge and content knowledge have been shown to impact on what teachers teach and how they teach it (Grossman et al., 1989), what they do in the form of task development and progressions (Doutis, 1997) and what novice student's experience (Kutame, 1997). Furthermore, according to Grossman (1991): "Teachers need pedagogical maps and content; the understanding of a subject from an explicitly pedagogical perspective that enables teachers to track students' misunderstandings and guide them toward new conceptions" (p. 213). Therefore, it could be assumed that, without such content knowledge and PCK development, a resultant dislocation between teacher goals and prescribed activities may occur (Romar, 1995). As part of a study examining how student teachers believed they used pedagogical content knowledge and general pedagogical knowledge (e.g., class organisation and management, discipline, motivating, conveying instructions and feedback), Graber (1995) interviewed student teachers from two different American universities. When the student teachers were required to describe how they used PCK, they indicated that they had no specific training to do so. Such methods as trial-and-error, imitation of teachers and assessing children's ability specific to the activity being taught, were presented as examples by the subjects. This work has since been criticised for relying solely on interview data and not making first hand observations of the teachers in action. Also, no data were recorded that spoke directly to what the teachers actually asked the children to do to elicit specific actions (Barrett & Collie, 1996).

Further support for the complexities of teacher knowledge requirements is exemplified by the thoughts of Grossman et al. (1989) who state:

The ability to transform subject matter knowledge requires more than knowledge of the substance and syntax of one's discipline; it requires knowledge of learners and learning, or curriculum and context, or aims and objectives, of pedagogy. By drawing upon a number of different types of knowledge and skill, teachers translate their knowledge of subject matter into instructional representations. (p. 32)

This work and more specifically the importance of PCK in teaching PE was reinforced by Tinning (1992). He concluded that just knowing enough to the point of being able to do teach it without the ability to articulate how it is done was a form of 'weak' practical content knowledge. This was inferior to translating their knowledge about an activity and delivering it with relevance and understanding to a particular group of learners. He defined this as displaying 'strong' practical knowledge. Such a transition from subject

matter knowledge to pedagogical content knowledge involves interpretation. Marks (1990) stated that “the content is examined for its structure and significance, then transformed as necessary to make it comprehensible and compelling to a particular group of learners” (p. 7). In support of the importance of interpretation, Chen and Ennis (1995) claimed it was the PE teacher’s perceptions of students’ learning abilities and competency that primarily form the basis for teachers’ curricular decisions regarding content inclusion/exclusion. However, they found whilst viewing three physical educators teaching a unit of volleyball that, despite sharing identical content knowledge base, “each teacher had his or her own unique PCK repertoire that contained representations different from those of the other teachers” (p. 398).

Teacher effectiveness is reliant on the possession of high levels of PCK and an environment which fosters the development and implementation of these teaching qualities to enhance the learning experience. Adapting student representations to student learning processes appears to be directed by each individual teacher’s personalised pedagogical reasoning process and whilst possessing similar subject content knowledge teachers are very likely to use representations that they personally perceive as relevant in terms of the students taught and the teacher curricular goals.

Aquatic Programmes and Activities in Schools

Swimming is a commonly undertaken physical activity in and out of school for Australian adolescent boys and girls (Booth et al., 1997). While water-based HPE allows students to gain many of the benefits attributed to regular physical activity, it has been discussed as a promotional tool for health, fitness and lifelong activity (Barter, 1992; Beale et al., 2002). Unfortunately, many students in secondary schools appear to lack access to swimming lessons and activities, and water safety programmes (Beale et al., 2002).

The Aquatic Curriculum

Swimming is an important HPE activity because, amongst other things, it affords the opportunity to save life (Barter, 1992). However, aquatic education in some Australian primary schools has been reported to be in crisis (Cross, 1997). In addition, it seems that no agreement can be reached as to the purpose of middle school PE (Hunter, 2000), be it skill development in a few activities, wide exposure, both, or physical fitness development (Batesky, 1991). While school can spark life-long interests in

swimming, it can also extinguish them permanently (Glyptis, 1982). Similarly, many students will not try swimming at all if they perceive that standards are unreachable (Kleinman, 1997). Others suggest that swimming in schools appears to have lost the fun element (Hardy, 1989).

The Education Department of Western Australia (EDWA) Swimming and Water Safety Continuum is a teaching framework that provides direction to teachers of pre-secondary school aged students about 'what to teach,' 'when to teach it' and guidance in 'how to assess it' (EDWA, n.d., a). It is estimated that up to 85% of primary school aged children participate in the EDWA ISP, while up to 30% participate in the annual 'Vacswim Programme' (EDWA, n.d., c). Forty-one performance requirements are described under the sequential Stages 1 - 9 in the EDWA ISP swimming continuum (Appendix V; EDWA, n.d., a). In addition, Stages 10, 11 and 12 are offered in the ISP (Department of Education, 2001a) with certification for these levels provided by the Royal Life Saving Society Australia (RLSSA). The EDWA Vacswim programme offers a Calm Water/Pool Centre programme and a Beach programme. Successful participants in Stages 10 to 16 receive a RLSSA or Surf Life Saving Association (SLSA) certificate, respectively.

A Swimming and Water Safety Framework detailing the desirable standards for school-based aquatic education has been developed by the RLSSA together with the Water Safety Council (RLSSA, n.d.). The framework provides a basis for developing and selecting an appropriate swimming and water safety programme for aquatic educators and schools (RLSSA, n.d.). The seven Framework Standards are aligned to the years of primary schooling. Moreover, 16 levels are identified within the RLSSA Swim and Survive continuum. The Senior Swim and Survive/Wade Rescue of the RLSSA continuum have been aligned with Year 7. Furthermore, Year 8 has been aligned with the Accompanied Rescue, Year 9 with the Bronze Star, and Year 10 to 12 with the Bronze Medallion (Catholic Education Office, 2000). Whilst not prescriptive, the framework sets out a skill-based continuum from which an individual's progress may be mapped. The RLSSA Swim and Survive Levels 1 to 5 equate to Stages 1 to 9 in the EDWA programme (EDWA, 1995). Furthermore, the RLSSA provides an awards scheme encompassing several strands. These are Water Safety, Swim and Survive, Rescue, Bronze and Advanced Life-saving (RLSSA, 1995).

The EDWA has detailed information on how the ISP links to the key principles of teaching and learning within the Curriculum Framework (EDWA, n.d., c) and to the

Student Outcome Statement progress maps (EDWA, n.d., b). The latter identifies such learning outcomes as 'Skills for Physical Activity', where Level 6 of the Learning Outcomes (Skills for Physical Activity) is achieved by completing Stage 9 of the EDWA Swimming Continuum. Additional learning outcomes include Knowledge and Understanding, Self-Management Skills, and Interpersonal Skills, and the associated EDWA Swim Stages (1 to 9) (EDWA, n.d., b). Survival and rescue skills, as identified in Level 7 of the Curriculum Framework Learning Outcomes, are deemed to be evident when a student has achieved the requirements of the RLSSA Bronze Star, Medallion or Cross Awards. Level 8 equates to the RLSSA Award of Merit or the Distinction Award (Future Movement Education, 2000).

These agencies provide the course framework, student outcome levels and achievement strategies. In combination, they give a strong focus and direction for the teaching and assessment of aquatic activities in HPE. Despite this detailed curricula guidance from a variety of agencies, aquatic programmes and activities in secondary schools may not be well defined, or implemented.

Swimming Abilities

Recent claims in Western Australia suggest that over 60% of primary school students are achieving a Stage 6 in the EDWA based ISP (swim 50 metres of freestyle, 25m of backstroke, 25m breaststroke) (G. Shaw, personal correspondence, June 5, 2001). However, a competent swimmer has been defined by a Ministerial Swimming Review Committee - Report (MSRC-R, 1995) commissioned by the Education Policy and Coordination Bureau (1995) as a child who reaches the end of Stage 9, this being equivalent to the swimming requirements of a Level 6 of the defined Student Outcome Statements (Future Movement Education, 2000). Furthermore, 40% of primary school students are achieving Stage 9 of the ISP (Swim 300 metres with a variety of strokes) (G. Shaw, personal correspondence, June 5, 2001). However, this information conflicts with data suggesting that in 1994 there was an 85.45% drop in participation between Stage 1 and Stage 9 of the ISP (MSRC-R, 1995).

With 80% of ISP parents believing that their children should reach Stage 9 of the programme, and even more (96.5%) demanding that their children should have the skills to save another person (RLSSA, 2001), the swimming component of the secondary school HPE programme and the suggested outcomes need to be reconsidered. In contrast, parents have relatively minimal demands when defining what their child will

need to achieve to be defined as a safe swimmer with only 29% of the parents surveyed (RLSSA, 2001) requiring their child to swim 100 metres or more to be classified a safe swimmer. Other distances deemed appropriate to classify a child as a safe swimmer were 50 metres (23.5%), 25 metres (19%) and 15 metres (13.5%). These parental expectations concur with the suggestion by EDWA administrators (G. Shaw, personal correspondence, June 5, 2001) that what is a safe swimmer as defined by a parent, and one ready to exit the ISP, may be based around distances that correspond to the capacities required to “handle the family backyard swimming pool.” Pearn and Nixon (1979), in their review of 4,000 Queensland children, defined swimming as the ability to swim 10 metres or more, while Barrell and Trippe (1973) defined non-swimmers as unable to swim 10 yards in a relaxed and competent manner. Irrespective of the inconsistencies within these definitions, if these children are left struggling with inefficient and energy-consuming strokes, the joy of achieving their first lap may lead to a false sense of security (Dukes, 1986) and on to a preventable tragedy (Department of Health, 2004). This could well be the most dangerous stage of their swimming lives (Elkington, 1971).

The diversity of adolescent swimming abilities (Cross, 1997; MSRC-R, 1995; RLSSA, 2001), and the difficulties associated with ‘defining’ swimming ability, creates a complex dilemma for the teacher and researcher. Consideration of individualisation and differentiation of instruction appears paramount.

Implications of Swimming Ability Levels

Based on the assumption that PE should promote maximum involvement by all pupils (Arbogast & Lavay, 1987; Saunders, 1979), it is possible that the low and high ability swimmers are not well catered for by the secondary school HPE programme. With varied ability levels described as one of the most difficult and frustrating situations facing the physical educator (Arbogast & Lavay, 1987), this also has important implications for students who consistently fail and for those who succeed too easily, as both it appears lose their motivation to learn (Rikard & Woods, 1993; Tomlinson, 1999). While swimming in PE classes has been recognised to be a high-physical activity area (McLeish, Howe & Jackson, 1981), it may be more important to focus on the quality of engagement (Hardy, 1993).

Swimming is more easily taught to children when they are very young, with the optimal age of readiness being 5 and 6 years of age (Blanksby, Parker, Bradley & Ong,

1995). Good instruction, which involves 'learning by doing' (Behets, 1997) at an early age, is fundamental to the quality of skill acquisition. The longer the delay, the longer it takes to learn the skill (MSRC-R, 1995).

With relatively large class sizes, students who possess a range of sporting skills (Reeves & Stein, 1999) and prior sporting experiences and temperaments (Chambers, 1988), teachers may resort to teaching for their own professional survival (Mustain, 1990) and teach, as a general rule, to the fictional majority or average of the class (Hardy, 1991a). This is in contrast to those who suggest that weak swimmers require individualised programmes to overcome their fears (Hardy, 1991b). Moreover, many weak swimmers are only exposed to a regular swimming experience through school and choose not go swimming in their own time (Hardy, 1991b) or to go to private lessons (RLSSA, 2001). This is a challenge, given that there was a steady decline (12.21%) in enrolments in the 'Western Australian Vacswim Programme' during the time-frame 1989 to 1994 (MSRC-R, 1995). It is, therefore, unlikely that weak swimmers, given the existing secondary school HPE class format, will raise their swimming standards.

Varied Ability Levels and Physical Education Pedagogy

It is important that the physical educator assess the needs of a diverse student group and then use a variety of management and instructional strategies to meet the needs of these learners (Hutchinson, 1995). A consideration of curriculum and differentiation, peer teaching and streaming literature in HPE and swimming will illuminate several issues in these areas.

Curriculum and inclusivity.

While discussing the inclusion of all students, Reeves and Stein (1999) and Mustain (1990) question if ineffective physical educators can force students to adapt to inappropriate expectations. Therefore, the students can become victims of a self-fulfilling prophecy. Furthermore, it was suggested, that, without a developmentally appropriate pedagogy, which targets the level of each child in the programme, then meaningful movement experiences are inhibited for all (Golder, 2003; Mustain, 1990; Reeves & Stein, 1999). The 'continuum' approach as used by the 'EDWA ISP' has been described as more successful in a mass participation programme than the traditional generic and less specific curriculum (EDWA, 1995). Tomlinson (1999) aptly described an individualised pedagogical approach as a 'differentiated classroom', where the

struggling, advanced and in-between students are all valued equally. Three main approaches to differentiation have been identified as 'differentiation by task', 'differentiation by outcome' and 'differentiation by support' (Harrison, 1997). Furthermore, this list is not exclusive, with these approaches working concurrently. While responding to the needs of all learners, such an approach demands that teachers do not reach for standardised, mass-produced instruction assumed to be a good fit for all students. The differentiated classroom also invites students to teach one another.

Peer teaching.

While some claim even the most competent and organised physical educator cannot directly interact with each student in a class on more than one or two occasions (Block, 1995), it may be appropriate to train the high-performance swimmers to assist with the teaching of swimming in secondary PE classes (d'Arripe-Longueville, Gernigon, Huet, Cadopi & Winnykamen, 2002). Such techniques involve the grouping of students who are at the ends of the ability spectrum, this being in contrast to the pairing of students who are of like ability as recommended for college-aged non-swimmers (Fleming, 1971). Indeed, d'Arripe-Longueville et al. (2002), whilst evaluating same-sex peer tutoring in secondary school swimming classes, reported that skilled tutors yielded better swimming skills, higher self-efficacy for improvement, and gave more demonstrations and verbal information than novice tutors. Limitations of the study included a relatively small sample size ($n=48$) and only 8 minutes of one-on-one tutoring. While this is the only study cited which evaluates the effectiveness of peer teaching in the non-integrated PE aquatic setting, it has been claimed that peer tutoring enhances, for both the tutees and the tutors, cognitive comprehension (Champagne & Goldman, 1975; O'Donnell & King, 1999), motor performance (Arbogast & Lavay, 1987; Barfield, Hannigan-Downs & Lieberman, 1998; Houston-Wilson, Lieberman, Horton & Kasser, 1997; Lieberman, 1995), attitudes, and PE learning time of those with differing abilities (Barfield et al., 1998). Poorly conducted peer learning activities can have negative effects on students (O'Donnell & King, 1999). However, by using mature individuals trained to identify important skill components, how to give feedback and how to collect ongoing data (Block, 1995; Maheady, 1998), one could improve skill in those classified as weaker swimmers. Moreover, all students can benefit as they are exposed to opportunities to give or to receive peer instruction, provide leadership and

empower a dynamic new relationship based on understanding and responsibility (Barfield et al., 1998).

Streaming.

Streaming according to ability levels does occur in some schools; however, this requires several classes to be timetabled at the same time, and/or, additional staff and facilities. Streaming has been criticised for labelling pupils and limiting the expectations of both pupils and teachers (Harrison, 1997). In addition, remedial classes have been said to “keep remedial learners remedial” (Tomlinson, 1999, p. 21) and that, once labelled as “weak that they live up to that label” (Hardy, 1989, p. 19). It has been suggested that some teachers fail to recognise the mixed-abilities within streamed groups, and they teach all at the same pace with the same style and directed toward a reference group in each class (Boaler, 1997).

In contrast, a positive consequence of streaming may be the presentation of smaller class sizes, particularly for minority groups, which could increase the time allocated per student to curriculum activity (Hastie & Saunders, 1991). Then teachers can adapt their pace, style and content to the particular ability group and enable more whole-class teaching (Boaler, 1997). Chambers (1988) discussed the grouping of students based on a degree of homogeneity of skills in order to encourage participation, protect the student, and, as supported by others (Pifer, 1987), enrich the teaching and learning experience.

Differentiated Instruction

The concept of the differentiated classroom is premised on three powerful conclusions about teaching and learning. Firstly, the concept of a ‘standard issue student’ denies most of what we know about the wide variance that inevitably exists within any group of learners. Secondly, there is no substitute for high-quality curriculum and instruction in classrooms. Finally, even in the presence of high-quality curriculum and instruction, it is possible to fall short of the goal of helping the learner to build a good life through the power of education unless we build bridges (Tomlinson, 2001).

Teachers who employ a “middle of the road approach” (Napper-Owen, 2003, p. 19) do not respect that children learn motor skills at different rates and, ultimately, will not meet student needs. For Tomlinson (1995), differentiation has come to mean:

“...consistently using a variety of instructional approaches to modify content, process, and/or products in response to learning readiness and interest of academically diverse students” (p. 80). The goal of a differentiated classroom is maximum student growth and individual success, which is consistent with the defined goals of the Western Australian Curriculum Framework (Curriculum Council, 1998).

In line with the model of ‘Artful Teaching’ from Tomlinson (1999), the educational process involves a holistic approach. Here teachers create a ‘user friendly’ environment, in which pacing is flexible and the approaches to learning are diverse. Unlike some other teaching strategies, differentiated instruction is proactive. That is, it assumes that different learners have different needs, and therefore delivery of a variety of approaches to the content, process/support, and product is essential for quality teaching and learning. Furthermore, these are determined in reference to the various student levels of readiness, interest and learning profiles.

Practising quality differentiation is about knowing what to teach, making a conscious effort to continually reflect on the “individuality” of students, and developing both the commonalities students share as humans and the singularities students bring as individuals (Tomlinson & Allan, 2000).

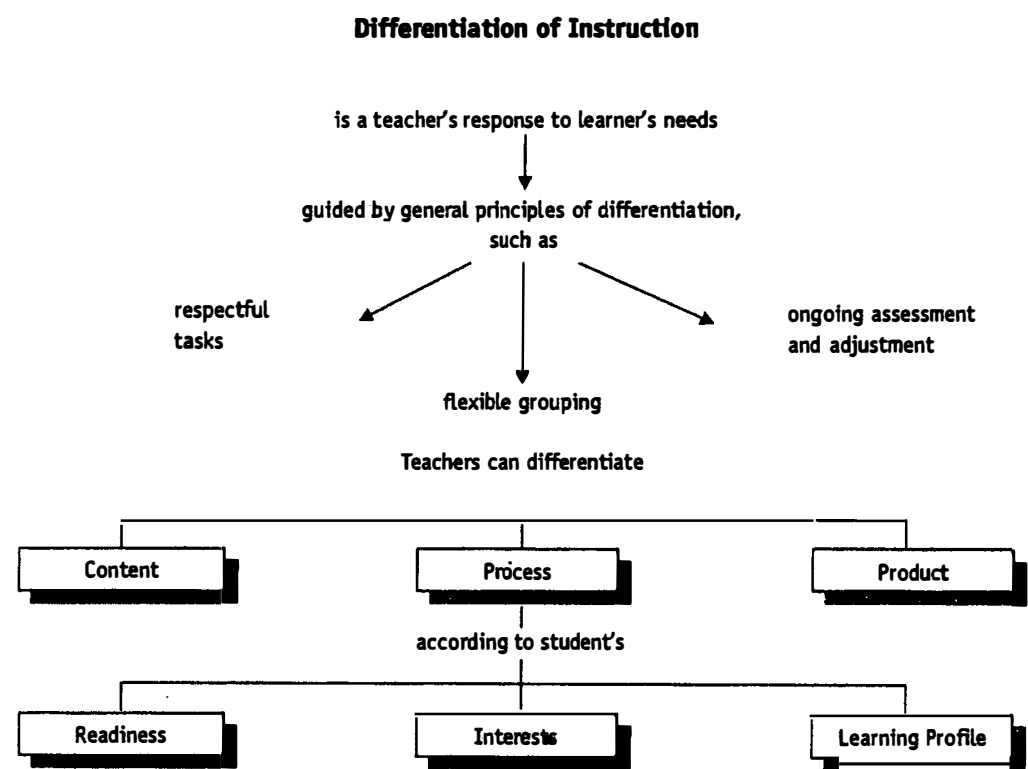
A teacher in a differentiated classroom needs to embrace the following four beliefs listed below and represented in Figure 1:

- i) respect the readiness level of each student;
- ii) expect all students to grow and support their continual growth;
- iii) offer all students the opportunity to explore essential understandings and skill, and
- iv) offer all students tasks that look – and are – equally interesting, equally important, and equally engaging.

(Tomlinson, 1999, p. 12)

Most importantly, a differentiated classroom provides different avenues to acquiring content, to processing or making sense of ideas and to developing products, thereby reducing the number of frustrated and disenfranchised learners in our schools (Tomlinson, 2001).

Figure 1: Differentiation of Instruction (Adapted from Tomlinson, 1999)



Heterogeneous Classes

Teachers who differentiate instruction in mixed ability classrooms seek to provide appropriately challenging learning experiences for all their students. These teachers realise that sometimes a task that lacks challenge for some learners is frustrating and complex to others. Often, struggling learners are left to catch-up and those who are advanced are treated as fine without special provisions because they are 'up to standard' already.

Differentiation is built on the premise that everyone can benefit from mixed ability classrooms. Tomlinson (1999) suggests heterogeneity usually is a one-size-fits-all endeavour where the plan swallows some learners while neglecting others. Lessons for all students should be engaging, present problems, issues, dilemmas, and unknowns that require them to use more of what they have learned.

Differentiation is based on the assumptions that two powerful and related motivators for engagement are student interest and student choice. Important to teachers work is to find out what areas are of interest to their students and then try to create new

areas of interest. This talks to the idea of the negotiated curriculum, which gained prominence in the PE curriculum reform literature of the 1990's (Siedentop & Tannehill, 2000). The content of HPE in general, and swimming in particular, appears to be well placed in terms of offering students' choice and power to negotiate this curriculum.

The Role of Assessment

Assessment, according to the differentiated model, is an on-going diagnostic process that serves to modify and drive tomorrow's lesson. Rather than cataloguing pupils' mistakes, assessment becomes a part of teaching for success and a way to extend rather than merely measure learning (Tomlinson, 1999). Students are assessed in multiple ways. Assessment becomes a part of teaching for success and a way to extend, rather than merely measure, learning. The selection of a suitable assessment tool or strategy for the individual is a function of understanding abilities, needs and readiness that are unique to the individual. This assessment strategy is commensurate with the undertakings of the student outcome assessment structure (Curriculum Council, 1998) and complementary to the broad range of assessment opportunities available in HPE (Matanin & Tannehill, 1994).

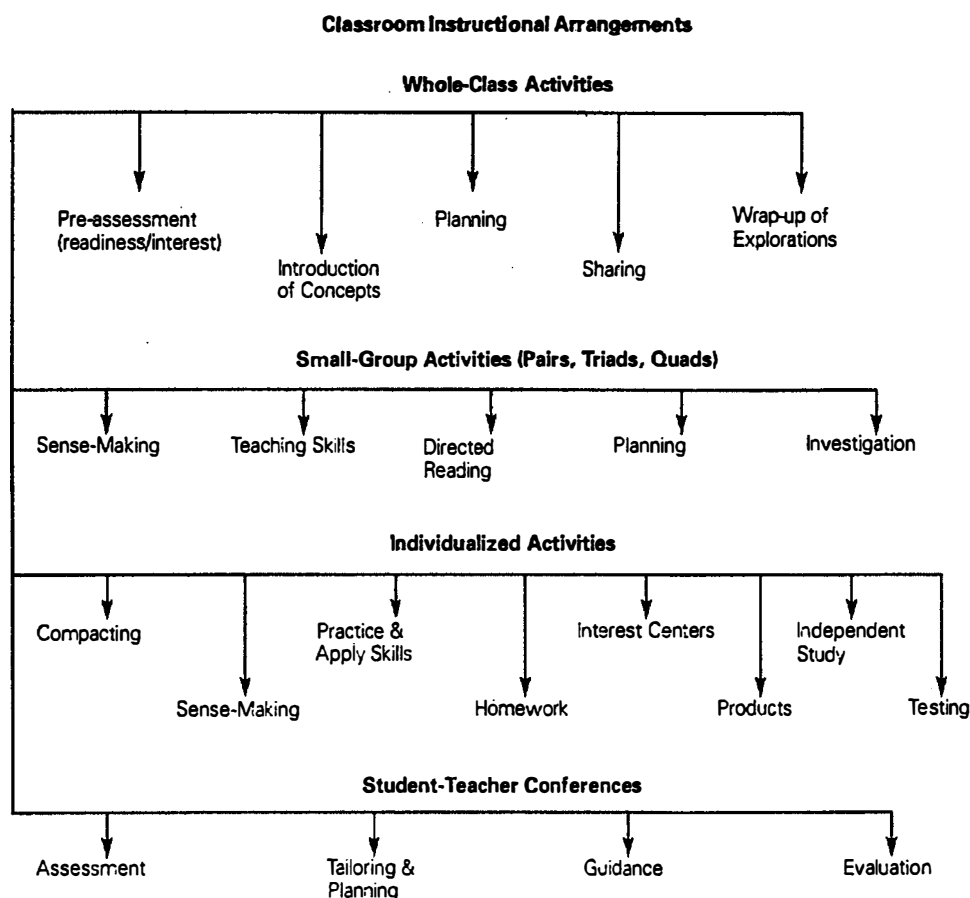
A Student-Centred Approach

While it is often assumed that the students will be the potential beneficiaries of educational change, they are rarely thought of as participants in the process of change (Fullan & Stiegelbauer, 1991). Being student-centred, differentiated instruction encourages the involvement of students in much of the decision-making process. In a differentiated classroom, it is necessary for learners to become active in making and evaluating decisions. Teaching students to share responsibility enables a teacher to work with varied groups or individuals for portions of the day. According to Tomlinson (2001) this process assists to prepare students for a better life. Teacher and students collaborate for mutual growth and support; however, a balance is recommended between student-selected and teacher-assigned tasks and working arrangements (Tomlinson, 2001). Physical education is not unfamiliar with the benefits of student/teacher negotiation and its impact on the classroom ecology (Siedentop & Tannehill, 2000) with the opportunities for such collaborative work being plentiful.

Flexible Groupings

A hallmark of an effective differentiated classroom is the use of flexible grouping which accommodates students who are strong in some areas and weaker in others (Tomlinson, 2001). The grouping of students within HPE has functioned consistently within this design. While some students prefer or benefit from independent work, others fare best in pairs or triads. Fluid is a good word to describe the assignment of students to groups in such a heterogeneous classroom and this fits with the HPE setting. Figure 2 provides further clarity to the issue of grouping by highlighting strategies appropriate to instructional arrangements.

Figure 2: Classroom Instructional Arrangements (from Tomlinson, 2001, p. 25)



Application to the Aquatic Classroom

Whilst some physical educators would confirm that many of the strategies described above are already regularly employed in their teaching, some argue that this

may not be the case (Rink, 1996; Tinning & Fitzclarence, 1992; Taggart, 2003; Tomlinson, 1995). Furthermore, if such techniques are used, they are often delivered to the whole class without differentiation. While the model of differentiation is often directed at the 'cognitive' setting, the challenge is to evaluate its effectiveness in the practical aspects of HPE.

The following example was provided to highlight the application of the differentiated model to a swimming class setting. Much of the difficulty in developing proficiency in the freestyle swimming stroke is encompassed in the conceptualisation and kinaesthetic understanding of gaining a 'feel for the water.' In biomechanical terms, this relates to the building of pressure around the surface of the body parts used to create the forward motion in the catch phase of the arm stroke. In the case of freestyle, this is achieved, in-part, by the fingers, hand and forearm. Differentiation would see the provision of process/support through the use of tiered learning stations, whereby the high performance swimmer is drilled with the technique of swimming with a clenched fist, thereby reducing the surface area of the hand and creating an opportunity to feel the forces on the forearm. This is a high level concept, but an important one if further advancements are to be made. Moreover, an attempt to swim with a fist by the student with low proficiency generally results in frustration and an undesirable increase in arm rating (thrashing). The use of hand paddles and swim fins or pull-buoy might allow this swimmer to achieve a higher degree of 'feel,' as the surface area for propulsion is significantly increased, and a resultant increase in the opportunity to experience the intended lesson outcome.

Swimmers who are uncomfortable in the water may achieve a land-based appreciation for the task content with the use of elastic band resistance activities poolside. The differentiation of content through compacting would see the high performance swimmer by-pass the land activities, focusing on the advanced drill and the achievement of a faster time for a 25 metre time-trial with a reduced stroke count. The swimmer who is moderately proficient could use hand paddles alone to achieve the sensation of improved feel and propulsion. In line with the student-centred approach, students could choose, based on their level of readiness and interest, the group that they are most suited. Alternatively, the teacher could allocate student groupings based on a series of laps where the stroke count is recorded, a task that relies heavily on 'the feel of the water.'

The evaluation of product/outcome could vary for the three prescribed groupings with the high level swimmer aiming to perform the 25 metre time-trial with a reduced stroke count and making comparison with pre-lesson times. The most challenged swimmers could demonstrate improved proficiency through the use of a reduced stroke count while swimming with the aid of hand paddles as compared with a stroke count without the assistance of paddles. The middle grouping could demonstrate lesson outcomes and improved proficiencies through a reduction in freestyle stroke count for a set distance performed with the use of a pull-buoy to isolate and highlight the impact of improved finger, hand and arm feel.

The Teacher

Consistent with student-centred pedagogies, teachers who employ differentiated instruction are no longer the keepers and dispensers of knowledge. They are the organisers and facilitators of learning opportunities. They give the students as much responsibility for learning as they can handle and then teach them to handle a little bit more.

Tomlinson (2001) advances that these teachers grow in their ability to:

- i) assess student readiness through a variety of means;
- ii) 'read' and interpret student cues about interests and learning preferences;
- iii) create a variety of ways students can gather information and ideas;
- iv) develop varied ways students can explore and 'own' ideas, and
- v) present varied channels through which students can express and expand understandings. (p. 16)

The teacher must understand what constitutes essential learning to diagnose, prescribe, and vary the instructional approach and to meet the needs of the clientele (Tomlinson, 1999). Teachers are skilled in co-ordinating time, space, materials and activities. Increasingly, students become more skilled at helping one another and themselves to achieve group and individual goals. The teacher's clarity of instruction ensures that struggling learners focus on essential understandings and skills, they are no longer threatened by the overpowering task requirements that appear easy for some others. Similarly, the teacher ensures that advanced learners spend their time grappling with important complexities, rather than existing skills.

Differentiation and Constructivism Discussed in Educational Theory

In general, educational change is constructed and implemented to assist schools to bring about a replacement of some structures, programmes and/or practices (Fullan & Stiegelbauer, 1991). Differentiation is defined as “teachers reacting responsively to a learner’s needs” (Tomlinson & Allan, 2000, p. 4), with the main goal being to maximise student growth and individual success (Tomlinson, 1999). This is achieved individually or in small groups, as distinct from a class structure wherein all students are treated as one group. While it is important to be aware that “there are certainly limits to what education can do for the life changes of individuals” (Fullan & Stiegelbauer, 1991, p. 15) differentiated instruction is worthy of further investigation.

Differentiation is more than a strategy or series of strategies (Tomlinson & Allan, 2000). It is a conceptualised structure that manifests itself in the teacher adopting a philosophy which underpins an instructionally active and flexible, student-centred, meaning making approach to teaching and learning. Such an approach is discussed as a sub-category of constructivism (Wittrock, 1978; Woods, 1996). This approach to teaching is based on the premise that some of the causative factors that account for one’s behaviour are internal. Moreover, teaching and the relationship with students and the understanding of classroom phenomena reflect an understanding of thoughts, intentions, and affects that prompt action. A constructivist teaching style is characterised by the charismatic personal qualities of teachers and others, naturalistic context, cooperation and grounded in open inquiry (Woods, 1996). Armento (1986) further states that when the constructive process is employed in the classroom, student and teachers together become the active constructors of meaning. In addition, Armento (1986) concludes that models of teaching that have their origin in constructivist thought are compatible with the view within education that knowledge of the world should be generated dynamically rather than absorbed as a body of static descriptive rules.

Whilst reviewing physical education teachers’ constructivist teaching practices, Chen and Rovegno (2000) discussed a range of strategies which also reflect differentiation. These include, presenting content in conceptual clusters relevant to students’ skill levels and prior knowledge, active exploration and discovery learning, and partner and small groups of students working cooperatively to solve problems. Such concepts are identified in teachers who encourage students to apply knowledge to new relevant movement concepts, elaborate on existing student understanding with thoughtful questioning, develop their own learning cues, and share their ideas of skill

and movement execution in a productive cooperative learning environment (Anderson, 2002; Chen & Rovegno, 2000). In addition, teachers using problem solving, peer assisting strategies, and relevant, interesting and captivating metaphors that reflect the student's readiness levels are not only operating within the constructivist-orientated paradigm (Chen, Burry-Stock & Rovegno, 2000) but also that which defines differentiation.

Differentiation is a synthesis of a number of educational philosophies. Thus, it constitutes an amalgamation of beliefs, theories, and practices which serve to assist teachers to address their classroom activities in a manner that is more holistic than fragmented. The challenge, according to Tomlinson (1999), is "to reach out effectively to students who span the spectrum of learning readiness, personal interest, culturally shaped ways of seeing and speaking of the world, and experiences in that world" (p. 1). In failing to meet this challenge, it could be theorised that the number of embittered and disenfranchised students will escalate.

Content, Process/Support and Product

To separate and consider the curriculum in a fragmented state is a difficult undertaking, because the teaching and learning process is itself holistic and a function of relationships. While segmenting the curricular elements into content, process/support and product, Tomlinson (2001) suggested that the understanding of differentiation becomes more manageable when each is considered separately. However, it is important to be mindful that these elements operate in a more interconnected manner than they may appear in the following discussion. Differentiated instruction provides multiple approaches to content (input - what students learn), process/support (how students go about making sense of ideas and information), and product (output - how students demonstrate what they have learned).

It is through the teacher's previous knowledge and understanding of the students' readiness, interest and learning profile that lessons are prepared, and the content, process/support and the product are determined. This is done with student awareness, consultation and, where possible, student input. With the application of this student-centred approach, the ownership of learning is, then, far more likely to be with the student than it is in the teacher-centred classroom setting.

Strategies for differentiating content, process/support, and product as constructed by Tomlinson (2001) are described in Figures 3, 4, and 5.

Differentiating content.

Whilst differentiating content, Tomlinson (2001) suggested we can adapt what we teach and/or modify how we give students access to what we want them to learn. The differentiation of content can be constructed upon the student readiness, interest and learning profile.

Content is what a student comes to know (facts), understand (concepts and principles), and be able to do (skills) as a result of a given segment of study (a lesson, a learning experience, a unit). Content is 'input'. It encompasses the means by which students will become acquainted with information (through textbooks, supplementary readings, videos, field trips, speakers, demonstrations, lectures, or computer programmes) (Tomlinson, 1999, p. 43).

Figure 3: Strategies for Differentiating HPE Content (Adapted from Tomlinson, 1999)

DIFFERENTIATING CONTENT – strategies that could be applied to HPE
Concept-based teaching - differentiated instruction encourages a focus on concepts and principles, not just knowledge.
Curriculum compacting is a three stage process: <ol style="list-style-type: none">1. Decision is made before or early in the lesson. Student or teacher determined. Students who are compacted are exempt from whole-class activities while they undertake other more challenging material.2. Teacher includes the student in any activities in which they have not displayed competence.3. Teacher and student design a task for the student to engage in while the other students are working on the general lesson.
Using varied text and resource materials.
Learning contracts - content can vary with student needs. This allows students the freedom in class time to work responsibly; combining shared goals and independence.
Mini-lesson - for those who are remain unsure after group instruction.

The concept-based teaching model is well suited to the game sense approach (Siedentop & Tannehill, 2000) where the teacher facilitates understanding of the game requirements and strategies through questioning and guided discovery. The HPE teacher is well placed to provide more challenging activities (compacting) to the higher-ability students. This permits additional teaching time with the less able (mini-lessons) and the use of modified equipment or game rules.

Differentiating process/support.

Process and support in a differentiated learning context means sense-making. That is, it provides the opportunity for learners to process the content or ideas and skills to which they have been introduced. Tomlinson (1999) further explains by suggesting that:

Process is the opportunity for students to make sense of the content. If we only tell students something and then ask them to tell it back to us, they are highly unlikely to incorporate it into their frameworks of understanding. The information will belong to someone else (teacher, textbook writer, speaker). Students must process ideas to own them. In the classroom, process typically takes place in the form of activities. (p. 43)

Figure 4: Strategies for Differentiating HPE Process/Support (Adapted from Tomlinson, 1999)

DIFFERENTIATING PROCESS/SUPPORT – strategies that could be applied to HPE
Creative problem solving.
Cubing – working to provide information for the team, who re-group to share their efforts.
Learning centres – stations or collections of material.
Interest centres/groups – can vary according to complexity and independence required.
Role playing.
Jigsaw - providing information for the team, who re-group to share their efforts.
Tiered assignments – varied levels of activity.

Sport education (Alexander & Taggart, 1995) sees students charged with individual responsibilities (tiered assignments) and challenged to work in small teams during a community-modelled sport season (role playing). As team manager or coach the students are required to solve problems and make decisions relative to team training, strategies, fixtures and umpiring. With each student undertaking different responsibilities, they are required to research and plan to support other members of the team (cubing).

Differentiating product.

The outcomes from the experience, as measured or observed, are often the focal point of the lesson plan and determine the structure of the teaching. When differentiation is employed, the lesson is not driven by the product, but by the processes of learning that will ultimately bring about a resultant product. This approach is in line with the rhetoric of outcomes-based teaching and assessment (Curriculum Council, 1998). Tomlinson (1999) defines a product as:

A vehicle through which a student shows (and extends) what he or she has come to understand and can do as a result of a considerable segment of learning. Product – ‘culminating product’, or something students produce to exhibit major portions of learning (Tomlinson, 1999, p. 43).

Figure 5: Strategies for Differentiating HPE Product (Adapted from Tomlinson, 1999)

DIFFERENTIATING PRODUCT – strategies that could be applied to HPE
<p>The dual purpose of assessment is:</p> <ol style="list-style-type: none"> 1. to chart student growth in regard to valued skills and knowledge, and 2. to use information gathered through the process to help in the planning of the most appropriate learning experiences possible for given individuals and groups of students.
<p>Creating high product activities:</p> <ol style="list-style-type: none"> 1. for struggling learners, and 2. for advanced learners.
<p>Portfolios.</p>

Teachers who use on-going diagnostic assessment and who provide alternative opportunities to display learning are differentiating for product. This is exemplified when an HPE teacher, based on the students perceived ability level, requests students to perform their skills in an environment which maximises the opportunity for the student to display learning. This is exemplified in volleyball games that allow the less able students to catch the ball and self-feed before executing a volley-away. Such an approach might allow students to demonstrate newly learned game-based strategies that may otherwise be hidden by poor skill execution.

Readiness, Interest and Learning Profile

Before teachers can confirm the lesson content, process/support and product requirements, they must first evaluate the understanding that they have of the learners. Whilst this may appear arduous at first, the information relating to the students' suitability to undertake the defined lesson is generally within the teacher's mental notes and if required, can be recalled with accuracy and detail.

Readiness differentiation.

Activities that are centred too far above or below the level of the learners readiness, will ultimately lead to frustration and boredom, respectively (Rikard & Woods, 1993; Tomlinson, 1999). Vygotsky (1978) concluded that, at a certain point of skill and understanding related to a given facet of learning, a child can function totally independently. However, when the challenge is set beyond this an unassisted child is ineffectual and likely to fail. Tomlinson and Allan (2000) postulate that, provided the teacher supports or delivers the appropriate scaffolding to underwrite the complex journey, the child can ultimately attain success. A "zone of proximal development" was described by Vygotsky (1978) as the point where the students are challenged beyond their capacity to work alone. However, with guidance success can be attained, thereby re-establishing the area of independence. Further to this work, Byrnes (1996) verified assumptions previously stated and said that instruction should be provided in advance of a child's current level of mastery. That is, teachers should teach within a child's zone of proximity, for to do otherwise would potentially lead to learning encumbrance and frustration, or a state of under-stimulated no-growth.

In reviewing the work of Csikszentmihalyi, Rathunde and Whalen (1993) where the commitment, or apparent lack of, to the development of talent was longitudinally

assessed for 208 grade 9 and 10 talented teenagers, Tomlinson and Allan (2000) reinforced the belief that teachers who are effective in cultivating student talent do so with a strong understanding of the students' levels of readiness. Csikszentmihalyi et al. (1993) concluded that when students feel that teachers are in pursuit of a student's unique talents and abilities, it was more likely that the pacing of challenges would be commensurate with the readiness of the learner. As a consequence, it was perceived that fewer errors would be made by delivering tasks that are too hard or easy. Such errors in readiness judgement were seen to negatively impact on a student's level of concentration, involvement, potency, achievement, motivation and self-worth. The most destructive educational experiences resulted when both the level of challenge and the sense of exercising skill were absent. This situation accounts for almost a third (29%) of classroom activities (e.g., reading, watching films, listening to lectures) (Csikszentmihalyi et al., 1993). Such evidence, according to these researchers, defined the need for a well-paced match of task complexity and individual skill, and can be defined as the hallmark of what is the "flow" experience (a state of immersion or total absorption).

Interest differentiation.

Learning is more likely to be rewarding for students when interest is tapped, and they are increasingly likely to become more autonomous learners (Bruner, 1961). Furthermore, Bruner (1961) suggested that when the learners' behaviours become more long-range and competence-oriented, it comes under more complex cognitive structures and operates more from an intrinsic basis (inside out). In contrast, Bruner (1961) explains that extrinsic rewards are seen as functional to the shaping of learning, which is short term. He concluded that "material that is organised in terms of a person's own interests and cognitive structures is material that has the best chance of being accessed in memory" (p. 32), this being in accordance with the philosophy binding 'differentiation.' That is, students who engage in activities that resonate in the child's own interest and creative thinking processes are likely to increase their skills relative to that subject discipline.

In referring to the work of others, Tomlinson and Allan (2000) suggested that by engaging students in educational activities and processes to assist them to realise their keenness, the consequences would be increased engagement with positive learning and

talent diversification. This is further clarified when reviewing the goals of interest-based instruction as:

- i) helping students realise that there is a match between school and their own desires to learn;
- ii) demonstrating the connectedness between all learning;
- iii) using skills and ideas familiar to students as a bridge to ideas or skills less familiar to them, and
- iv) enhancing student motivation to learn.

(Tomlinson, 2001, p 53)

In line with the theory of 'flow', as discussed by Csikszentmihalyi et al. (1993), the requirements for differentiation are similar, that is, seeking to maximise the interest of the learner, define the purpose or goal clearly, and reinforce the appropriateness of the task to the capacities of the student. Further, whilst attempting to achieve the positive experiences of flow, one fosters the skills identified as precursors to the development of a child's talent, namely: curiosity, concentration, emotional independence, and persistence. New challenges and experiences that demand the application of acquired skills and knowledge are sought in the journey for flow.

Whilst thought of as obvious, educators should make it a priority to fuel the interest of the learner (Csikszentmihalyi et al., 1993). Furthermore, their research confirmed the need to present the learning experience as engaging and rewarding. By presenting materials in a manner that optimises the interest and involvement of learners, the committed are likely to maintain a high level of motivation to engage in more complex undertakings.

Tomlinson and Allan (2000) further postulated the importance of interest differentiation by referring to the work of Jensen (1998) who concluded that a good cafeteria with essential staples and a large range of choice, was not unlike the best learning environment. That is, the copious supply of activities to satisfy individual needs, only serves to advance children to ascertain their natural interests, inclinations, and talents.

Learning profile differentiation.

Learning profile is defined by the manner in which individual's best process information. Everyone has learning style/preferences as a result of biological and experiential influences (Dunn, Beaudry & Klavis, 1989). Four learning categories were

identified as being relevant to learning profile when referenced to differentiation. These are students' learning style preference, intelligence preference, gender and culturally influenced preference (Tomlinson, 2001). Further, these components combine to influence 'how' we learn.

The work of Dunn (1996), Dunn et al. (1989), Dunn and Griggs (1995, 2000), and Fullan and Stiegelbauer (1991) verified the importance of accommodating learning style through the use of compatible pedagogical facilitation. Such variance has been reinforced by advancing the four learning styles of environmental, emotional, sociological, and physical (Dunn, 1996). These categories umbrella the individual preferences that potentially impact on the relative success of learning. Such factors include quiet or sound, bright or soft light, concentration for long periods or short, cool or warm, best time of the day to learn, and relationship with peers (Dunn et al., 1989).

When discussing the brain-based predispositions we all have for learning, and intelligence preferences, Tomlinson (2001) referred to the importance of the concurrent work of Gardner (1993). Referring to the fact that we all have strengths in combinations of intelligences, he detailed linguistic intelligence, musical intelligence, logical-mathematical intelligence, spatial intelligence, bodily-kinaesthetic intelligence, internal-personal and intra-personal intelligence as appropriate categories. Gardner (1993) further defines intelligence as: "the ability to solve problems or to create products that are valued within one or more cultural settings" (p. xiv). Furthermore, in alluding to the possible presence of seven kinds of intelligence, Gardner (1993) highlighted the benefits by suggesting that the gateway to teaching was via at least seven different ways, rather than one way. Such rhetoric sits well with the disposition of 'differentiation', where lessons are required to be engaging and students, also, consistently presented with a variety of educational techniques to deliver problems, issues, dilemmas and unknowns that require them to use more of what they have learned (Tomlinson, 2001). An application of such cognitive preferences to the HPE setting was discussed by Luke (2003). He referred to four possible dimensions of analytical-verbalisers, analytical-imagers, holistic-verbalisers or holistic-imagers, and suggested that matching pupil's cognitive preference could increase the opportunities for effective learning of physical skills.

While discussing the relative difficulty in determining whether the Gardner (1993) theory would be successful when infused into the classroom and assessment pedagogy, Sternberg, Toff and Grigorenko (1998) reported that teachers may be

sceptical in the presumption that these techniques will produce superior knowledge, or the ability to use knowledge, in their students. Moreover, their goal was to test the efficacy of school-based instruction on the basis of infusing the triarchic theory of intelligence, these being defined as analytical, creative and practical (Sternberg, 1985). Sternberg concluded that triarchic instruction was superior to traditional instruction (primarily memory-based) and critical-thinking instruction (primarily analytically-based). Whilst the work of Sternberg et al. (1998) and Gardner (1993) appears somewhat at odds in defining categories of intelligence, they agree that students who are more appropriately matched in terms of their patterns of abilities are likely to be stimulated and excited; and therefore they would out-perform students who are not well matched.

Work postulating intelligence preferences and the theories of 'multiple intelligences' (Gardner 1993; Sternberg 1985; Sternberg et al., 1998) suggested that, within the classroom the learners should encounter an environment which favours their intelligence preferences. In addition, these authors referred to the fluid nature of human intelligence, and multiple strengths and preferences held by each individual.

Gender related preferences for learning are presented by Gilligan (1982) and Tannen (1990) as they discuss the male inclination to compete, and choose analytical subjects such as science or mathematics. In contrast, females are generalised to prefer working collaboratively, communicate for purposes of establishing relationships, and select areas of study that may function to assist others. Such thoughts are further echoed by Banks (1997) who claimed that girls are less likely than boys to participate in classroom discussions and are less likely to be encouraged to participate by the teacher. In addition, girls are more likely to be silent in the classroom.

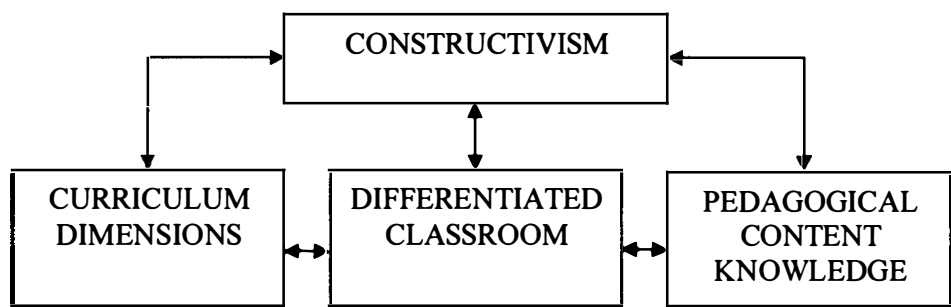
Difficulty is encountered when the learner is presented with a classroom environment that is contradictory to their socialised preferences for learning, behaviour and attitude as influenced by their respective gender and culture. Lasley and Matczynski (1997) described the influence that culture could have on the cognitive learning style and the immeasurable aspects of one's perspective, view-point, communication style and sense of identity. Those of a Western culture are generalised as competitive, task oriented, rigid about time, limited in affective expression, and present as thinking whole-to-part. On the other hand, those from a non-Western culture are more inclined to work collaboratively, being of open affective expression, socially oriented and preferring whole-to-part thinking.

Banks (1993) used the 'patches of a quilt,' when searching for an analogy to define the relationship of cultural heritage and the particular student that shapes his or her way of knowing. Whilst the goals of multicultural education can never be fully attained (Banks & Banks, 1997), it is important to work continuously to increase the level of educational equality for all students. Furthermore, the influence of pedagogy, school administration and teachers' cultural heritage (Banks 1993; Delpit 1995,) which may advantage or disadvantage a particular gender or cultural background, are seen by Tomlinson (2000) to support the importance of providing differentiated instruction.

Conceptual Framework

Establishing a line of research, according to Ennis (1999), always begins with a structural design, suitably referred to as research plan. Furthermore, she advocates that the central piece is the development of a theoretical framework from which research decisions can be piloted. A conceptual framework was developed to focus the theory that guides and identifies the constructs that codify the phenomenon under study. A conceptual framework is a heuristic contrivance useful in explaining, either graphically or in narrative form, a theoretical perspective in a coherent way by systematically identifying its components and the way they are related (Jewett & Bain, 1985). The conceptual framework for this study (Figure 6) conformed to the principles of constructivist learning (Chen & Rovegno, 2000; Kirk & Macdonald, 1998; Wittrock, 1978; Woods, 1996). It was viewed through Tomlinson's (1999, 2000, 2001) differentiated classroom and Shulman's (1986, 1987) pedagogical content knowledge, and articulated through Choi's (1992) curriculum dimensions. The following description is a summary of the literature pertaining to the conceptual framework that underpins this research, and culminates in a diagrammatic representation of the link between the study aim, theoretical constructs and the research questions.

Figure 6: Study Framework



Constructivism

A constructivist teaching style is characterised by the charismatic personal qualities of teachers and others, naturalistic context, cooperation, and grounded and open inquiry (Woods, 1996). Armento (1986) stated that, when the constructive process is employed in the classroom, students and teachers together become the active constructors of meaning. This conceptualised structure manifests itself in the teacher adopting a philosophy which frames and underpins an instructionally active and flexible, student-centred, meaning making approach to teaching and learning. Such thoughts reinforce the interplay between individuals existing knowledge, attitudes, values and social interactions in the sociocultural context to construct new knowledge (Chen & Rovegno, 2000). Constructivist-orientated teaching practice is reflected through a commitment to developing the learners’ independent learning abilities and fostering ownership of their learning experience (Chen & Rovegno, 2000). These goals are commensurate with those that define differentiation and reinforce differentiation as a sub-category of constructivism. The conceptual framework of this study held fast to this relationship. Therefore the evaluation of HPE swimming was narrowed to the characteristics of constructivism that were reflected in differentiated teaching practice. In line with the principles that define constructivism, how teachers choose to teach swimming, that being representative of their PCK, and the meaning that they make of the content and process was viewed as essential to understanding HPE swimming outcomes. To fully construct meaning of the HPE swimming stakeholders’ attitudes and perceptions, it was vital to read their plans, listen to them, and to observe their lessons.

Curriculum Dimensions

Whilst Choi (1992) has identified five curriculum dimensions; textual, perceptual, operational, hidden, and null dimensions, this project, given its specific focus on aquatic programmes and activities in HPE and the use of case study observation, interview and questionnaire, has incorporated three of the above. These are the textual (written documents), perceptual (teacher thoughts – interview and questionnaire) and the operational dimensions (teacher practice – observed and questionnaire).

Differentiated Classroom

Differentiation is defined as “teacher’s reacting responsively to a learner’s needs” (Tomlinson & Allan, 2000, p. 4), with the main goal being to maximise student growth and individual success. This is achieved, individually or in small groups, in opposition to the more common class structure whereby all students are treated as alike. Whilst it is important to be aware that “there are certainly limits to what education can do for the life changes of individuals” (Fullan & Stiegelbauer, 1991, p. 15), the philosophy that encompasses ‘differentiated instruction’ is both interesting and pragmatic in application. Differentiation is more than a strategy or series of strategies (Tomlinson & Allan, 2000) framed by of a number of educational philosophies and constituting an amalgamation of beliefs, theories, and practices. Differentiation is underpinned by the principles that define a “constructivist” and student-centred learning and teaching approach (Wittrock, 1978; Woods, 1996). The educational experience is based on the premise that some of the causative factors that account for one’s behaviour are internal.

Pedagogical Content Knowledge

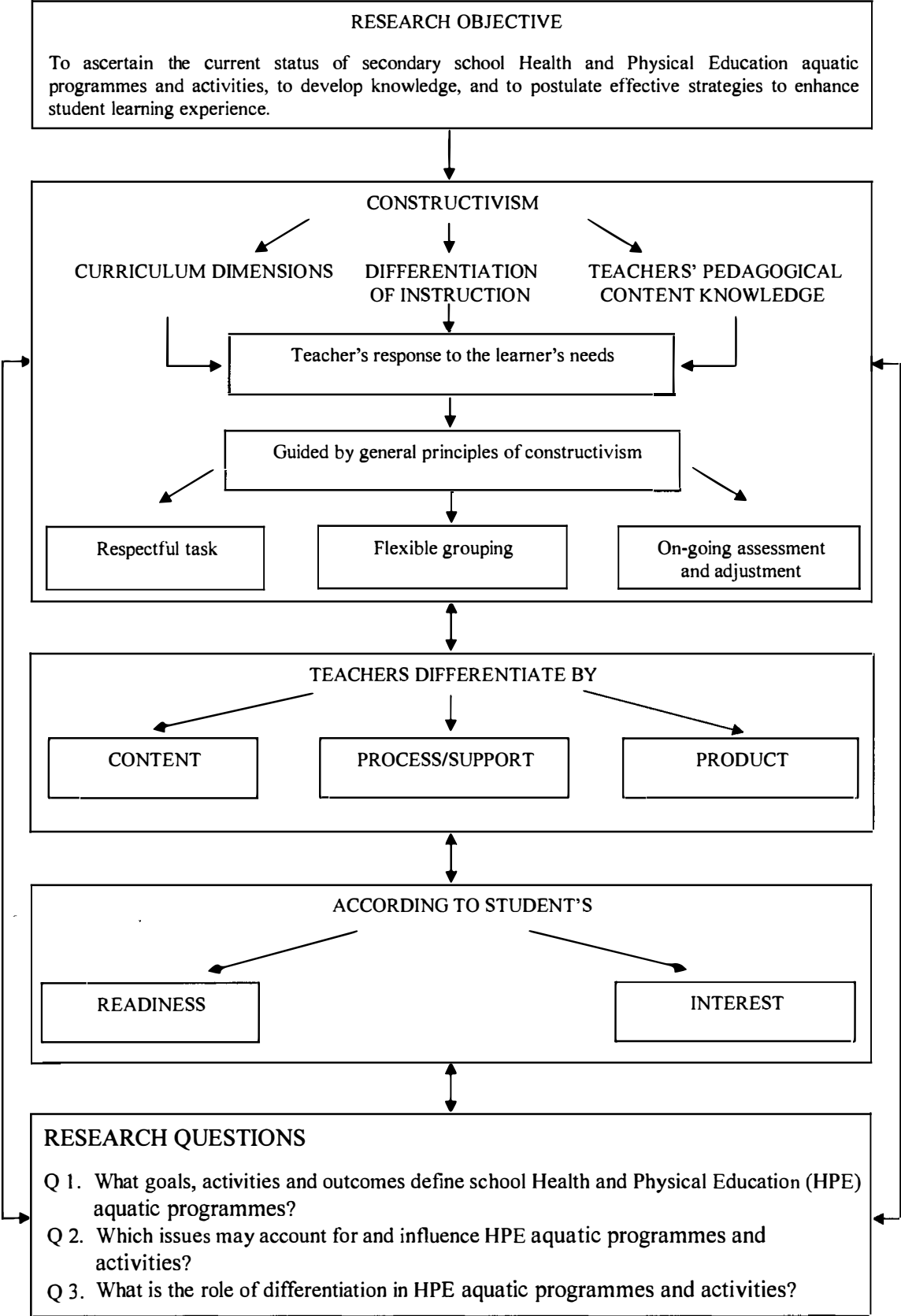
While discussing curriculum and pedagogy in HPE, the work of Shulman (1986, 1987) and the construct of pedagogical content knowledge were incorporated. Pedagogical content knowledge is based on the manner in which teachers relate to their pedagogical knowledge (what they know about teaching) and to their subject matter knowledge (what they know about what they teach). In a word they are “the ways of representing and formulating the subject that make it comprehensible to others” (Shulman, 1986, p. 9). In line with these works, an understanding of the

multidimensional curriculum and pedagogical characteristics that exists within the HPE domain were reflected in this project design.

In Summary: The Conceptual Framework of the Study

Underpinned by many years of teaching experience, personal concern for advancing young people along physical education continuum and supported by the reviewed literature, the author aimed to ascertain the current status HPE aquatic programmes and activities. Armed with this work and with an understanding generated through the pilot research process, the conceptual framework and the three research questions (Figure 7), which served to focus this study, were developed. The constructivist learning paradigm was instrumental in the research design process and served to facilitate an understanding of the meaning that teachers and students made of HPE swimming lessons and aquatic activities. As identified in literature, contemporary HPE teachers are encouraged to better respond to the needs of post-modern youth. Moreover, with the implementation of the Western Australian outcomes-focused curriculum framework teachers are challenged to improve the learning outcomes of all students. The differentiated instructional model whilst encouraging teachers to respond to the needs of all learners is fundamentally framed by the principles that define both constructivism and outcomes-focused education. Whilst little HPE literature and research specific to the differentiation model are available, its application to Western Australian schools was evidenced. In responding to individual differences, the teacher-determined goals, effectiveness and the outcomes are impacted on by the pedagogical content knowledge (PCK) and how to teach specific content in specific contexts. Moreover, with teachers who have developed PCK better able to accommodate diverse learners, correct performance and sequence activities, PCK discourse facilitates an understanding of HPE teaching and differentiation practice. The HPE teacher's construction of PCK provides an important insight into the world of teaching swimming, the issues that impact on teacher effectiveness and the outcomes. In choosing to review and understand HPE teacher's work and the outcomes, the multidimensional paradigm that considers the curriculum dimensions in the written form, what happens in the mind of the stakeholders and what occurs in the context of HPE swimming classroom underpinned the research paradigm. This reinforced the need for a multi-method data collection design.

Figure 7: The Conceptual Framework of the Study



In Review

In this chapter, the author has provided an insight into understanding the nature of teaching programmes and activities to post-modern adolescents in schools. One of the most powerful influences on adolescents is the school, giving motivation to many. School should provide an opportunity to positively influence their activity patterns and perception of the healthy lifestyle culture.

Physical education is a formal structure through which the relationship between teacher and student can be fostered. Schools and communities that care about the individuals within them should demand quality HPE educational programmes that engage students in activities and programmes that provide our students with life skills that will support healthy active lifestyles. Determining goals and outcomes that respond to young peoples' needs, interests and readiness is fundamental to contemporary HPE. Programmes that follow from these outcomes must be owned by HPE teachers, students and school administrators, and also reflect the local context. The provision of enjoyable, life-skill activities is a challenge in itself, but to provide them in a manner which matches the learning needs of the individuals within that class is for some in advance of the current reality.

While reviewing swimming instruction, the HPELA course framework, student outcome levels and achievement strategies impacting on schools, the textual dimension appears to give a strong focus and direction for the teaching of aquatic programmes and activities in HPE. However, given the existing secondary school HPE class format, it is possible that many students will not raise their swimming standards given that the diversity of swimming abilities, readiness and interest levels creates a complex dilemma for the teacher. The differentiated instructional model encourages teachers to respond to the needs of all learners, beginning at the student's level and appears to provide a direction for HPE swimming classes. This student-centred approach is aimed at the individual, and is potentially the focus for the development of school HPE pedagogy and curriculum in swimming.

It was through the 'lenses' of content, process/support and product that are differentiated by the teacher; according to the student's readiness and interest, that aquatic activities in schools were observed, analysed and reviewed. The relationship of this analytical and ethnographic work to the three research questions were considered through the conceptual framework – curriculum dimensions, differentiated classroom, and pedagogical content knowledge.

CHAPTER THREE

METHOD

Introduction

Research design is the plan, structure and the strategy of investigation conceived to obtain answers to research questions (Kerlinger, 1973). For the purpose of this study the researcher defines the plan as the overall scheme or programme of the research project. The structure is the paradigm of the operation and includes the methods to be used to gather data. The strategy involves the analysis of the data and describes how to achieve the research objectives and tackle the problems encountered in the research.

This chapter is presented in three sections. In the first section, the epistemological, the branch of investigative philosophy (Wiersma, 1995) or design principles, and the methodological assumptions underpinning this study are explained – the research plan. Secondly, the implementation of the research design is presented. This is the structure and reviews the research methods. It examines the data collection process including the pilot study, the research methodology (empirical/analytic and interpretive), the design and process of the data collection instruments, and participant selection. This all serves to bring validity, reliability and rigour to the study. The third section is the strategy, which reviews the ethical deliberations, and considers how the data analysis was completed and presented. In addition, the third section of the chapter provides an evaluation of the limitations associated with the chosen methodology.

Research Plan

The study was a multi-method design incorporating qualitative and quantitative data, to build on a case study methodology. Observations and semi-structured interviews and questionnaires provide the bulk of the data. This 3-way approach enables data to be considered in a variety of ways to facilitate the generation of new knowledge and answer the research questions. Valuable quantitative (questionnaire, direct observation) and qualitative (questionnaire, focus group interview, multiple site case study) data were generated through the use of positivist/empirical, phenomenological and micro-ethnographic research methods. This multi-paradigmatic focus allowed for what Denzin and Lincoln (2000) describe as a naturalistic perspective to the interpretive understandings of the experience. The research was designed to identify current programmes and practices, and the school, teacher and student perceptions of these;

and, in turn, to examine factors affecting the implementation of aquatic programmes. The research encouraged the teachers, students, and curriculum and policy developers to jointly identify learner needs, to determine the respective influences of the macro-political, structural and personal factors in implementing aquatic programmes and activities. To achieve these ends, a five-stage research plan was used.

Stage 1. A literature review of aquatic programmes and activities in schools and communities, including student levels of achievement was presented. Current literature regarding aquatic programmes in schools was reviewed to allow the empirical data collected throughout the study to be located in a global context. Patterns of implementation and programme design evidenced within schools and established trends were identified. A comprehensive study of current literature also provided the opportunity to incorporate factors which impact on programmes and potential reasons for the existence of a range of programmes of varying quality.

Stage 2. A pilot study questionnaire was established to elicit a broad understanding of the current status of Year 8 swimming programmes, issues of concern, and the pedagogies employed to deal with heterogeneous ability groupings.

Stage 3. Year 8 and Year 9 class observations and interviews with three teachers and their classes were undertaken. See Table 2 for a description of the participants and setting. A multi-site case study leading to a micro-ethnographic (LeCompte & Preissle, 1993) approach involving extensive/in-depth interviews in conjunction with observations in schools was undertaken to confirm the curriculum in its written (textual), perceptual (as it exists in the teachers mind) and operational forms (what actually happens) (Choi, 1992). 'Micro-ethnography' refers to procedures which use small sub-sets such as intact classes in multiple schools. This takes place within the limitations associated with the realities of time. However, amongst other things, some of the complexities that define 'life ways' and the 'language' might not be learned. Information from the literature and the pilot work were used to consolidate the conceptual framework which underpins the study, to structure the case study observation and interview schedules, and to identify key factors in the implementation of the aquatic programmes and activities.

Three discrete case study teacher interviews and one focus group interview were undertaken (e.g., those from the case study classes currently participating in or just

finishing a school-based swimming unit). These interviews further contributed to the understanding of what was happening and the possible reasons to account for the contemporary state of affairs, attitudes, context and prevailing issues of concern. Analysis of the observation and interview data served to develop a progressively focused outline of the factors impacting on aquatic programmes and activities.

Stage 4. Through administering a questionnaire to the TiC's, teachers and students, an understanding the scope and status of school aquatic programmes and activities was gained. See Table 2 for a description of the participants and setting. Survey data were analysed by a range of discriminatory variables and used to determine the issues of concern, and gain a perception of how and what was happening. Frequencies, means, medians, ranges and standard deviations were used to present key findings.

Table 2: Case Study and Questionnaire Participants and Setting

Stage 3 and Stage 4 of the Research Plan		
Methods and Instruments	Participants	Setting
• Case Studies: Undertaken during Term 1, 2002		
Teacher and Class Observations	<ul style="list-style-type: none"> • 3 teachers • 4 classes • 3 target students within each class 	<ul style="list-style-type: none"> • The lessons that comprised the HPE swimming unit • 2 classes at an Independent Girls School <ul style="list-style-type: none"> Karrie = Yr 8 class (Beatrice, Amber, Rumour) Annika = Yr 9 class (Sharon, Lisa, Kate) • 2 classes at a co-education Government High School <ul style="list-style-type: none"> Ernie = Yr 8 class (Vinnie, Sarah, Leanne) Ernie = Yr 9 class (Joe, Terry, Robert)
Teacher Interviews	<ul style="list-style-type: none"> • 3 teachers 	<ul style="list-style-type: none"> • 3 interviews per teacher (beginning, during and end of the unit)
Student Interviews	<ul style="list-style-type: none"> • 3 target students 	<ul style="list-style-type: none"> • 1 post-unit focus group interview per class
• Questionnaires: Completed at the end of the Term 1, 2002 HPE swimming unit		
TiC's	<ul style="list-style-type: none"> • n=33 	<ul style="list-style-type: none"> • Sample represented 90.1% of all Perth Government schools and 61.1% Independent schools presenting HPE swimming (see Tables 12, 13 and 14)
Teachers	<ul style="list-style-type: none"> • n=43 	
Students	<ul style="list-style-type: none"> • Yr 8/9 = 1532 • Yr 6/7 = 570 	<ul style="list-style-type: none"> • Yr 8/9 sample comprised 55% male and 45% female • Yr 8/9 sample represented 9.5% of all Year 8/9 Perth Government/Independent students undertaking HPE swimming (see Tables 48, 49 and 50) • A smaller sub-set of Yr 6/7 students were included to further enhance the understanding of the Yr 8/9 data and to make some comparisons (see Table 48)

Stage 5. The final stage integrated data from the case study, individual and focus group interviews, and questionnaires in order to identify the features of the HPE aquatic programmes and activity interventions. Identification of these patterns allowed comparatives and discourse to be established within the study's conceptual framework. This allowed for a detailed description, from which recommendations were made. Based on the evidence provided, strategies which focus on maximising opportunities to provide quality school aquatic programmes were discussed.

Research Rationale Underpinning the Study

This section outlines the rationale for developing the multi-paradigmatic research design utilised in this work. As with all structured investigations, the research questions and the study's conceptual framework served to determine the research methodology employed.

The goal of this research study was to provide a 'snap-shot' of the current status of aquatic programmes and activities in Western Australian secondary schools. Whilst utilising the empirical/analytic and interpretive research paradigms, the researcher transposed the teacher and student questionnaire responses, observation and interview data, to identify happenings, issues, perceptions and experiences to develop an understanding of the current practice. This appraisal was detailed and expansive.

Empirical/Analytic Research

The empirical/analytic methods commonly use survey techniques, including questionnaires and interviews to accurately profile people, events or objects. This involved more than simply gathering and analysing data, but also required the investigator to interpret, contrast, classify, and integrate findings (Adams and Schvaneveldt, 1991).

An historical review of HPE research confirms that the most traditional and frequently used research framework has involved objective scientific methodology (Candy, 1989; Gage, 1989; Taggart, 1992). Quantitative research studies emphasise reliability, replicability, consistency of findings (Candy, 1989) and are expressed as relationships among variables (Taggart, 1992). Furthermore, the behaviourist paradigm, defined by Bain (1990) is based on these same empirical/positivist assumptions that view the purpose of research as the discovery of general laws of human behaviour.

Quantitative and interpretive information can be acquired using testing methodologies, survey (questionnaire and interview), systematic or direct observation, and in line with the intention of this research, to determine what was actually going on in the class (Silverman, 1991).

Criticism of the empirical/analytic paradigm is well documented (Bain, 1990; Candy, 1989) and is based on the concern that human behaviour and the social world can only be understood from the standpoint of individual actors, rather than by general laws (Candy, 1989). The multi-dimensional approach used in this research included questionnaires, interviews and case studies, and seeks to overcome the limitations that have accompanied the use of the empirical design when employed in isolation. Given that the purpose of this study was to describe aquatic programmes and activities in Western Australia schools, the questionnaires and interviews which were completed by teachers and students served to provide data, opinions and attitudes suitably framed by the research questions.

Interpretive Research

Those who favour the interpretive research style are concerned with description of phenomena from the perspective of the actors and valid, empathetic representation (Candy, 1989). Whilst quantitative methodologies (experimental, single-case, correlation and survey) emphasise nomography, replicability, the use of public and objective criteria and the adoption of a neutral observation language; qualitative methods (ethnography and condensed case study) stress the meaning-making capacity and interpretive activity of the human actor (Scott & Usher, 1996). While the introduction and subsequent development of interpretive and ethnographic methods in HPE are relatively new (Thomas & Nelson, 1996), they could be seen as a response to the dominance of 'positivism' in social science research. Qualitative methods were framed as naturalistic, interpretive, ethnographic, phenomenological and subjective observation, all generally serve to penetrate the layers of meaning, facilitate 'taking the role of the other,' define situations and grasp a sense of process. Such methods serve not to manipulate variables under scientific control, but to gather data in the natural setting of the phenomena under study. According to Woods (1996), this is the natural methodology for such an approach, and for seeking to understand the 'art of teaching.' Interpretive methods use intensive direct observations, field notes, interviews and the

review of lesson plans and other written documents to determine qualitative results (Patton, 1990; Silverman, 1991). Direct quotations from interviews serve to relay the participant's experiences, opinions, feelings and knowledge, while observations consist of detailed descriptions of the activities of people, behaviours and actions that underpin the observable human interaction and experience. This implies that individuals are able to construct their own social reality as compared to having perceptions of reality (Gage, 1989), actions and experiences (Candy, 1989) determined or reinterpreted for them. Moreover, the interpretive research approach was based on the belief that the social world can only be understood from the standpoint of the individual actors. Therefore, the author was able to provide deep, extensive representation of events from the point of view of the actors involved (Candy, 1989), and attribute meaning to their circumstances.

Three factors are described as central to this interpretive research paradigm. The first factor is inter-subjectivity, which refers to the norms that define what is valid in any social situation; secondly, motives, events or circumstances which cause other events or circumstances (because of); and finally, reasons, or unfulfilled expectations which influence behaviour (in order to) (Candy, 1989). When undertaken, such processes allow for induction and the development of theory through the data (Hamersley & Atkinson, 1984).

In the naturalistic paradigm, the case study is seen as ideal for providing a "thick description" (Lincoln & Guba, 1985, p. 214) which is considered essential for enabling transferability judgements. The case report is a portrayal of the situation and if the description is sufficiently thick, it should place the reader there, being able to sense elements too tenuous to be stated explicitly. The case study functions to provide essential judgemental information about the studies context and is not uncommon in the education setting (Browne, 1998).

A multi-case design in which concurrent individual case studies involving the observation and interview of different teachers and students on different sites, is more compelling and robust and was employed in this study. Direct observation in conjunction with the recording of field notes is seen as a powerful tool to provide 'here-and-now' experience in depth. Moreover, Lincoln and Guba (1985) suggest that observation allows the observer to maximise knowledge, see the world as the participant sees it. It also permits the researcher to use themselves as a data source to build on tacit

knowledge of both his/her own and that of the members of the group. Interpretive research in the absence of interview, most specifically that which is semi-structured, fails to take into account the views and perceptions of the social actors, and has been described as incomplete (Scott & Usher, 1996). The purpose of doing interviews, according to Lincoln and Guba (1985) include:

...obtaining here-and-now constructions of persons, events, activities, organisations, feelings, motivations, claims, concerns, and other entities; reconstructions of such entities as experienced in the past; projections of such entities as they are expected to be experienced in the future; verification, emendation, and extension of information (constructions, reconstructions, or projections) obtained from other sources, human and nonhuman (triangulation); and verification, emendation, and extension of constructions developed by the inquirer (member checking). (p.268)

Interpretive research allows for contextual understandings and is referred to as a current 'good guy' (Taggart, 1992). In contrast, interpretive research has been criticised as a covert form of positivism (Jennings, 1985) where the knowledge of meaning does not go far enough (Candy, 1989). The author was acutely aware of these concerns and whilst primarily a positivist, chooses to incorporate the interpretive case study approach to bring a rich source of understanding.

A lack of generalisability is advanced as a common criticism of the interpretive research design and, more specifically, the case study format. Furthermore, Bain (1989) suggested that work using this style has had little impact on the ways in which physical education teachers view teaching. It was not the intention of the present study to use the case studies and the associated findings to engage in theoretical discourse. Rather, the purpose was to supplement the empirical/analytic data and provide a more in-depth evaluation from which educators could draw helpful conclusions when considering swimming in schools.

Selection of the Multiple Research Paradigm

As suggested by Candy (1989), the paradigm of use for this research was based on goodness of fit, with the understanding that any paradigm will have strengths and weaknesses. With recent developments, there has been "... an increase in the use of multiple methods, including combinations of qualitative and quantitative data" (Patton, 1990, p. 10-11). It appears as though researchers are capitalising on the strengths of each approach whilst compensating for their weaknesses (Bryman 1988; Creswell,

1994). Furthermore, while it is likely that multiple paradigms will continue to exist, a decline of empirical/positivism and the increasing emergence of interpretive and critical sport pedagogy research is expected (Bain, 1990). However, with the sport pedagogue searching for recommendations to improve teaching (Bain, 1990), this transition may encounter more resistance than anticipated.

Silverman (1991) outlined several investigative streams (effectiveness, classroom ecology, and cognition and decision making) which have been researched in PE and the most commonly used research methods (ethnographic/interpretive methods, systematic observation, cognitive techniques and testing). Silverman (1991) proposed that ethnographic/interpretive methods were most suitable to evaluate classroom ecology, while the cognition and decision-making stream required the use of cognitive methods. He reported that teacher effectiveness had traditionally been reviewed using systematic observation and testing. In accordance with the recommendations by Silverman (1991), to develop an understanding of aquatic programmes and activities in schools, the researcher analysed case study observations, interviews, questionnaires and careful deliberations with key stakeholders.

This research sought to identify perceived student swimming ability levels, student outcomes as a consequence of engaging in the current programmes, issues related to the aquatic programme, characteristics of programme structures and pedagogies, and teacher and student perceptions of current aquatic programmes and activities. The purpose of the case studies, observations and interviews 'was not to get answers,' but as Seidman (1998) suggests it focused on gaining an understanding of the experience of others and the meaning they make of that experience. Whilst borrowing from the traditions which define ethno-methodological research, the phenomenological data were described from what is becoming more common from a number of sites (LeCompte & Preissle, 1993). Following the collection of the case study observation foci and interview questions, a preliminary data analysis was conducted to further develop the teacher and student questionnaires. Then, the questionnaire data were used to enrich the case study and interview data.

Quantitative analysis has been described as 'atomistic' (Brause & Mayher, 1991) in that it counts words or responses. The obvious limitation to the questionnaire is that the results consist simply of what people say they do or what they say they

believe, or like or dislike (Thomas & Nelson, 1996). It was imperative to the trustworthiness of the study that the researcher plan and prepare carefully when designing the questionnaire instrument, and when attempting to determine what the numbers really convey. Whilst the researcher makes important inferences about data gathered from the questionnaires (teacher and student) and decides what they mean, it is the consumer of these issues who will ultimately place high or low value on these findings (Brause & Mayher, 1991).

The case study research method, together with the focus group interview data and questionnaires complement one another and can add to the trustworthiness of the findings. To gain a clear, simultaneous view of the multiple teacher and student realities, and in the true sense of what is inherently qualitative research (Denzin & Lincoln, 2000), the triangulation of data was necessary to better understand the curriculum. Through this combination, a greater rigour, breadth, complexity, richness and depth of inquiry was expected (Denzin & Lincoln, 2000). Based on this process, the author was able to provide recommendations for those who seek to work with secondary school teachers in promoting the aquatic achievement of students. The time schedule for this study is identified in Figure 8.

Personal History of the Author

The researcher agreed with Hess (1980) who stated that an attempt to produce value-neutral social science was, at best, unrealisable and at worst self-deceptive. Not only was it impossible to remove ones values and experiences from the design and processes of research, but it was considered undesirable. What is important to note here is that the researcher's values not only implicitly affect selected aspects of the inquiry process but were the driving force of the work. Either under-identification or over-identification with contextual values leads to errors; and the key appears to be, as reported by Lincoln and Guba (1985) that the researcher examines his/her values as well as the values of the context or the situation. Therefore, it was important to identify the researcher in a personal and professional context, whilst attempting to reflect on the held values and attitudes that underpin much of this project. In doing so, the researcher was prepared to admit that values do play a significant part in inquiry and to take them into account to whatever extent is necessary.

Figure 8: Study Time Schedule

	2001			2002									2003	2004		
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep-Dec	Jan-Dec	Jan	Feb	Mar
Proposal approval. Ethics clearance																
Stage 1 & 2 Completion of literature review and pilot study																
Stage 3 Case study observations and interviews																
Analysis																
Stage 4 Interviews concluded																
Analysis																
Stage 5 Teacher and student questionnaire implemented																
Analysis																
Stage 6 Integration of data. Report																

This project, whilst instigated by the researcher late in the year 2000, has been framed with 17 years of teaching experience. As a committed secondary school teacher who has worked in three non-government schools; all boys, all girls and co-educational in two Australian states, the researcher has been recognised formally for quality teaching and service. Further confirmation of the relative esteem with which the researcher is held is via invitations to serve on several curriculum development panels, conference presentations, National accreditation schemes and as a school-based moderation officer.

Having attended regional government schools until the completion of Year 9, the researcher boarded at a high-fee paying Independent school in Melbourne. As a successful and enthusiastic team, individual and recreational sporting participant, early

school PE classes served to reinforce the value and importance of these activities. Undoubtedly these school experiences and influences of teachers and sporting mentors all served to influence an enrolment and completion of a Bachelor of Education (Physical Education) at Ballarat College of Advanced Education and a subsequent Graduate Diploma (Exercise in Rehabilitation) at Lincoln Institute of Health Sciences. Having enjoyed four years of teaching, a Masters Degree (Science) at the University of Western Australia was completed.

It was during the latter half of this teaching career, as a Head of House and designated provider of pastoral care at a co-education school, that the challenge of providing a differentiated educational experience for all was fully appreciated. As the Head Coach of the school swim team and a physical educator, it was easier to cater for eager students, although large in number, when administering a training programme than it was to move students along the educational continuum in an HPE class heterogeneous for ability, readiness and interest. This was frustrating, particularly given an extensive personal aquatics history. Why is it that these classes, given personal reflection, could be described as, at best, keeping students busy, good and from time to time, happy? Observation of and discussion with other teachers and their aquatic-based classes, both within the school and at other schools, confirmed that the researcher's experiences were a reality for others. Whilst the teacher, context, facilities and student population were diverse amongst those encountered, the resultant educational outcomes were consistently narrow and poor.

Through the experiences summarised above, it had become apparent that this important HPE content area is difficult to deliver. Furthermore, in the light of teacher concerns for legality and a reluctance of some students to participate, HPE aquatic programmes and activities in schools need further investigation. A deep understanding of what defines the HPE experience cannot be undertaken without listening to all of the key stakeholders, these being the educators and the student participants, in the context with which it is presented. In this study it was believed that both a large sample of participants must be heard and a contextual understanding with which some of them encounter school swimming must be presented. Consequently, the aims of this study included discovering what occurred, observing classes and listening to the opinion and evaluation of those concerned. If the study was to be useful, it must be written in a way which will allow educators and policy makers alike to relate their experiences to the happenings and the context in which they occur.

Aquatic programmes and activities in schools, and a differentiated curriculum were not a focus of the Sport and Physical Activity Research Centre (SPARC) endeavour at ECU. To date, advancing the HPE school experience and the outcomes attained has served to frame much of the investigative work of this research centre. Acknowledging that interpretive research in isolation has made a limited contribution to educational policy formulation, it was hoped that the multi-paradigmatic research approach undertaken will serve to advance the teaching of aquatic programmes and activities in schools, and challenge HPE educators to further improve the outcomes for all.

Research Methods and Instruments

Phase 1: The Pilot Study

Seven of eight invited Teachers in Charge of HPE Departments (TiC's) who were contacted by phone, agreed to completed a questionnaire (Appendix A) which targeted Year 8, this being the first year of high school, during May 2001. Whilst detailing the programme offered and the anticipated outcomes they expressed issues of concern which highlighted the need for further investigation of aquatic programmes and activities in schools. Two of the schools involved in the pilot project were also main study participants. Details of the data collection/analysis methodologies and questionnaire responses are discussed in Chapter Four of this thesis.

Phase 2: The Project Case Studies

A case study approach was employed to gather extensive naturalistic phenomena, where the researcher directly observed the HPE aquatic programmes and activities undertaken for three teachers and their students. Four classes in total, during an aquatics unit (7-9 weeks) in two schools were observed in conjunction with in-depth teacher interviews and selected student focus group interviews. Data collection was undertaken in the course of the classes, which are seen as sub-sets of a bounded system (the school) and, therefore, qualifies the research as a case study (Burns, 1997). As discovery, rather than confirmatory information was the goal of the phase two research process, the case study methodology is appropriate and provides preliminary information on which further investigations can be based (Burns, 1997).

Observation design and process.

The observations were narrowed, whereby the teachers' pedagogies and the students' activities became the foci of the observations and recorded notes (Appendix D, for observation data sheet and record sample). By virtue of the case study evaluation of small sub-sets (intact classes in multiple schools), and the time limitations, it was important to identify that amongst other things, little of the complexities that define 'life ways' and the 'language' was learned (LeCompte & Preissle, 1993). The researcher adopted a non-participant observer role, a technique confirmed in literature (Brause & Mayher, 1991; LeCompte & Preissle, 1993), where the activities themselves were not experienced, but close and detailed 'focused observations' were made (Spradley, 1979). Whilst there was a need to observe the operational dimension of the curriculum, or what actually happens (Choi, 1992), non-participant techniques were pre-determined by the nature of the aquatic setting and the impractical nature of swimming/swim teaching combined with observation. The maintenance of a deliberate distance also assisted to minimise the contamination of the classroom (Scott, 1996). In line with this, the observer sat to the side of the swimming pool, within close proximity to the common meeting point for the students and the teacher. With the lesson underway, the observer moved as needed to maintain auditory contact with the teacher. Positioning was consistently maintained to minimise distraction, this being to the side of the teacher and the students.

Observations also included document analysis, the gathering of written materials that assisted to define the textual dimension (Choi, 1992) of the aquatic curriculum. School, general HPE and HPE swimming related documents, were triangulated with observations and interviews, and this served to locate the operational dimension and the intended or perceptual dimension in context (Choi, 1992). This multi-analysis approach assisted to present a behind-the-scenes perspective and contributed to the depth and richness of the understandings (Patton, 1990).

The observation guide sheet was framed, using as Wittrock (1986) recommends a classification and category system via a specified frame of reference; this being pilot work, the research questions and the conceptual framework. A pilot trial was undertaken at a local public pool, where an instructional swimming class was observed using the prepared observation guide. Changes were made to the structure of the document and

the categories assigned, upon which another trial observation was made. The schedule allowed for systematic and deliberate observations to be made which were appropriate to the class setting (Wiersma, 1995). The researcher's experience as a HPE teacher of aquatic activities also guided the focus of the observations. However, as is stated by Wittrock (1986), whilst an observation guide is common, if too restrictive, it can constrain what is observed, recorded, analysed and described. The observation foci were identified and headed on the observation guide as; teacher action/context, teacher pedagogy, student activity/context, student related focus/outcome, examples of differentiation, and general notes including issues, relationships and quotes. To expand the observation recordings and alleviate restrictive criticisms, additional specific and generalised field notes were taken that related to variables impacting on the pedagogy, curriculum and lesson outcomes. The researcher's observations were recorded in the journal in accordance with Spradley (1979) and concrete, rather than abstract language was used. Furthermore, spoken words, human interactions and a stream of actions and events that unfolded naturally supplemented the observation foci. An expanded account of observations was recorded as soon after the session as possible. All observation notes were presented to the participant teacher for review, correction and comment at the conclusion of each session. No corrections were requested, although genuine surprise as to the perceived and actual class happenings was a source of discussion. Whilst an inability to postulate post-study scientific generalisations, a lack of rigour and the biased interpretation of happenings are expressed concerns of this methodology, an insight into teaching swimming in schools was generated (Woods, 1996). The case studies did not form the basis for generalisable findings, but they provided an in-depth description from which readers will hopefully be able to develop pragmatic conclusions when considering aquatic programmes and activities in HPE.

Observation participants and setting.

The three teachers who participated in the case study were well known to the researcher. They were considered by the researcher to be highly competent and dedicated teachers. In addition to being observed whilst teaching, supplied pre- and post- lesson comments, and were each interviewed on three separate occasions. The teachers assisted the researcher to identify three students of varying ability (relatively strong, moderate and weak swimmers) who were targeted for direct observation.

Targeted student observations were conducted on one swimmer per lesson done in conjunction with general teacher/class observations. The swimmer to be targeted for observation was randomly assigned to the first, second or third observation until all three had been observed and then the sequence was maintained throughout the unit. These swimmers provided post-lesson evaluative comments which were documented on the observation schedule, using a structured question-response format.

Two teachers at Pebble Beach Girls School (PBGS) agreed to be involved in the study. Located within 2 km of the Perth metropolitan coastal area, PBGS was a member of the Association of Independent Schools of Western Australia. The school had an enrolment of 1,050 day and boarding students ranging from Kindergarten to Year 12 (K-12) with 130 students enrolled in Year 8 and Year 9, 2002. One of the teachers, Karrie, was observed six times whilst teaching a Year 8 HPE swimming unit to a class of 21 girls (6th February to 8th April, 2002). Annika, who taught Year 9 HPE swimming to a class of 24 students, was observed eight times (12th February to 9th May, 2002).

Within 2 km of the coast and approximately 15 km from the city centre, Augusta National High School (ANHS) was a Western Australian Department of Education state secondary school. Ernie the HPE TiC, agreed to be the focus of observation whilst teaching both his Year 8 and Year 9 HPE swimming lessons. Ernie was observed 12 times whilst teaching a co-educational Year 8 class (n=28). Ernie was also observed 10 times whilst delivering a swimming unit to a class of 30 Year 9 males.

Trustworthiness of observation.

With observation, the study can be seen as context dependent (Mishler, 1986), and the results were interpretations of responses in a particular place and time (Strauss & Corbin, 1990). That is, the results were true and correct for that which was observed at that time. As raised previously, these findings were not used to make generalised application. However, where possible, they were applied to the empirical comparisons of the aquatic programmes and activities in schools data collected in this project and in previous literature (Lincoln & Guba, 1985). At the completion of the enquiry, the data and interpretations were checked with the respondent as this was recommended by others (Lincoln & Guba, 1985; Thomas & Nelson, 1996; Wiersma, 1995). Field notes have less-fidelity than video and are advantageous because they are less threatening to the respondent, keep the researcher alert, allow for ready review by the participant and

permit the researcher to record his or her own thoughts (Lincoln & Guba, 1985). These observations provided the opportunity to understand the phenomena in relation to the time and the context that spawned, harboured and supported. The natural setting of the observation and the minimum impact of the non-participant observations enabled a thick and rich description which was a portrayal of the situation. A valid inference, which combines quantitative and qualitative methods, occurs when multiple procedures are used and there is no conflict between the messages received (Zeller, 1997). These observations formed a powerful tool and allowed the researcher to maximise knowledge, see the world as the subjects saw it, be a data source, and build on the tacit knowledge of the researcher and the subjects (Lincoln & Guba, 1985).

Interview design and process.

The interviews discussed in this section, refer to the post-unit teacher and student interviews. They were conducted in isolation with the teacher of each class (Appendix E), and to the focus group interviews which included the three targeted student swimmers from the classes observed (Appendix F).

The interviews were business like and efficient, friendly but not 'chummy,' as was recommended by Wiersma (1995). Although semi-structured, the interviews transpired in a relatively standardised format for easier comparisons, with the same questions in the same order, the wording varied slightly (LeCompte & Preissle, 1993). Questions were constructed on the understanding that the interviewer does not serve to put ideas into someone's mind, but to elicit the participants' perceptions and feelings about themselves and their settings (Choi, 1992). Furthermore, these procedures allowed information to be placed in the perceptual dimension, that being what exists in the participants mind (Choi, 1992).

The post-unit teacher interviews were semi-structured and focused on the research questions. Clarification and further understanding of the issues arising from the pilot study, review of literature and the project observation analysis, was sought. Teacher interviews respected the participants' busy schedules and were each of approximately 45 minutes in duration. The teachers were interviewed three times and followed the recommendations by Seidman (1998). They took the form of: Interview one – focused on life history; Interview two – the details of class experience, and

Interview three – reflection on the meaning. The teacher interviews were sequentially undertaken at the beginning, during and at the end of the Term 1 HPE swimming unit. The starting time and venue for the teacher interviews were selected by the teacher to minimise the level of disruption and maximise the level of ease and comfort.

The student interviews were of a recommended 30 minutes in duration (Carlson & Hastie, 1997), matching in-part the time of a school 'lesson' or a lunch-time. The vocabulary used in the student interview was meaningful to the age and educational background of the Year 8 and Year 9 participants. These interviews were conducted after the completion of the HPE swimming unit.

All interviews were audio tape-recorded; with additional written supplementary notes recorded concurrently to assist with further questioning. As soon as was possible, the tapes were transcribed in verbatim, coded and supplementary comments were added. A sample of a teacher and student interview transcription is presented in Appendix G and Appendix H, respectively. These data are presented as emerging themes by question with key quotes added to emphasise common findings, or 'stand-out' comments.

Interview participants and setting.

Given that the researcher wanted to discover, understand, and gain an insight into aquatic programmes and activities in schools, the non-probabilistic or purposeful sampling techniques recommended by Merriam (1998) were employed. Interviews of the class teacher and a range of students, heterogeneous for swimming ability, were viewed as information-rich cases (Patton, 1990) and those from whom the most could be learned. Using student ability as the criterion for selection directly reflected the study's conceptual framework of constructivism and differentiation (LeCompte & Preissle, 1993). In noting that 'maximum variation' sampling is perhaps the most effective strategy (Seidman, 1998), the teachers specialised knowledge of pupil swimming abilities/experiences served to assist the researcher to achieve this by identifying student swimmers of differing abilities. This task was described by the HPE class teacher as relatively easy.

Karrie, was formally interviewed at her home on three separate occasions, 23rd February, 2nd April and 25th May. Annika, was interviewed in the school weight training

room prior to the school day at PBGS on the 28th February, 10th April and 22nd May, and Ernie was interviewed at his home on the 20th February, 10th April and 22nd May,

The students engaged in one focus group interview. The time was negotiated between the students and the researcher, at in an indoor venue specified by the teacher. Discrete groups were interviewed in focus groups of 3 to 4 students from the same year level (Krueger, 1994). While the focus groups involved the three swimmers had been targeted for observation, these students were given the option to invite one of their peers from the class. While grouping, rather than single student interviews were chosen, mindful of the restriction of time, the grouping of several individuals has elicited some data more productively (LeCompte & Preissle, 1993). Furthermore, group interaction with adolescents has been shown to elicit responses that are more candid and explicit than would be expected if interviewed individually (Ferrell & Compton, 1986).

Three PBGS Year 8 girls; Beatrice, Amber and Rumor, who agreed to be the target of specific observations during the swimming lessons, partook in a post-unit focus group interview (April 11). This interview was conducted in the school weight training room prior to the school day at PBGS. Three PBGS Year 9 girls; Sharon, Lisa and Kate, were also interviewed in the PBGS weight training room prior to the school day (16th May). Three of the ANHS Year 8 students, Vinnie, Sarah and Leanne, were interviewed on the 10th April. Vinnie, when interviewed during lunchtime was accompanied by two friends of his own choice from the class, Matt and Daniel, and they were interviewed separately to the two girls. The girls were interviewed during their recess and adjoining class time. The three Year 9 boys; Joe, Terry and Robert were interviewed on the 5th April during the allocated lunch time. All of the ANHS student interviews were conducted in the 'school interview room.'

The eagerness and the positive spirit with which students engaged in the focus group interviews surprised the researcher. Perhaps a level of trust and relationship had developed as a consequence of the researcher's appearance during the unit and through seeking individual post-lesson commentary.

Trustworthiness of interview.

As Lincoln and Guba (1985) suggested that the credibility, as opposed to the internal validity, be the criterion against which the truth-value of qualitative data collection process be measured. The quality of the interview data collected was a

reflection of the quality of the researcher/participant relationship. It was critical that the participants were fully compliant and motivated (Kellehear, 1993). To this end, the purpose, value and structure of the data collection and evaluation process were discussed with the teachers and students in detail prior to participatory agreement. This assisted the process of 'getting along' deemed critical by Kellehear (1993). In addition, the researcher's background as an established colleague allowed for a 'way in' to the teachers working environments (Bell, 1988). With a semi-structured approach to the interview process, the respondents were encouraged by prompting to expand on any areas related to HPE, swimming and their class which might have been of concern or personal interest to them. Indeed, teachers and students responded to the opportunity to 'have their say' about the likes and dislikes of the experience. To confirm the suitability and intention of the interview questions, each were reviewed by an experienced ECU researcher and a trusted HPE colleague. Both provided valuable feedback as to wording and ambiguity in questions, which were altered accordingly.

Phase 3: Project Questionnaires

Questionnaire design and process.

Questionnaires are a set of questions which require written responses. They seek to analyse the characteristics or opinions of feelings. Thomas and Nelson (1996) and Wiersma (1995) identified the following important steps and these were considered when designing and implementing the questionnaires. In summary, they were to determine the objectives, delimit the sample, constructing the questionnaire, and considering appearance and design. Thomas and Nelson's (1996) recommendations were adhered to when constructing the questionnaires. These included the avoidance of some words (usually, most, generally), jargon and biased questioning.

In order to further understand the world of the TiC's, teachers and the students in reference to aquatic activities, each group received a different questionnaire. To enhance the understanding of the student data and to provide a reference point for discussion, a questionnaire was prepared for a sub-set of Year 6/7 students. While this questionnaire was the basically the same as that delivered to the secondary schools students, in the Year 6/7 questionnaire (Appendix K) the words 'school swimming' were substituted for the words 'PE swimming.' This was done to minimise misunderstanding for primary school students who may not have linked 'Interm

swimming' to PE. Year 6/7 swimming was delivered by an out-sourced Intern Programme swimming teacher in small (n=12) matched ability groups. Therefore the data was only used to compare student self-perceived swimming abilities.

The questions and questionnaire constructs were designed by the researcher and were underpinned by the research questions and the conceptual framework. While open-ended questions were seen by Thomas and Nelson (1996) to take more time to answer and responses can be difficult to categorise, thereby making them less desirable than closed questions, both were included. Open questions served to enhance the overall understanding of the participants' feelings, opinions, experience and to expand on ideas (Wiersma, 1995). While the TiC's (Appendix I) and teachers' questionnaire (Appendix J1 for Yr 8 and J2 for Yr 9 teacher questionnaires) consisted of an equal distribution of both closed and open questions, the student questionnaire (Appendix B for Yr 8/9 and K for Yr 6/7 questionnaires) was mainly closed and required nominal responses in a 5-point Likert Scale (Thomas & Nelson, 1996). Two open questions were included at the end of the student questionnaire (Wiersma, 1995) which requested students to identify, in their own terms, the best and worst aspect of HPE swimming. There were 50 items in the student questionnaire that dealt with key areas. Each of the items related to one of ten variables which provided the constructs for analysis. The constructs were:

- Construct 1. Student attitudes toward physical education
- Construct 2. Student attitudes toward physical education swimming
- Construct 3. Student perceptions of the usefulness of physical education
- Construct 4. Student perceptions of the importance of swimming
- Construct 5. Student perceptions of the outcomes attained in physical
education swimming
- Construct 6. Student perceptions of parental support for swimming
- Construct 7. Student perceptions of activity patterns
- Construct 8. Student perceptions of the teacher attitude to physical education
swimming
- Construct 9. Student perceptions of the teacher differentiation in physical education
swimming
- Construct 10. Student perceptions of the swimming teacher

Each of the constructs contained five items, which were cycled through the student questionnaire. Cycling the items was used (Moroz and Baker, 1997) to ensure

that set student responses were avoided. Furthermore, each construct contained at least one item that was presented in the negative. As shown through Cronbach's Alpha Coefficient calculations, this assisted to confirm the level of internal consistency and reliability (Table 51).

During the concluding phase or at the end of the Term 1, 2002 swimming unit, an information package was sent to schools (Appendix L). It included the TiC questionnaire and a succinct 'cover and instruction letter' to explain the purpose and importance of the survey, assure privacy and anonymity, and the importance of the respondent's cooperation. Identification of support agencies and the names and positions of the researchers were included. At this time, the researcher telephoned all of the school Principals and the TiC's. The TiC was given approximately two weeks to complete the questionnaire and leave it sealed in the envelope provided at the school's front reception, for collection by a project facilitator. The TiC (secondary schools) and the class teacher and/or school Principal (primary schools) assisted to confirm an appropriate time for a trained project facilitator to visit the school and administer the questionnaire to the students. At this time the HPE class teacher (secondary schools) remained in the room and completed a questionnaire, while primary school teachers supervised and assisted the students during completion. The project facilitators were paid volunteers from a mixture of university education studies undergraduates and experienced research assistants, who attended a researcher-led one hour introductory and training session. An information and instructional document which outlined the procedures for school visits and questionnaire administration (Appendix M) was presented and formed the agenda for training and elaboration.

After pilot testing of the questionnaires, some wording and sentence structure changes were made (Thomas & Nelson, 1996; Wiersma, 1995). Furthermore, it was speculated by the pilot participants in Year 6 and Year 7, that some of their class-mates may have difficulty in reading and comprehending the questionnaire. As a consequence, facilitators of the Year 6/7 questionnaires read each item to the class and waited for all to respond in writing before reading the next question.

For TiC and teacher non-respondents, a follow-up letter (Appendix N) and phone call was provided. The second correspondence included another copy of the questionnaire and a self addressed stamped return envelope. Should more than 20% of

the sample population have chosen not to respond, consideration to 'double dipping' was to be given; where a random 5-10% of the non-respondents would be chosen and phone contact would have been made to complete the questionnaire (Thomas and Nelson, 1996). With less than 10% of the combined TiC and teacher population choosing not to respond such measures were not needed.

Questionnaire participants and setting.

According to Leedy (1989): "... the population for a study must be carefully chosen, clearly defined and specifically delimited in order to set precise parameters for ensuring discreteness" (p. 142). While sampling provides a representation of a selected reality, it is not the whole of reality (Wittrock, 1986); ultimately, what is required is a sample that is "good enough for our purposes" (Kruskal & Mosteller, 1979, p. 259). Such an approach, given that the sample was representative enough and that the findings may be plausible for others with similarities to the study characteristics, allowed for generalisations to be made to that population (Thomas & Nelson, 1996). Therefore, to develop an understanding of the current school HPE aquatic practice, in this study questionnaires were presented to the Teachers in Charge of Health and Physical Education Departments (TiC's; n=33), teachers (n=43), and students in Years 6-9 (n=2102) during March/April 2002. All Government metropolitan Perth secondary schools offering compulsory HPE swimming during Term 1, 2002 (n=22) were approached by phone to participate in the study. With only two eligible schools choosing not to participate, the Government metropolitan school sample (n=20; 90.9% of the sample) was almost comprehensive (Wiersma, 1995). A sample of personnel from metropolitan Independent secondary schools offering compulsory HPE swimming during Term 1, 2002 (n=12; 66.7% of the population), who were stratified for gender enrolment, agreed to be involved. One Government and one Independent regional school from a coastal city north of Perth were included in the sample. Of the classes taught by the participating Year 8/9 teachers, at least one intact class was chosen by the teacher and received an invitation to participate in the research project. This included a take-home introductory letter and an information package (Appendix O). Schools were given the option for more than one class to complete the questionnaire. A selection of Government primary school (n=6) in-tact student classes were randomly selected from a list of schools registered with the Department of Education Interm swimming

programme (Term 1, 2002). In addition, Independent primary schools (n=5) were stratified for gender enrolment. The primary school data was sought to provide further understanding of the historical context from which most Year 7 and Year 8 students had come. In addition, this data was used to enhance the snapshot of Western Australian children's swimming abilities. In summary, the combination of purposeful and random sampling allowed for what Patton (1990) describes as "information rich cases... which one can learn a great deal about issues of central importance to the purpose of the research" (p. 169).

Trustworthiness of the questionnaires.

Reliability and trustworthiness in quantitative research refers to the consistency (Punch, 1998), stability and dependability of the procedure (Sandalowski, 1986). Three separate questionnaires were designed and used to collect empirical/analytic data. To determine the validity and appropriateness of each question and the questionnaire structure, the researcher presented them to three highly experienced researchers in School of Education at Edith Cowan University (ECU). The functionality and the intention of each question was analysed in detail by these reviewers, with changes made. The TiC questionnaire incorporated questions that were validated during the pilot phase of the study.

In line with the advice of others (Thomas & Nelson, 1996; Wiersma, 1995), all of the questionnaires were pilot tested with colleagues and respondents (5-10 of each) who were representative of the intended population, but not included in the sample. To further understand the student participants' interpretations of the questionnaires, after each question was read by the student participant they provided a written and verbal response detailing their explanations to the response. This allowed for an insight into the suitability and relevance of the questions used to determine participants' perceptions of aquatic programmes and activities in schools. After analysis and further discussion with the pilot sample, some wording and sentence structure changes were made.

While children in their first years of school have unrealistically high self-evaluations of their motor abilities, students in the late primary and early secondary school years (age 11 years and older), "... have a more complete normative conception of ability" (Lee, Carter & Xiang, 1995, p. 385). This work suggests a potential reliability when analysing student questions relating to perceived swimming ability.

Thirty-three TiC, 43 teachers of Year 8 and/or Year 9 HPE swimming and 1532 secondary students answered questionnaires, sample sizes that were seen as meeting the needs of 'sufficiency' – to represent the population, and 'saturation' – where the same information began to repeat itself (Seidman, 1998).

Summary of the Research Methods and Instruments

As described above, to ensure that dependable and reliable data were collected, multiple methods were used which included case study through observation and interview, questionnaire and semi-structured interview processes. This allowed for data collection relating to the concept (Patton, 1990) and triangulation of analysis was employed. Teachers in Charge of school HPE departments, the teachers of HPE swimming and the student participants served to provide an extensive rich description of aquatic programmes and activities in HPE. The instruments and procedures were carefully prepared and tested, thereby developing confidence in the fact that they measured what they were intended to measure and could be defined as valid (Punch, 1998).

The alignment of the data collection methods and instruments with the specific research questions is presented in Table 3. The research questions were:

- Q1. What goals, activities and outcomes define school Health and Physical Education (HPE) aquatic programmes?
- Q2. Which issues may account for and influence HPE aquatic programmes and activities?
- Q3. What is the role of differentiation in HPE aquatic programmes and activities?

Table 3: Data Collection Methods and Instruments Aligned to the Research Questions

Research Objective: To ascertain the current status of secondary school Health and Physical Education aquatic programmes and activities, to develop knowledge, and to postulate effective strategies to enhance student learning experience.			
Methods and Instruments	Research Q1.	Research Q2.	Research Q3.
Case study			
Observation	X	X	X
Document Analysis	X		
Interview			
Teacher	X	X	X
Students	X	X	X
Questionnaire			
TiC's	X	X	
Teachers	X	X	X
Students		X	X

Ethical Considerations

In considering social research involving people, it was important to consider the ethical issues. Spradley (1979) confirmed such a need when suggesting that, no matter how unobtrusive, research techniques such as ethnography and interview can reveal information which could violate the participant.

The research plan was determined and project approval was confirmed in writing by the Edith Cowan University (ECU) Committee for the Conduct of Ethical Human Research, with the period of approval beginning January 1st 2002 (Appendix P). In addition, the Director General of the Department of Education (DoE) and the Executive Director of the Independent Schools Association – WA (AISWA) reviewed a project approval application and confirmed authorisation in writing (Appendix Q and R, respectively).

All of the school Principals and the teacher participants received a written invitation to participate. This included an information and procedures document, a statement of disclosure, anticipated application of the results and an informed consent return-slip assuring privacy and anonymity (Appendix C). Identification of support agencies, the names, positions and contact details of the researchers were included in all documents.

The TiC questionnaire was sent by mail and directed through the school Principal. Then, a phone call was made to the Principal by the researcher. This call

provided an opportunity to introduce the project, answer questions, ratify procedures and confirm in-principle consent.

Teachers disseminated a parent/guardian/student information and passive consent form to all of the students involved (Appendix O). This document outlined the project aims and procedures, and offered the opportunity to declare non-participation in the study through a return slip. Students were also given the option to withdraw through verbal instruction immediately prior to the administration of the questionnaire. Teacher and student questionnaires were administered on-campus at a pre-arranged time by a trained project team facilitator.

Neither the schools involved nor the participants used were identified by name. Any specific reference to a school or a person protects confidentiality and anonymity by the use of pseudonyms. Participants who were interviewed and the case study teachers were given the opportunity to review the audio tapes and observation notes to check for accuracy of the findings.

All documents collected and all of the raw data obtained during the project were stored in a locked office located within the ECU Physical Education building, with only the researcher and his supervisors having access. In five years from the project completion date, all documents will be destroyed in accordance with demands of the ECU Committee for Conduct of Ethical Research. The data gathered from this study will not be used for any other purposes than those identified in the statement of disclosure. These include this report and a summary of the findings provided to the DoE, AISWA and the participant schools.

Data Analysis

To understand the qualitative and quantitative data collected, analyses were used which conformed to the research paradigm, the limitations of the study, the data collected, and which brought insight to the research questions asked (Wiersma, 1995). The analyses were underpinned by the conceptual framework. In line with the constructivist learning model which framed this research and to make meaning of HPE swimming from the stakeholders' perspectives, it was important to further enrich the extensive questionnaire data with direct quotation from the teachers and students.

Whilst seeking an understanding of teachers' PCK and its relationship with teaching HPE swimming, some of the teachers' data were presented separately to the TiC data. This was done to ensure that the opinions provided were from only those who

had taught HPE swimming during Term 1, 2002. However, where appropriate some of the TiC and teacher data were combined. To further understand HPE swimming teaching, not only were the TiC/teachers thoughts evaluated (perceptual dimension), but they were also cross-referenced with policy (textual) and the observed lessons (actual). Furthermore, to gain an understanding of what was happening in schools, and with the potential need to differentiate, the TiC/teacher data were also presented for Year 8 and Year 9, school sector and schools with/without a pool. With reference to 'differentiation' and the students HPE swimming 'interest' and 'readiness' levels, data were presented for different year levels, gender and school sector. In addition, where appropriate, some comparisons for student swimming ability and ethnicity were included to further discuss the potential origin of difference. To advance the understanding of school-based swimming outcomes and student perceptions, some of the data were compared with a sample of primary school student data (Yr 6/7).

Case Study

Phenomenological research methods relate the way individuals perceive their experiences whilst emphasising the subjective nature of behaviour (Wiersma, 1995). They were used to examine qualitative data sources to explore the realms of meaning that students and teachers derive from swimming programmes in the respective settings. Qualitative data were analysed to induce higher order categories of meaning through the process of conceptual categorisation. Therefore, the data analysis was inductive. The aim was to induce results, and thus informants' perceptions of aquatic programmes and activities in schools were organised into categories which are systematically related. The concepts described are presented as three separate 'case studies.' They were tabulated and offered in narrative form with relevant quotes from the participants used to complement the data presentation. Observations were cross-checked with the teacher and student interview comments. The analysis of documents also served to verify the participant's claims. Multiple source cross-examination or triangulation of data served to improve the probability that the data and the researcher's interpretations were credible (Lincoln & Guba, 1985). Thematic cross-case analyses were used to interpret the data. Then the themes that emerged were described in a cross-case analysis. They are discussed in relation to the research questions and the conceptual framework of the study.

Observations.

According to Lincoln and Guba (1985), the naturalistic data analysis process "... is essentially a synthetic one in which constructions that have emerged (been shaped by inquirer-source reactions) are reconstructed into a meaningful whole" (p. 333). The observed activities and the time frame through which each took place were calculated and tabulated. Using inductive processes, notes from teacher and student interviews, and field notes were organised as an on-going practice. Content was maintained in a chronological order and arranged into categories. The research questions and conceptual framework were continually referred to in order to guide the probing of data for linkages.

The documents gathered are referred to in the conceptual framework as the textual dimension. These included school handbooks, curriculum guides, teacher assessment record/marks books and school policy statements. Such evidence may be considered influential in the design, aim and implementation of HPE aquatic programmes, and of the pedagogy employed and therefore were reviewed. These documents were analysed to supplement the contextual description or what Browne (1998) termed the 'back-drop' against which HPE aquatic programmes and activities could be viewed. Importantly these documents were not considered in isolation or a detached manner (Weber, 1990), but with an emphasis on hermeneutics, that is the theory of interpretation in context. Whilst such 'interpretations' have been criticised for potentially lacking validity (Silverman, 1991; Scott, 1990), they were consistently placed within the observed or actual happenings, and the perceptions of the teachers as heard through interview.

Interviews.

All of the interviews were transcribed verbatim without researcher interpretations. However, there was a need to organise, code and synthesise the discourse components into manageable units, search for patterns and collate the data. Such a method implies an ability to explore emergent theory through the constraint of data volume, the complexity of analysis, the detail of classification and the flexibility of analysis. The Nud-ist Software Package (Argyrous, 1996) provided a means through which the interview transcripts could be coded and indexed, allowing for both the exploration and the retrieval of data. Upon entry, the concepts were defined and edited;

memos were written and linked to documents by indexed references, with the concepts entered as themes in a flexible tree-structured directory of categories and sub-categories. As suggested by Hamersley and Atkinson (1984), such data organising techniques played an important role in facilitating research reflection.

Open coding of data, as used in this project, was a generation process where a code is defined as a product of analysis amongst two or more categories (Strauss, 1987). Such procedures are in line with the thoughts of Kirk (1988), who stated;

... line by line analysis, thematic analysis and intuitive insightful work together generate codes, saturate codes conceptually and logically, and thus integrate the theory. The whole process is both 'bottom-up' generation and 'top-down' generation of codes and categories. (p.86)

To understand the world of the teachers and the students in the HPE swimming class context, there was a consistent reference to research questions and the conceptual framework.

Questionnaire

Statistics were used to describe data, determining relationships among the variables, and to test for significant differences among groups (Thomas & Nelson, 1996). According to Punch (1998), meaningfulness of results will be enhanced when not only the appropriate evaluative tool is used, but the logic behind their application is understood. Descriptive and inferential statistical analyses were employed to questionnaire sections as deemed appropriate.

The secondary schools sampled represented 90.1% of all Perth metropolitan Government schools and 61.1% Independent schools presenting Year 8/9 HPE swimming (Table 48). The Year 8/9 students who responded to the questionnaire (n=1532) represented 9.5% of all Year 8/9 Perth metropolitan Government/Independent students in schools offering HPE swimming during Term 1 – 2002 (Table 49). This represented a comprehensive sample, which at times was nearing the whole population, (Wiersma, 1995) and therefore influenced the statistical treatment of the data. Frequencies and percentages were used as, consistent with a large sample size, the data represented what was happening.

All questionnaire data were entered into and analysed using the *Statistical Packages for Social Sciences (SPSS) Version 11*. Open ended responses were organised

into different categories that expressed themes of meaning and assigned numeric codes before being entered into the SPSS package. Categories and samples of coding allocations were cross-checked by an experienced university researcher. Responses from sample questions were independently coded by both persons using the same index system. Cross-referencing revealed that all of the data (100%) were coded in the same way.

TiC and teacher questionnaire.

Teacher in Charge (TiC) and teacher data were presented in isolation, combined and detailed in comparative form for each other and with relevant student responses. Teacher data were presented in text and tables and expressed as means, mean rank, percentages and frequencies. School sector (Government, Independent) and schools with and without swimming pool comparisons were offered.

Student questionnaire.

Frequency distribution, percentage, range, mean, median and standard deviation scores are presented to summarise and understand the variables across the respondent data. Consistent with the theme of differentiation which conceptually underpins this research, comparisons were presented as necessary to fully understand the student responses for, differing year levels, gender, school sector, swimming ability, ethnicity and perceived parent swimming ability. Student data were presented in text and tables, and expressed as means, percentages and frequencies.

Student responses to items using the 5-point Likert scale were assigned points to the scale, whereby 5 = Strongly Agree, 3 = Neither Agree or Disagree, and 1 = Strongly Disagree. The designated construct questions (Q. 42-91) contained 12 questions that were formed in negative terms. Once these responses were entered into SPSS they were transformed and recoded into the reverse scoring system (1 = 5, 2 = 4, etc). A more positive score on all Likert response type items indicated a relatively more favourable response by the students. Cronbach's Alpha Coefficient (Burns, 2000) was calculated to determine levels of internal consistency and reliability for each of the 5 questions which formed a construct. The mean of each of the 10 constructs, and the remaining student questionnaire responses were calculated, and the frequencies computed. Data for the constructs were presented in tables and text for differing year levels, gender and school sector. Because the effect sizes on the 1-5 scale were relatively small the median did not

constantly reflect the difference as reflected by the mean, and therefore the median was not reported.

Also, *z* scores were reviewed and frequency histograms graphed to check for homogeneity of variance or skewness of the scores (Burns, 1997). Some of the constructs were right skewed as exemplified by the data presented for Construct 1. Calculations revealed the skewness was -1.079 and the standard error was .055. As the skewness value was more than twice the standard error, this construct data departs from normal distribution (long left hand tail) and indicates that the students' responses were more likely to be positive with respect to their attitudes to PE. In view of the ordinal source data, the clear departures from normality and differing sample sizes for factor groupings (e.g., school sector), medians were a more appropriate measure of central tendency and a conservative non-parametric approach was chosen for any inferential statistics (Burns, 1997; Thomas & Nelson, 1996). When two independent groups and one dependent variable were compared, one of the more powerful nonparametric tests (Thomas & Nelson, 1996), the Mann-Whitney *U* Test was used. In addition, a Kruskal-Wallis ANOVA by Ranks was employed to test for group differences when there were more than two independent variables. Although this approach precluded some inferential tests of significance, the comprehensive sample ensured that all research questions were adequately addressed with descriptive statistics. Moreover, the researcher was in agreement with others (Hubbard, 1973; Siegel, 1956), unconvinced that an interval scale of equal proportions could be assumed.

Nonparametric Chi-squared tests of significance were used for nominal data where the observations could be classified into discrete categories and treated as frequencies. A large sample size and the independence of each sample to the other reinforced the suitability of this test (Burns, 1997).

Consistent with the current statistical practice, actual probability values for significant results, rather than alpha level cut-offs, were displayed in all tables. This allows the reader to determine the relative significance of the differences reported. However, levels of significance, as commonly set for educational research (Wiersma, 1995; Burns, 1997), were set at the .05 level.

Delimitations and Limitations

Given the humanistic focus and the multidimensional design of this research, there are some obvious concerns and boundaries which can threaten the credibility of the results. The delimitations and the limitations are presented below.

Delimitations

- i) This study was restricted to the schools involved in the actual planning and implementation of compulsory Year 8 and Year 9 HPE aquatic activities, and to a sample of Year 6 and Year 7 Interm Swim Programme participants.
- ii) Case studies of three teachers delivering to four intact classes (two Year 8, and two Year 9) in two schools and the students themselves were undertaken. Focus group interviews of student participants and three teacher interviews held in isolation supplemented the data gathering process.
- iii) Questionnaires were completed by the TiC in 33 schools and 43 teachers of Year 8 and/or Year 9 HPE swimming (Term 1, 2002). Of the total number of metropolitan Government schools who presented compulsory HPE swimming to Year 8/9 at this time ($n=22$), the sample included TiC respondents from 20 (90.9%) of these schools. The TiC in 12 Independent schools who presented compulsory HPE swimming to Year 8/9 during Term 1 - 2002, this being 66.7% of the population also participated in the study. In addition, 2102 students in Year 6-9 were sampled. The metropolitan Year 8/9 student cohort surveyed, represented approximately 10.8% of Government school students and 8.2% of the Independent school students who undertook compulsory HPE swimming during Term 1, 2002.
- iv) Data were gathered at the time closest to the activity experience that defines the activity unit, ensuring the information to be foremost in the subjects' mind.

Limitations

- i) With the selective sampling of Independent schools based on gender enrolment, it is difficult to confirm that the information gathered provides a valid and trustworthy representation of the whole school community. Given that the participatory metropolitan Independent schools represented over 66% of the schools offering HPE swimming during the defined time, this will most likely allow for what Lincoln & Guba (1985) describe as the readers opportunity to determine their own generalisations, relating it to what they already know. Questionnaire and interview methods are reliant on the common understanding of the question and the subject response.
- ii) Participants were unpaid volunteers whose level of motivation during the data collection processes could vary. Although motivation could not be controlled for, the participants were informed of the importance, confidential nature and the intention of the project.
- iii) All teachers are busy, their time is precious and the application to the data collection may be inhibited by the restrictions of time. It was important to collect only the data that was needed to answer the research questions in an efficient and planned manner.
- iv) The data collection techniques were reliant on the honesty and the accurate account of the experience. The questionnaires and interview schedules, despite the combination of structured or closed response opportunity and open-ended questions, in conjunction with triangulation methodologies, could not be seen to measure all of the perceptions an educator or a student may have on HPE aquatic programmes and activities. Student focus group interviews were undertaken in the absence of the teacher to encourage forthright comments and reinforce the absence of repercussions from the answers provided.
- v) The obvious presence of a non-participatory observer in an otherwise 'natural' setting had implications for the naturalness of the teacher and the students' behaviours. The researcher was explicit when informing the

teacher that the case study was not an opportunity to critically analyse them as professionals or their personal programme; rather, it was a peer who was interested in presenting a fair and honest representation guaranteeing anonymity. The familiarity of the researcher to the case study participant teachers also assisted to naturalise this process. The extended timeframe and on-going nature of the observations served to desensitise the student participants to the researcher's presence.

- vi) The degree of neutrality, since all naturalistic studies are characterised by bias, is important in determining the authenticity of the findings (Lincoln & Guba, 1985). While value free observations are said to be impossible (Smyth, Hattam & Shacklock, 1997), researchers must be aware of the personal views and the manner in which they can influence the direction of the inquiry, the selection of evidence and the interpretation of the findings (Burns, 1997). The researcher aimed to be as objective as possible, particularly during the observation and interview sessions, trying to avoid subjective interpretations and 'putting words into others mouths.'

Summary

This investigation employed an objective, systematic multi-method design with an analysis of data in order to discern what actually was the case, rather than a patchwork of likes and dislikes, analogy and prejudice (Burns, 1997). In trying to understand what was happening in secondary school HPE aquatic programmes and activities, in terms of the educational needs and issues, and the relevance of 'the differentiated classroom model,' an empirical/analytic and interpretive research project was proposed. To answer the research questions, the researcher listened to the teachers and students, and observed swimming teaching and learning in HPE classes. In addition, it was through the 'lenses' that define the conceptual framework – curriculum dimensions, differentiated classroom, and pedagogical content knowledge, as discussed in the Chapter 2 of this thesis, that aquatic activities in schools were reviewed. Whilst recognising the innate personal bias that accompanies interpretive research, the researcher attempted to explore the complexities that define school aquatic programmes and activities, and build on the data gathered to advance pedagogies and curricula that frames current and best practice.

CHAPTER FOUR

PILOT STUDY

Introduction

A pilot study is a small-scale or preliminary edition of the intended full research project. It is a mapping phase (Burns, 2000), which potentially serves to refine the research problem and methodology (Edith Cowan University, 2003). In addition, it was an attempt to provide possible insights into the outcomes through testing the research design, data gathering process and the associated procedures, as well as the analytical procedures to be applied to data (Edith Cowan University, 2003).

This chapter presents the first part of the research project investigating the current status of swimming and water safety programmes in Western Australian secondary schools. Health and Physical Education (HPE) Teachers in Charge (TiC's) were surveyed and described their compulsory Year 8 swimming programmes by identifying the activities undertaken, the planned outcomes, issues of concern and pedagogies employed to deal with different ability levels. These data were the foundation for an article published in the *Healthy Lifestyles Journal*, titled "Teaching swimming in schools: Issues beyond drowning" and were therefore referred to in this thesis as both the pilot study and as Whipp and Taggart (2003b).

Method

The pilot process utilised a questionnaire (see Appendix A) to collect qualitative and quantitative data. The TiC at each school was purposefully sampled as suggested by Wiersma (1995) and contacted by phone to confirm the procedures, confidentiality and preliminary consent. The TiC's were also told that completion and return of the questionnaire would confirm their informed consent to participate in the study.

Participants and Setting

Seven of eight invited TiC's of HPE Departments, who were contacted by phone, agreed to complete a 15-item pencil and paper questionnaire which targeted Year 8 programmes, the first year of high school, during May 2001. All data were collected and recorded in a manner that protected the TiC's and school anonymity. The TiC respondents included those at three Independent schools (one male only [school A], one female only [school E] and one co-educational [school F]), two co-educational

Government schools (C and D) and two co-educational Catholic secondary schools (B and G). All but one of the TiC's surveyed offered, as a part of the HPE curriculum, compulsory Year 8 swimming. The one TiC (school G) who did not offer Year 8 HPE swimming, confirmed that swimming was a part of the school programme prior to 2001. Schools G and F accessed a public swimming pool, while an on-campus school swimming pool was used by the other schools.

Instrumentation

Information requested through the questionnaire included: 1) the importance of swimming; 2) programme goals and objectives; 3) swimming activities undertaken in Year 8; 4) weaknesses of the programme; 5) perceived ability levels and related description/definitions; 6) issues of concern, and 7) strategies to deal with varied ability levels. Questionnaire responses were collated and examined and frequencies, ranks, means and emergent themes were analysed and reported. All open-ended data were manually categorised and numerically coded. Categories and samples of coding allocations were cross-checked by an experienced university researcher. Responses from sample questions were independently coded by both persons using the same index system. Cross-referencing revealed that all of the data (100%) were coded equally.

Preliminary Results

Results are reported for the 7 areas of investigation.

The Importance of Swimming

Six of the TiC's ranked the importance of the activities/units undertaken in the Year 8 HPE programme. Swimming activities were ranked first (n=4) and second (n=1) as the most important component of the Year 8 programme. Athletics (ranked 1st n=2; 2nd n=2) was also seen as an important activity/unit.

Programme Goals and Objectives

Teachers in Charge reported that 'developing stroke proficiency in the water', and developing a 'safer water participant' were the most important and frequently occurring programme goals of the Year 8 HPE swimming programme (Table 4).

Swimming Activities Undertaken

'Stroke technique analysis/correction' was the most common activity undertaken (Table 5). Six schools focused on stroke technique with an average of 36.7% (Range=12-56%) of the time used for this purpose. 'Life-saving activities and safety awareness' were included in the programme at 5 of the 6 schools offering compulsory Year 8 swimming.

Table 4: HPE Swimming Programme Goals and Objectives

Programme goals/objectives	RO	n	f
Develop stroke proficiency	1	5	3
Safer water participant	1	5	1
Fun	3	3	1
Develop confidence	4	2	2
Develop rescue skills	4	2	.
Develop survival skills	6	1	1
Improve fitness	6	1	.
Develop healthy lifestyle participation/understanding	6	1	.
Develop interpersonal skills	6	1	.

RO = rank order; n = number of times this option chosen; f = number of #1 rankings.

Table 5: Swimming Activities Undertaken (% of total swim programme)

Activity	Mean %	Range %	n
Stroke technique analysis/correction	36.7	12-56	6
Training - fitness	28.3	17-46	3
Life-saving and safety/water awareness	27.4	8-44	5
Time trials and preparing for carnivals	20.8	4-47	4
Water confidence activities and games	14.5	5-21	4
Free swim	8.5	5-12	2
Structured games. e.g., water polo	0	0	0
Total Time (minutes)	700	215-1300	.

Mean % = mean of the % allocations; n = number of times this option chosen.

Programme Weaknesses

According to the TiC's the needs of both the non-swimmers and strong swimmers are generally not met. TiC's claimed that:

... the bottom two groups are slipping through the net (TiC A); non-swimmers... time not given to their needs (TiC C); sometimes the weaker students just have to sit out (TiC F); strong kids can be bored (TiC E); difficult to cater for higher level (TiC D); students (*not*) being extended (TiC E).

Swimming Ability Levels and Related Descriptions/Definitions

The TiC's used a broad range of criteria to define swimming abilities. The most common being 'technique proficiency' (5 of 6 who responded) and the 'potential to swim a required distance' (4 of 6 who responded). Other descriptions, were based on published outcomes (Curriculum Council, 1998) and outcome levels (Future Movement Education, 2000), student level of apprehension/confidence, perceived supervision needs, RLSSA Achievement Awards, time per lap (seconds), ability to perform butterfly, and interschool and club related swim squad membership.

Definitions for the non-swimmer ranged from a student who: "cannot swim 50 metres of freestyle without stopping..." (TiC F); with the least demanding being: "afraid/unwilling to enter the water" (TiC D). Weak swimmers were described as those who: "know what to do – but can't execute well" (TiC A) to those who have: "difficulty in completing 25 metres of freestyle..." (TiC E). A more demanding definition was: "swimming 3x50 metres of different strokes, poor technique, but no butterfly" (TiC F).

Moderate swimmers were defined as being able to: "complete 50 metres in freestyle, backstroke and breaststroke..." (TiC E); to a more demanding requirement: "swims 100 metres of freestyle, 100 metres of backstroke, 100 metres of breaststroke – with a 5 second rest after each lap and, in addition, can swim 10 metres of butterfly" (TiC F).

Teachers in Charge also identified the proportion of students in each swim category with 32.5% (range=0-64%) reported to be poor/weak and non-swimmers, while the largest category was the moderately skilled/proficient swimmers (52%). The broadest range of 5-80% of students was placed in this category (Table 6). Nearly 16% (range=1-37%) of students were classified by the TiC's as highly skilled/highly proficient swimmers.

Table 6: Student Swimming Abilities (% of total Year 8 student cohort) by School

Ability Description	Average %	Range %
Non-participants	2	0-4
Non-swimmers	9.5	0-30
Poor/weak swimmers	21	8-64
Moderately skilled/proficient swimmers	52	5-80
Highly skilled/highly proficient swimmers	15.7	1-37

Issues of Concern

Staff/student ratio was the most significant issue for teaching swimming in HPE (Table 7). Also ranked highly were the categories ‘varied swimming ability levels’ (ranked 2) and ‘legal liability’ (ranked 3) which reflected the importance of staff/student ratios. While ‘travel time’ was ranked fourth, it is important to note that the 3 schools who did not possess a school-based swimming pool all ranked this as the number one concern.

Table 7: Issues and Level of Importance

Issues of concern	Mean Rank	Level of Importance		
		VI	I	U
Staff/student ratios	1	6	1	0
Varied ability levels in the class	2	3	4	0
Legal liability	3	2	5	0
Travel time	4	2	1	3
Temperature of the water	5	2	4	1
Issues related to ethnicity	5	1	3	3
Cost of the programme	7	2	1	3
Teacher qualifications	*	1	0	0

* = not included within the ranking; VI = Very Important, I = Important, U = Unimportant.

Pedagogies and Ability Groups

When timetabling and staffing permit, four of the schools in this study used ‘streaming’ according to existing ability levels to determine the class composition. Peer teaching, provided by better swimmers or the injured/non-participants, was used by four

of the schools studied with students asked to coach, teach and encourage the relatively weak and non-swimmers of the class.

Evaluation of Preliminary Findings

Teachers generally consider aquatics to be the most important component of the Year 8 HPE programme, and there is a strong consensus between these attitudes and that cited in the literature, and of parents, educators, and health and physical activity administrators (RLSSA, 2001; MSRC-R, 1995; Pearn & Nixon, 1979; Barter, 1992; Hardy, 1991a; EDWA, 1995). To 'develop stroke proficiency' was identified as the most important goal/outcome which, despite concerns for a lack of direction in middle school physical education (Batesky, 1991; Hunter, 2000), appeared congruent with the most frequent activity undertaken, that being stroke technique analysis and correction.

The major programme weakness identified by the TiC's was the instructional focus on the middle ability swimmer, at the expense of the needs of both the non-swimmers and strong swimmers. Individualised or differentiated programmes allowing weak swimmers to overcome their fears and raise their standards are seen by the TiC's, and others (Hardy, 1991b; RLSSA, 2001) as difficult to implement. A dominant focus on the middle ability group may lead those who succeed too easily to also lose their motivation to learn (Tomlinson, 1999; Rikard & Woods, 1993). Streaming according to ability level does occur in some schools. However, this requires several classes to be timetabled at the same time, additional staff and generous facilities.

When compared with the most demanding definitions recorded by the TiC's in this study, nearly a third (32.5%) of those deemed to be safe swimmers by parents (RLSSA, 2001), would be classified by teachers as non-swimmers in the Year 8 HPE programme. These parent impressions, perhaps built on the requirements to play in the family pool (G. Shaw, personal correspondence, June 5, 2001), may leave many young people at risk even in the calmest aquatic environment. In addition, the lack of exposure to open-water and the ocean surf through the HPE programme highlights a need for school swimming outcomes to be reconsidered. With such a diverse range of teacher descriptions and related expectations, minimal aquatic proficiencies for the secondary school student remain problematic.

Summary

The small sample of HPE TiC's valued swimming programmes highly. They classified over 30% of the students as weak or non-swimmers, and saw 'coping with varied swimming ability levels' as a major concern, second only to the issue of 'staff/student ratios'. Schools devoted the majority of their swimming class time to 'stroke technique analysis and correction' and 'life-saving and safety/water awareness', although some still allocated significant proportions of class time to 'training/fitness' and 'preparation for carnivals'.

Based on the programme descriptions, and the issues and concerns raised by the TiC's, some secondary school swimming programmes ignored or find it difficult to meet the needs of the weak/non-swimmer and the strong swimmer alike. With students in swimming classes possessing a broad range of abilities, streaming, peer teaching and the differentiated classroom, as more inclusive strategies seem worthy of further investigation.

A Review of the Pilot Study Process

As previously suggested (Edith Cowan University, 2003), the pilot study served to inform the researcher of many of the issues associated with the intended project. Most importantly, the researcher was buoyed by the genuine interest and high level of support expressed by the pilot study participants, which reinforced the importance of this work. A deeper understanding of the plethora of issues that impacted on those delivering the HPE swimming experience and the perceived relative weakness of the student swimming capacities were important outcomes of this preliminary work. Moreover, the need to sample a relatively large number of stakeholders and to diversify the data collection procedures allowing for triangulation and project rigor were reinforced. Whilst developing and refining some crucial research skills, the preliminary work served to redefine the research questions.

Methodological Insights

Questionnaire.

While the use of open-ended responses provided the TiC's with an excellent opportunity to express opinions, they did not always elicit the specific information sought. Also as identified by Thomas and Nelson (1996), responses were time consuming for the respondent to answer and for the researcher to audit. It became

apparent that, given a larger sample size, extended answer opportunities would need to be further refined and consideration given to their restricted use. In response, whilst open-ended questions were included in further work, wherever possible, subsequent questions were preferenced for a structured and/or semi-structured format.

The need for a relatively large sample number was reinforced by the diversity of some of the answers recorded by the TiC's. This was most evident when respondents identified non, weak and moderate swimmer definitions. Subsequent questions requesting swimming ability ratings, whilst incorporating information provided in the pilot study, required the respondent to choose from pre-determined categories rather than those self-defined.

The broad number of issues identified by the TiC's as impacting on the teaching of HPE swimming reinforced the need to expand the final project TiC questionnaire to 27 questions. In addition, a separate questionnaire which targeted issues specific to the delivery of aquatic lessons, teacher comfort level and the perceived outcomes was prepared for the teachers of Year 8 and Year 9 HPE swimming, as opposed to the TiC questionnaire.

Interview and case study.

Further to the pilot study, TiC questionnaire responses, the phone call discussions which accompanied the process served to clarify the need to present questions which allowed for many of the associated issues of concern to be addressed. The researcher was constantly reminded during the pilot phase that teachers wanted and needed to express themselves using examples specific to the context of their experiences. Indeed, no two HPE swimming environments appeared the same and demonstrated worth of the case study methodology. In addition to observation, opportunities to discuss each lesson prior to and post-session, and a trilogy of teacher interviews were incorporated into the project design. The value of data triangulation was much in evidence, and would hopefully serve to authenticate and bring rigour to the project.

Ethical and research related conflict.

Whilst not unexpected, school-based information gathering and subsequent evaluation may have caused some notion of suspicion from the teachers concerned for personal scrutiny and criticism. During phone conversations, most of the TiC's were

keen to clarify the purpose of the project and the anticipated use of the data collected. It became apparent that the consistent reassurance for the TiC's and school anonymity was imperative. In addition, the focus of the intended research, that being to highlight the issues that concern the stakeholders at the 'coal-face,' whilst serving to share the collective approach of colleagues, helped to alleviate the concerns of the participants. Subsequent project questionnaires began with the statements: 'This is an anonymous questionnaire. PLEASE DO NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE' (see Appendix B) and this was accompanied by an introductory letter (see Appendix C) which clearly identified the intended research focus and a guarantee for TiC, teacher, student and school anonymity.

Data analysis.

While the open-questions included in a survey may enhance the overall understanding of the participants' feelings, opinions, experiences and to expand on ideas (Wiersma, 1995), some of the responses to the pilot questionnaire proved difficult to catalogue. Whilst the pilot study open-ended responses were manually coded and indexed, the use of data analysis computer software packages for the main study responses, such as SPSS Version 11 and Nud-ist became apparent.

CHAPTER FIVE

CASE STUDY FINDINGS

Karrie and Annika at Pebble Beach Girls School

The School Context

Within 2 km of the coast and located in the Perth metropolitan area, Pebble Beach Girls School (PBGS) was a member of the Association of Independent Schools of Western Australia. The school had an enrollment of 1,050 day and boarding students ranging from Kindergarten to Year 12 (K-12) with 130 students enrolled in Year 8 and Year 9, 2002. There was one hundred teaching staff including eight full-time specialist HPE teaching staff, all female. Two of the teachers were observed teaching HPE swimming and agreed to be interviewed; Karrie, the Head of the HPE Department (TiC), and Annika, in her fourth year at PBGS. Four distinct learning environments: the Early Learning Centre (Kindergarten – Year 2), Junior School (Years 3 – 6), Middle School (Years 7 – 9) and Senior School (Years 10 – 12) recognised different developmental stages (PBGS Prospectus, 2003, p. 2). The school outdoor swimming pool was 25 metres in length and 6 lanes wide (approximately 10 metres).

Classes were first held on the existing Pebble Beach school site in 1917 and the school, as defined through its mission statement in the History, Tradition and Values document, endeavoured to “... empower girls to exercise their talents responsibly, both individually and collectively, in leading a fulfilling life and making an active contribution towards social justice and the common good” (PBGS, 2003, p. 1).

School Aims and Policy

Pebble Beach School defined its aim: “... to nurture the development of the whole person” (PBGS, 2003, p. 2). To achieve this aim many contexts were described. Specific importance placed on HPE and sport: “Offering a programme of physical fitness and skill development,” and “Encouraging individual excellence in arts, sporting and academic activities” (PBGS, 2003, p. 3). Both academic and sporting traditions were held in high regard at PBGS, and their status was well recognised throughout the Independent schools association, and by the local community. The focus placed on the individual at PBGS was summarised under the heading of ‘Individual Differences’ and

was found in the document titled *Principles and Practices of Learning and Teaching at PBGS* (PBGS, n.d.), these being:

Learning and teaching at PBGS acknowledges that students have different learning styles and different rates of development both generally and with regard to development in specific areas. In practice we seek: learning that is based on readiness to learn rather than chronological age; a curriculum that is differentiated. (p. 1)

The school's value of the individual was further reinforced by Karrie: "I'm really just looking at the kids and responding to where they are at," in determining what happened in her classes (Interview 1, p. 4). She confirmed this in her espoused educational philosophy: "I actually do a pre-assessment of where their strokes are through general observation and that gives me a general idea of where the focus of that class needs to be" (Interview 2, p. 6).

Through the process of observation and interviewing, it became apparent that the expectations and demands placed on the staff and students in all educational domains were of the highest order. Perhaps the words of the school principal best defined the PBGS anticipated experience:

... every girl is given the opportunity to develop an appreciation of intellectual challenge and a love of lifelong learning; to gain confidence to question, challenge and be creative; to give and receive warmth and human understanding; to belong to a community; and to experience the beauty and joy of life itself. (PBGS Prospectus, 2003, p. 1)

Health and Physical Education Department Aims and Policy

The aims of the PBGS HPE department included: to "Promote further development of motor skills through participation of the students in a wide range of activities;" and "... use body movement as the medium to contribute to students becoming self confident in individual and group situations, and promote positive attitudes toward lifelong participation in an active and healthy lifestyle by all" (PBGS Health and Physical Education Department Curriculum, 2002, p. 1). Karrie reaffirmed an HPE focus of "... educating through movement" (Interview 1, p. 4), exposing students to a broad range of sports and activities allowing for informed personal preference and choice.

Compulsory HPE was provided up to and including Year 10, while Year 11 and Year 12 also had mandatory physical education (PE) offered in an elective-based programme. Optional sports education and recreation units were offered to Years 9 and 10 in addition to the compulsory classes and, according to Karrie (Interview 1), were very popular with the girls. As described in the PBGS Health and Physical Education Department Curriculum Policy document 2002, all of the Year 7-9 PE assessment was "... based on Curriculum Framework Health and Physical Education Student Outcome Statements" (p. 7), which included potential for the use of a comment, Student Outcomes Grid (SOG), Personal Attributes (1-4) and Working Portfolio. The personal attributes defined for assessment included punctuality, participation, preparedness for class, completion of work and seeks help when required. A scale of 1-4 was applied, with 4 representing 'always,' and 1 equating to 'rarely.'

Whilst boasting an extensive non-compulsory extra-curricular sport programme, PBGS saw sport and PE as complementary, but differentiated by declaring that sport encompassed "... a range of physical activities that provide opportunities to further apply and develop the skills acquired through physical education" (PBGS Health and Physical Education Department Curriculum, 2002, p. 2).

Clearly, much of the HPE written curriculum focused on improving student's skill and fitness levels. However, as Karrie confirmed: "... interpersonal skills are really important" (Field notes, 14 March), and were seen as a significant outcome of the programme as HPE served to "... develop social skills, ... which will enable students to function effectively in interpersonal relationships" (PBGS Health and Physical Education Department Curriculum, 2002, p. 1). Karrie was optimistic that the HPE programme provided significant opportunities for skill and fitness aims to be met, confirming that the programme as a whole was running really well (Interview 1).

Karrie: Hard at Work Focusing on the Weaker, but Conscious of Differentiation

The Case Study Context

Two teachers at PBGS agreed to be involved in the study. One of the teachers, Karrie, was observed six times whilst teaching a Year 8 HPE swimming unit to a class of 21 girls. She actually delivered seven HPE swimming lessons of 50 minutes duration (6th February to 8th April, 2002). Two programmed HPE swimming lessons were cancelled due to a malfunctioning swimming pool filter: "... so that meant that we had

to restructure things a little bit” (Interview 2, p. 2). In response to the pool closure, Karrie drove the students in the school bus to the local beach for three of the seven lessons. Karrie, was formally interviewed on three separate occasions, 23rd February, 2nd April and 25th May. As the TiC of the HPE Department, Karrie also completed a TiC project questionnaire on the 25th February. All of the students in the class completed a post unit student questionnaire on the 11th of April. Three Year 8 girls, Beatrice, Amber and Rumor, who were pre-selected by the teacher as possessing a range of swimming abilities, were subsequently invited and agreed to be the target of specific observations during the swimming lessons, supply post-lesson comments and be part of a post-unit focus interview group (April 11).

The focus group students: Beatrice, Amber and Rumor.

Beatrice, a strong swimmer: “... swimming is my main thing” and “I’m actually up to a Level 16 (*Interm Levels*), ... “I love it” (Beatrice, Interview, p. 2 and p. 3). Beatrice, until recently, was a member of a local community swimming club, swimming 5 days per week, but “then I slowed that down because I had surf club ... board training 3 days a week, ... and I have been to the State Championships for life-saving” (Interview, p. 2). While Beatrice’s dad encouraged her to swim, it was “... my mum, she really encourages me to swim because it’s good for me” (Beatrice, Interview, p. 5).

Despite attempting to select students from a range of abilities, Karrie selected Amber, a former member of the local swimming club. Amber participated in the 2002 PBGS Interschool Swim Team; swimming backstroke, breaststroke and freestyle as well as the freestyle relay. Amber’s parents: “... swim really good”, while her mum, a “fitness freak” (Amber, Interview, p. 6), encouraged her the most to swim, “... and she encourages me to keep fit, ... and its (*read swimming*) really helped me with everything else” (Amber, Interview, p. 6). Perhaps the reason for Karrie’s miscalculation of Amber’s swimming ability was due to Amber’s desire to shun swimming competition: “I don’t really compete, ... the stress is too much for me so I just like swimming for me” and “I have actually quit swimming now” (Interview, p. 2 and p. 7).

Unlike both Beatrice and Amber, who were born in Australia, Rumor, was born in Singapore. Although not appearing of Asian decent, Rumor, was definitely the least proficient swimmer, as she identified: “I am not that good at swimming,” and confirming her inexperience: “I have only been to the beach two or three times ... ever, it was really scary” (Interview, p. 2). While describing her dad as a non-swimmer,

Rumor declared her mum as a strong influence: “She says it’s the best form of exercise and she does it” (Interview, p. 6).

Life History and Teaching Philosophy

At 39 years of age, Karrie was in her 19th year of teaching primary and secondary HPE. Four of these years were in another Australian State, with the remainder at PBGS. She completed a Bachelor of Education, majoring in HPE, while science was her minor teaching specialty. Karrie also completed a Masters Degree in Educational Management 10 years previously.

Karrie was the youngest of four siblings, and described herself as having “... always been involved in sporting activities” and, whilst enjoying PE as a student, she “... often was quite bored” (Interview 1, p. 1). Karrie, described herself as very involved in the extra curricula sport programme of the Independent school she attended for the entirety of her primary and secondary student life. Other than teaching practicum, Karrie had not taught outside of the all girls’ Independent school system. Both of the schools she has worked in had their own swimming pool.

Describing herself as a conscientious teacher who enjoys the kids company, Karrie, attempted to promote “... the whole thing of life-long participation in sport in general” (Interview 1, p. 3). The feedback from the students, helping them and seeing them enjoy and progress in lessons, according to Karrie, strongly influenced her teaching endeavours. In addition, Karrie, describes watching other staff and getting ideas from them as influential.

Focused on the very demanding management of the HPE Department, Karrie described this as her educational strength. As the Head of the HPE Department (TiC) for 8 years, and previously the assistant TiC, she was “... always involved in running carnivals, ... organising large numbers, and ... employing coaches and umpires” (Interview 1, p. 3).

Swimming Experiences

Karrie described her own school HPE swimming experiences as limited to “... doing a bit of life-saving and a bit of time trial stuff for swimming carnivals” (Interview 1, p. 1). Having done “... nothing terribly competitive” (Interview 1, p. 2), Karrie enjoyed living close to the beach and recreational swimming, describing herself as: “A good swimmer, not fast, ... able to look after myself and I certainly have got the ability

to save people in difficulties” (Interview 1, p. 2). During her undergraduate training, Karrie undertook a compulsory swimming unit and opted to do the advanced swimming unit, one which was designed for those with above average swimming abilities and focused on training swimmers. At this time, Karrie, “... was actually teaching swimming and I was mainly teaching about five year olds, groups of about five kids over a period of 30 minutes a time ... a couple of times a week at an indoor pool” (Interview 1, p. 3). This, Karrie described, assisted her to develop a very good base of experience, reinforcing how to teach swimming. Karrie had maintained a Royal Life-saving Society Bronze Medallion “...well (for) at least the last eight” (Karrie, Interview 1, p. 2).

Over the past few years, Karrie devoted considerable time documenting specific HPE aquatic activity policy and procedures for PBGS activities. Karrie discussed the major reasons for giving the development of such documents a high priority. This included, new expectations and recommendations released by the Catholic Education Office and the Education Department, student safety, the school owning a pool and the proximity of the school to the beach.

The Importance of Swimming in Schools

Karrie believed that swimming as a unit in the HPE programme offered something to everyone despite their ability level:

You might get a kid who is really strong, ... there is always a weakness somewhere, ... there is always some valuable time that can be spent consolidating their survival strokes ... their entry, their arms and water confidence or survival skills in some way. (Interview 2, p. 2)

In confirming that swimming was the only unit at PBGS repeated every year in the K-10 HPE programme, Karrie, rated its importance as very high: “That it is an essential activity to have in our programme, and that in order to get the life-saving competencies, ...of Year 9 and the Bronze Star and Year 10’s Bronze Medallion they’ve got to have a reasonable swimming ability” (Interview 2, p. 1). More specifically, she rated it as the most important unit in Year 8 HPE, because: “... of the fact that it’s a new intake year” (Interview 2, p. 1). In addition to the expectation resulting from the school having a pool on campus and the strong interschool carnival commitment; the close proximity of the school to the beach, the students’ propensity for beach holidays and related recreational activities, and the fact that the students enjoyed

it, were raised by Karrie in justifying its number one rating. Karrie also saw swimming, when compared to general movement skills such as ball sports and dance, as providing a unique medium in which to promote movement. Karrie's students also rated aquatic proficiencies highly, with nearly all of the Year 8 students agreeing 'that it is important to learn how to be a safe swimmer' (94.1%) and to 'learn how to save people in the water' (94.1%).

Whilst believing that some in the HPE community: "... have got real issues with their staff qualifications, ... they just don't see the point because they have been doing it (*read teaching swimming*) for years" (Karrie, Interview 3, p. 6), Karrie did not share this view. Describing the annual Bronze Medallion re-accreditation: "... as really worth doing" (Karrie, Interview 3, p. 6) because it reinforced knowledge, different approaches and confirmed that you are teaching it correctly.

Year 8 HPE Swimming Programme

Eight HPE Department designed Year 8 swimming lessons were provided for all of the teachers, these were very detailed and included prescribed activities and drill related progressions (Appendix S). Karrie believed that she did not vary from the set plans greatly. However, Karrie confirmed that the time allocation for each focus area (e.g., stroke technique, safety) and the specific activities employed are dependent on the students swimming ability, while the content and "... how you go about your class on a given day" was significantly influenced by pool space and lane allocation (Interview 2, p. 6). With generally three classes in the pool at once, Karrie further clarified the detrimental impact of crowding by highlighting the difficulty of providing feedback to students when using the 2 lanes in the middle of the pool. During the observed lessons, Karrie was not required to use the middle lanes. Lane allocation and space were negotiated between the teachers concerned: "Sometimes ... decided just before the lesson you need to have prepared in your own mind how you can achieve your goals using whatever space is allocated, because there are so many variables that can change at the last minute" (Karrie, Interview 2, p. 6): "... it can be a real pain" (Interview 3, p. 4). Working across the pool best matched the needs of stroke technique evaluation and correction, which occurred most frequently at the beginning of the unit, while working in lanes down the pool was best when practicing over a longer distance (Karrie, Interview 3). When working across the pool, flexibility of lesson delivery was needed in response to requirements of working in the deep, middle or shallow end of the pool. In

addition, Karrie also expressed a need for “at least half the pool, if not all of it when undertaking life-saving activities, particularly with students of different ability levels” (Karrie, Field notes, April 4). Clearly the pool closure and the subsequent use of the beach for three classes, impacted on the programme offered when compared to that formally recorded. This was best exemplified after a beach session (February 27), when Karrie stated: “I had to change things a bit, I was going to do more sculling things but I let this go ... and I focused on the safety things more ... how to deal with waves” (Field notes). Worthy of note is that the beach, whilst “quite difficult to work in” (Karrie, Field notes, March 6) was seen as “... an added bonus, ... and something that I certainly would consider making a permanent part of the unit,” (*although*) “... not as many times” (Karrie, Interview 3, p. 1).

Karrie identified five girls in the class as inefficient swimmers. In addition, she believed that these girls were not good divers, were not confident or comfortable doing freestyle and breathing, and had very limited beach experience. Karrie believed that her 2002 Year 8 class was “... a weaker group ... with more at the lower end ... and a fair whack in the middle” (Interview 1, p. 4). In response to these abilities, she defined the focus of the programme to be on the student’s stroke technique development and on water safety and awareness skills. While these objectives appeared commensurate with that detailed in the PBGS Swimming Unit document (Appendix S), they only match part of the observed activity profile (Table 8). As Karrie indicated, the allocated activity time centred on ‘stroke technique analysis/ correction’ (54.5%; Table 8). In contrast to Karrie’s belief that the programme also focused on water safety and awareness, it constituted only 4.7% of the observed activity time; while water confidence and survival activities were seen in combination to form nearly 40% of the remaining activity time.

Nearly 31% of the total class time was allocated to administration (Table 8). The three beach lessons, which included organising and revising buddy checks, staff entering and checking the water, and informing the lifeguard of their presence (Field notes, January 22), accounts for what appears a significant proportion of time spent in non-teaching duties. In addition, Karrie described the class as a “... lively bunch” (Field notes, January 8), and students were observed by the researcher as excited and chatty at the beach (Field notes, January 22) with some inexperienced swimmers.

Table 8: Karrie's Year 8 Unit - Activity and Administration Time

Pebble Beach – Year 8	Class format
% Allocated Activity Time	Whole class %
Stroke technique analysis/correction	54.5
Life-saving	-
Survival	13.5
Safety/water awareness	4.7
Preparing for carnivals – e.g., time trials, starts, turns	1.4
Water confidence activities and games	24.5
Specific training/fitness programme	1.4
Free swim/recreation	-
Structured games – e.g., water polo	-
Administration Time (% of total class time): administrative duties, equipment management, student transition and rest	30.8

While believing that ultimately: “... the safety aspect has to predominate” (Karrie, Interview 3, p. 7), Karrie confirmed that her attention was primarily directed “... to the weaker and the moderate swimmers rather than the top, ... because I know that they can look after themselves” (Interview 3, p. 7). The focus activities were further defined by Karrie when she suggested that the programme included: “Beach safety ... where to swim, where to find the lifeguard treading water” (Interview 2, p. 3), “... going under waves, reading the surge” (Interview 3, p. 1), and “... rotations like forward and backward rolls, sculling and things like that, ... backstroke, breaststroke, sidestroke and life-saving backstroke” (Interview 1, p. 4). Karrie believed that the girls’ freestyle, excluding the weak students, was generally satisfactory and things like butterfly, whilst covered, was not “... a huge focus” (Interview 1, p. 4). In addition, Karrie stated her aims for the Year 8 class in differentiated terms: “... so that they (*the weaker swimmers*) would become more confident in particularly deep water entry and the efficiency of their stroke technique, ... and they have a bit more confidence and are a bit safer” (Interview 1, p. 5). Observations confirmed that a quarter of the activities offered during the class were directed at developing water confidence (Table 8). In addition, the focus of the activities did appear to be as stated to the researcher, to be consistently directed to the low and middle ability swimmers (Field notes, February 22, 27 and March 3) to develop their weaker skills: “... like sidestroke, backstroke and life-saving backstroke” (Karrie, Interview 1, p. 5). The higher ability students, whilst fine

tuning their techniques, Karrie hoped would develop their interpersonal skills by engaging in the peer teaching and general opportunities to help others.

Assessment and Reporting of HPE Swimming

The Year 8 swimming student outcomes grid (SOG) included Skills for Physical Activity with a particular focus on movement skills (Appendix T). Student outcome statements were used in Year 8 and this matched the predominant stroke technique focus, whilst in Year 9 assessment was based on the Royal Life-saving Society Award scheme. Karrie also implemented a self-assessment tool and found it to be as very successful:

... whereby they look at the levels and it's recorded what they actually think they should be doing ... a couple of times, and so one they become aware of what you're actually looking at and secondly where they are actually heading to ... so that particular observation chart which is all on one piece of paper is also used as their portfolio which goes home to parents at the end of term one. Also the teacher is involved in going, looking at what level that they are actually able to achieve or currently achieving and that ... hopefully will improve throughout the unit. (Karrie, Interview 2, p. 5)

At the end of Term 2, parents received a full written report which identified the student outcome level of achievement attained for movement skills and a teacher comment.

The Impact of HPE Year 8 Swimming

Karrie believed that, with the loss of the pool, the unit and "... the learning experience was not as great as it would normally have been" (Interview 3, p. 1). Seventy percent of the Year 8 students in the class "... would have improved in some aspect of stroke technique, but I would say in their interpersonal skills, all of them" (Karrie, Interview 2, p. 8). The girls were positive in their perceptions of their PE swimming outcomes ($M=3.59$), with nearly 60% of students agreeing that their swimming had improved, with only two students in the class believing that they had not improved this term. Whilst Karrie identified an inability to extend the higher ability swimmers, when given the opportunity to teach others, she believed that the unit assisted students to develop interpersonal skills and self-esteem, as well as reinforcing their movement skills and techniques. Interestingly, Beatrice confirmed these sentiments by describing her positive personal feelings when being peer assessed: "...

and they're giving you quizzes on the sheets and (*I*) say everything right and they say you're so clever (*laughter*) ... but that's because you've been swimming for ever" (Interview, p. 12).

Karrie believed that the lower ability swimmers improved in swimming, and maybe some of the middle ability girls also improved. Supporting Karrie's comments, Amber and Beatrice, relatively strong swimmers, agreed that they had not improved or acquired new knowledge, but both agreed it was good revision. Rumor also supported Karrie's thoughts by declaring improvement in her sidestroke (Field notes, February 22), freestyle and her survival backstroke to the point where: "... that's probably one of my best strokes" (Interview, p. 12). Rumor also declared in her post-lesson comments (February 22) that: "I learnt how to swim at the beach." While examining the influences that work to determine how good a swimmer she was, Rumor, confirmed that teachers play a significant role: "... like they force you to do things in PE but that does make you better at swimming" (Interview, p. 6).

Karrie believed that the majority of pupils enjoyed the experience, and thought it was undertaken in a non-threatening environment. In support, 64.7% of Karrie's class enjoyed this term's PE swimming activities, while two students did not enjoy the activities. Seventy-five percent of the Year 8 students agreed that the activities were interesting, while only 52.9% wanted to do more PE swimming. 'It's fun', was most commonly recorded by Karrie's class when responding to the open question: 'What is the best thing about PE swimming?' Importantly, all of the girls in Karrie's class confirmed that they would choose to do PE swimming if it were optional.

Despite being scared at the beach and preferring the pool, knee pain when kicking and being limited in what she could do comfortably, Rumor declared her enjoyment of HPE swimming and so did Beatrice. Amber did like it, but: "... they don't know what your background is and you have to repeat a lot of stuff you have done and I don't like doing it in the pool because you get really cold" (Interview, p. 3). Rumor, whilst rating the programme 6/10, thought it was really good: "I learned about the waves and I got to learn how to swim at the beach" (Interview, p. 11), and "I definitely got better at swimming" (Interview, p. 13). Beatrice agreed, but for different reasons. She supported what Karrie had said, that even as a good swimmer "... we could sort of help other people to show them how to do things and I like doing that, that's really fun" (Beatrice, Interview, p. 11). Beatrice declared the programme worthy of 5½/10, while Amber rated it 7/10 stating: "... at the moment the lessons aren't too bad" (Interview, p.

14). When asked what was required to give HPE swimming a 10/10, both Rumor and Amber wanted more challenging activities and more lap swimming. All three students wanted more group work and games. Karrie believed that for the programme to be successful: "It seems to work with regard to what the students need at that particular time and where they are going to be heading in the future" (Interview 2, p. 6). However, more space: "... so that you can extend the students ... and being able to break the kids into small groups and have more staff" (Karrie, Interview 2, p. 8), would allow for better outcomes. This was consistent with the student review, but Karrie indicated that this would not eventuate and there was only so much that could be achieved in HPE.

A Teacher of Year 8 HPE Swimming

Karrie was observed employing mainly the practice style. In addition, she also consistently used reciprocal or peer teaching methods and occasionally the inclusion style. The command, practice and reciprocal styles were used in all lessons observed. Karrie described herself as using a teacher-centred approach in the initial stages of the unit, justifying its use: "... simply because you are establishing yourself with a new class and getting them into a routine of what you expect in a class" (Interview 2, p. 7). Once underway, Karrie was observed using small group work and student-centred methodologies such as self-choice practice and task cards as her mode of operation. She described the use of task cards as: "... not terribly ideal" (Karrie, Interview 3, p. 2). Whilst using an unqualified assistant teacher (GAP Student) to supervise at the beach, Karrie positioned herself chest-deep in the water with the students. The use of student informal/formal peer-and-self assessment, according to Karrie would normally have been undertaken by the fourth lesson, but was considered inappropriate for the beach (Field notes, March 6). Formal peer assessment uses student recordings in determining outcome levels while, informal peer assessment strategies are employed for teaching/learning purposes. Further to the breakdown of the school pool and subsequent loss of swimming time and the use of the beach, Karrie confirmed that formal peer/self assessment was forfeited for teacher-centred observation (Interview 2, p. 5).

During the second interview, Karrie discussed a process of self-evaluation and a consistent critical analysis of: "... the way we go about teaching things, by looking at how we assess the students, by looking at the variety of ways students can actually learn in the environment, and by promoting it with the kids as a unit that we value" (p. 8). Karrie perceived herself as: "someone who really promotes swimming in the phys-ed

programme” (Interview 2, p. 8), an approach she believed to be successful. She was confident in her ability to deliver a swimming unit: “... because I feel I have the knowledge and the know-how to go about doing it in a variety of ways and hopefully get some enjoyment and progress from all students” (Karrie, Interview 2, p. 8). The students in the class agreed by expressing positive sentiments toward their PE swimming teacher (M=3.95) and all of Karrie’s class believed that she was ‘good at explaining how they can do better at swimming activities.’ In addition, Karrie believed that, as a consequence of her ability to “mix things up” (Interview 2, p. 8), the students responded well and that they enjoyed themselves.

In acknowledging her undergraduate training as a source of technique knowledge, Karrie identified teaching swimming experience at a private institution during her undergraduate years, teaching with other staff members and discussing with colleagues who she considered to be strong in swimming, as informing her of what and how to teach. Karrie stressed that pool space impacts on the approach she takes, but: “... seeing what actually works for them (*students*) and helps them progress,” and past experiences have served to formulate her approach to HPE swim teaching (Interview 2, p. 7). In transforming her knowledge of swimming into pedagogical content knowledge, Karrie believed it was important to use meaningful cues and past student experiences. For instance, “in sidestroke, the arm action of pick the apple off the tree put it in the other hand and drop it in the basket,” along with land-based demonstrations, student in-water demonstrations and not to use long-winded discussion (Interview 2, p. 7). These teaching strategies were observed by the researcher (Field notes, February 2; March 6, 14). However, whilst there was a desire to minimise teacher instruction time, additional time was required to explain and administer safety procedures at the beach (Researcher, Field notes, February 22, 25, 27).

Maximising participation and activity levels, supporting student enjoyment, offering a variety of activities, allowing friends to work together while making the content relevant, and allowing individual progress in a non-threatening environment was seen by Karrie as the best HPE swimming learning environment.

Meeting Individual Needs

As previously discussed (School Aims and Policy), both PBGS in general and Karrie personally professed a fundamental educational belief to differentiate. The students’ perceptions of their teacher’s attempt to differentiate in PE swimming was

positive (M=3.93). All of Karrie's students believed that she was interested in what they wanted to learn in swimming lessons. Similarly, no student disagreed with the statement: 'My PE teacher teaches interesting things in swimming' (Agree=70.6%). Rumor declared the programme to be good because "... it involves things for all levels of swimmer" (Interview, p. 10). Karrie said it was "... just part and parcel of teaching swimming in a phys-ed class, ... the numbers that you have got, individualised needs" (Interview 3, p. 5).

During much of the first lesson, Karrie was observed making diagnostic evaluation of her students during noodle relays, technique drills, performance of form strokes, and opted for full butterfly stroke or dolphin kick, or did kickboard assisted butterfly (Field notes, February 8). The use of a noodle, to assist with buoyancy and the choice of which stroke to practice (Field notes, March 6) were also offered as options. Moreover, Karrie confirmed that differentiation was "... something that you have to incorporate into your programme, and plan for given the amount of space and within the variables that you have actually got" (Interview 2, p. 12). Rumor identified a differentiated approach employed at the beach, when she said: "... there like different levels for different things like how far freestyle and you were close to the sand or you were higher further out" (Interview, p. 10). Low ability swimmers were also allocated pool space nearest the side (Field notes, February 8). Whilst possible to achieve in the swimming classroom, Karrie's positive aims regarding differentiation were always guarded by the limitations of space, time and student numbers. Extending the students on the educational continuum was limited, as highlighted by Karrie's comments: "I think you can (*differentiate*) to a point, but ... there comes a point where the kids need smaller numbers ... with a coach to get them to extend, ... I do not think you can (*differentiate*) ... where you have one teacher to twenty five kids" (Interview 3, p. 7). Interestingly Beatrice described how the classes could be better structured for her needs in differentiated terms:

I would first ask people what they are good at and what they enjoy then I would split everyone into groups, not being mean but I would put the more advanced people in one group and the less advanced in another, they would both do the same things but more advanced swimmers would do things harder ... for the last day ask what kind of games you want to play. (Beatrice, Interview, p. 13)

Karrie identified the provision of choice, allowing students to work on self-declared inefficiencies, as features of differentiation and added that activities delivered in a flexible format with choice to suit varied ability levels by: "... doing some keyboard work as an option," and others are "... doing some work, combining the skills together" (Interview 2, p. 12) were also part of a differentiated approach. Furthermore, in such a setting, students were required to self-evaluate, peer-evaluate and peer teach. Peer teaching was preferred by Karrie for girls in Year 8 swimming and highly recommended it as bringing benefits to both parties. Peer feedback was provided in a paired format and by the non-participants. However, when using the non-participants, very little peer feedback was noted during the first session which involved carnival preparation activities (Field notes, February 8). When used later in the unit (March 14) the non-participants included the higher ability swimmers and the students appeared to have improved and enjoyed it (Field notes). When the students were given the choice of whom to partner for peer teaching, the researcher noted that the low ability swimmers appeared to pair themselves with fellow low ability swimmers (Field notes, March 6). Whilst functional for the high ability swimmers, this appeared a challenge beyond the abilities of the weaker swimmers (Field notes, March 6).

Karrie considered that assessment of outcomes in a differentiated form via opportunities for students to display learning was difficult. Asking students to show and talk about their performance, or a partner's explanation of what they think they could do better, according to Karrie, tends to be what happens. Collaboration between Karrie and her students occurred by allowing them, to indicate what their needs, readiness and interests were, via task cards, some choice activities and games: "but I would say not a huge amount" (Karrie, Interview 3, p. 2).

The Issues: Now and in the Future

Consistent with Karrie's previous comments, she believed pool space was a major factor impacting on the HPE Year 8 swimming programme because this impacted most to limit the potential of extending the proficient swimmers. Also, the mechanics of removing and re-applying the solar blankets, walking to the pool and changing time were also seen as limitations to the programme.

There were few non-participants in Year 8 and most non-participation resulted from "... illness, their (*menstrual*) period or forgotten uniform" (Karrie, Interview 2, p. 10). Non-participation numbers ranged from 1 to 8 students with a mean non-

participation rate of nearly 4 students per lesson ($M=3.8$). This non-participation included seven students in the first class who declared that they were unaware of the HPE swimming demands. Whilst believing that non-participation was not related to ability level, Karrie did confirm a belief that ethnicity had an impact. This further impacted in Year 10 where there is an intake of students from different cultural backgrounds: “particularly Asian students come from an environment where swimming is not promoted and they don’t see why it is important and you get more non-participation based on cultural groups” (Karrie, Interview 2, p. 10). Rumor agreed as she was born and schooled in Singapore, “... they (*Singaporeans*) don’t do very much swimming in school, it’s not important”, and “... that meant I was really bad” (Interview, p. 8). The Year 8 girls came from a variety of cultural origins but, according to Karrie, were mostly Australian born and were willing to be involved in swimming.

According to Karrie compulsory school racing style bathers was not an issue for the Year 8 girls. However, she identified that this was probably assisted by the fact that PBGS is a single gender school. Only one of the Year 8 girls expressed concern for wearing racing style bathers in PE with nearly 60% accepting the required bathers. Rumor rejected a need for board shorts, saying: “I reckon we should all have the same bathers cos I reckon it’s kind of smart when we all have the same” (Interview, p. 12). However, the cut and the material was an issue with the girls: “... they try to show as least skin as possible, but they end up going up your bottom” (Beatrice, Interview, p. 11). All agreed that they experienced a rash under their arm from the high cut. Rash vests were seen as an option to assist with sun protection, but were not worn by the girls. Karrie added that in Year 8 “... there are a lot of girls who cannot or have not attempted to wear tampons, ... or don’t feel confident at that stage (*so*) they generally don’t swim” (Interview 2, p. 11), thus impinge on the girls’ swimming outcomes.

In the TiC questionnaire, Karrie rated the temperature of the water as the number one issue. Cold water and feeling cold was most commonly listed by Karrie’s class when describing the worst thing about PE swimming. A dislike of the cold water was raised by the girls interviewed. “It’s really cold” (Rumor, Interview, p. 11), “... sometimes, on really cold days you have to swim and like we don’t want to go” (Amber, Interview, p. 11). The researcher noted that at a beach session with a breeze blowing, despite a temperature in the high twenties, the girls were finding the cold difficult to handle (Field notes, February 27). Similarly, getting changed and not having

enough time to shower was an issue for the girls and "... we have to have chlorine still on us" (Beatrice, Interview, p. 11); or "...you're all salty" (Amber, Interview, p. 10).

Karrie rated the beach as "... a real success" (Field notes, February 22) and wished to maintain it as part of the course for next year, well probably "twice" (Karrie, Interview 3, p. 5). She believed that she would emphasise pool awareness: "... about getting into difficulty in a pool situation and what you can do" (Interview 3, p. 5). Believing that she did not need to change her pedagogy greatly, Karrie indicated that the beach required more teacher-centred instruction than was ideal and Karrie would have liked to provide more peer teaching opportunities: "... giving the kids a little more choice in what they are doing" (Interview 3, p. 5). Communicating at the beach was also more difficult: "... it's harder to speak to them all at once" (Karrie, Interview 3, p. 5) and she expressed concern for losing swimming time to bus travel. Field observations confirmed that once on the bus, it was a nine minute trip to the beach (February 22). Amber agreed that, whilst having a love of the beach: "it's a real rush (*on the bus*)" (Field notes, February 27) and she didn't get much out "... of going in the water for like twenty minutes and sometimes even fifteen" (Interview, p. 10). The low ability swimmers, in Karrie's view, would prefer the pool where: "... they can have a rest at each end, ... and ... that helps the quality of their stroke technique" (Interview 3, p. 5), while the others: "a moderate and more advanced kid in a pool situation, I think that actually helps their progress, ... because you can get them to change tasks more quickly, and just the fact that you can communicate more" (Karrie, Interview 3, p. 2). The pool was indeed favoured by the girls interviewed, as exemplified by Rumor: "I liked the pool better because I'm used to that" (Interview, p. 11).

During Interview 3, Karrie indicated a need for clarification of the ratios for staff and students in a water environment, as deemed appropriate by education authorities. "The most important thing to fix up straight away is the ratio and get clarification, ... because that really scared people (*teachers*) and put them off" (Karrie, Interview 3, p. 6). In addition, Karrie expressed a need for the development of a cooperative way for staff to be able to update their qualifications.

Year 8 Swimming Competencies

According to Karrie a good swimmer, could swim at least 200 metres; including 50 metres freestyle, 50 metres backstroke, and 100 metres in 3 survival strokes (Category 5). Karrie's class agreed and most frequently (70.6%) chose this narrative to

define a good swimmer. Whilst in descriptive rather than quantitative terms, Rumor expressed a far less demanding definition of a good swimmer: "... someone who is average for the different strokes" and "... you have (*sic*) to be able to go into deep water" (Interview, p. 5). However, when pressed, Rumor agreed that being able to swim distances was important, more so than rescuing people. Beatrice and Amber, better swimmers than Rumor, appeared more demanding in their good swimmer definition, whilst both agreed that it was not about speed: "Your technique is really important, ... and I think life-saving is important ... I mean swimming is also important but not as important (*as life-saving*)" (Amber, Interview, p. 5).

A safe swimmer, according to Karrie, can swim 25-50 metres of freestyle, 15 metres of breaststroke, 15 metres in at least 2 other strokes, and perform a dive entry (Category 4). During Interview 3 Karrie further confirmed her safe swimmer definition as able to: "Look after themselves if they are put in a difficult situation, ... they fall out of a boat, ... and they are a couple of hundred metres from shore, ... they could get themselves to shore," or if "... they get into difficulty in a pool, ... they could get to the edge" (p. 2). Whilst actually physically towing someone to safety was beyond the safe swimmer definition, Karrie expected a safe swimmer at the Year 8 level would be able to rescue someone: "... use the pool cleaning rod, ... and throw something," without getting in the pool (Interview 3, p. 2). In addition, knowledge of beach safety, being able to assess open water conditions such as waves and rough water were part of Karrie's safe swimmer definition. Capable swimmers are those who: "Are proficient in all strokes, ... able to swim two-hundred metres in all strokes except butterfly, and ... swim eight-hundred metres with a combination of strokes" (Karrie, Interview 3, p. 2).

When defining the minimum HPE exit competencies for a Year 8, Karrie suggested:

... to be able to enter the water in a variety of ways, safely, ...dive,
...competent in all strokes except butterfly, freestyle ... a hundred
metres continuously, breaststroke ... 50 metres continuously, ... survival
strokes continuously ... a hundred metres of swapping from one stroke
to another. (Interview 3, p. 2)

Karrie also identified (Interview 3) that Year 8 students needed to be prepared sufficiently to meet the demands of Year 9 and Year 10, where there is little time to spend on stroke technique.

Summary

Karrie: An Experienced TiC who Rated Swimming Competencies Highly

Karrie was observed six times while teaching Year 8 swimming to a class of 21 girls, three of which were at the local beach. Karrie was a very experienced teacher who rated swimming as the most important unit in Year 8 HPE.

Year 8 HPE Swimming at PBGS

Analysis of the programme showed that the majority of the programme focused on stroke technique analysis/correction. This, according to Karrie, was in response to the lowest ability swimmers who were inefficient swimmers, and were not confident or comfortable doing freestyle and breathing. Karrie believed that due to the loss of the pool, the unit and the learning experience was impacted on. While Karrie believed that the majority of the students improved their stroke technique, the higher ability girls had not improved. Amber and Beatrice, relatively strong swimmers and confirmed that they had not improved or acquired new knowledge. Rumor was a relatively weak swimmer who declared improvement for her sidestroke, freestyle, survival backstroke and she had learned to swim at the beach.

The students enjoyed the experience by declaring it fun, and all of the girls would choose to do swimming if it were optional. More challenging activities, lap swimming, group work and games, were listed by students as potential improvements to the programme. Karrie believed that more space would enable better outcomes.

Teaching Year 8 HPE Swimming at PBGS

Karrie's professed self-confidence in her ability to deliver a swimming unit and this was supported by the students. Karrie was observed using predominantly the practice style. She also used the reciprocal style, small group work and student-centred methodologies such as self-choice practice and task cards. Peer teaching was preferred by Karrie for girls in Year 8 swimming and she recommended it as bringing benefits to both parties. However, when the students were given the choice of partners for peer teaching, low ability swimmers paired themselves with fellow low ability swimmers.

This functioned well for the high ability swimmers, but appeared to be a challenge beyond the abilities of the weaker swimmers.

Past experiences of what works have served to formulate Karrie's approach to HPE swim teaching. In transforming her knowledge of swimming into pedagogical content knowledge, Karrie believed it was important to use meaningful cues and past student experiences. Pool space was identified as impacting on the approach taken.

While Karrie confirmed that differentiation was essential, she believed that extending the students on the educational continuum was limited by class size. Differentiation techniques such as on-going diagnostic student evaluation, different activities for different ability levels, provision of student choice, allowing students to work on self-declared inefficiencies, least ability swimmers allocated pool space nearest the wall side, self-evaluation, peer-evaluation and peer teaching were observed.

The Year 8 girls' swimming outcomes were affected by the fact that girls generally don't swim when menstruating. Non-participation averaged nearly 4 students per lesson and, as confirmed by Karrie, most were accounted for by parent signed excuse notes. Cold water and feeling cold presented as the number one issue of PBGS Year 8 HPE swimming, and was evidenced as impacting on the student learning experience.

Whilst rating the beach visits successful, it required more teacher-centred instruction than Karrie believed was ideal. Communicating at the beach was also more difficult and bus travel was lost time. Despite a self-declared love of the beach by some of the girls, they favoured HPE classes at the school pool.

Karrie indicated a need for clarification by education authorities of the ratios for staff and students in a water environment. In addition, Karrie expressed a need for the development of a cooperative way for staff to update their qualifications.

Swimming Competencies

According to the students good swimmers can swim at least 200 metres. When defining a safe swimmer Karrie confirmed they could swim 25-50 metres of freestyle and perform a dive entry. Karrie expected a safe swimmer at the Year 8 level would be able to rescue someone without getting in the pool and assess open water conditions. When defining the minimum HPE exit competencies for a Year 8, Karrie suggested much of what defined a safe swimmer.

Annika: Facilitating Student Independence whilst Limited by Time

The Case Study Context

Annika taught Year 9 HPE swimming to a class of 24 female students and was observed eight times (12th February to 9th May, 2002). There were 9 water-based lessons delivered, with two undertaken at the beach. Another programmed HPE swimming lesson was taught in a classroom due to a malfunctioning swimming pool filter and one health lesson was used to deliver scenario and resuscitation activities. Hence, a total 11 lessons were allocated to Year 9 HPE swimming. Each lesson was of 50 minutes duration. Annika completed a teacher questionnaire on the 4th of May and was formally interviewed on three separate occasions, 28th February, 10th April and 22nd May. All of the class completed a post unit student questionnaire on the 12th of May. Sharon, Lisa and Kate were pre-selected by Annika for possessing a range of swimming abilities and they agreed to be observed, supply post-lesson comments and form a post-unit focus interview group (16th May).

The focus group students: Sharon, Lisa and Kate.

Sharon was a “state swimmer” (Sharon, Interview, p. 1) who swam out-of-school time about 7 times a week. She really enjoyed her swimming and believed that being a good swimmer was “very important” (Sharon, Interview, p. 1). Sharon was confident in her swimming ability and believed that she possessed the skills to save another person in a pool or surf environment. At the end of the unit, she passed her Bronze Star Award and recorded a time of 6 minutes and 9 seconds for the 300 metre swim. Sharon’s parents encouraged her to swim, yet: “Mum doesn’t really like swimming but she can swim a couple of laps and my dad’s an average swimmer” (Sharon, Interview, p. 2).

Lisa rated herself a 7/10 swimmer and stated: “I am a good swimmer as I can swim a long distance without getting tired” (Lisa, Interview, p. 1). Lisa said that: “I only swim on summer holidays and at school for PE and Sport and Rec (*sic*)” (Lisa, Interview, p. 1); but believed that she had the ability to save another person in the pool and surf. Lisa was awarded the Bronze Star at the end of the unit and she swam the 300 metres in 30 seconds less than the 10 minute cut-off time. Whilst Lisa believed: “...

being a good swimmer is important,” she thought that no one person had any special influence on her aptitude for swimming, but she did not like racing. Lisa rated her mum and dad as “just average swimmers” (Lisa, Interview, p. 1).

Kate believed that swimming was an important skill: “... in case you or someone else gets into danger,” but she did not “have any ambitions of being a really good swimmer” (Interview, p. 1); and did not swim outside of school. Kate rated her own swimming ability at a 3, 4 or 5 out of 10 (Interview, p. 1). She was confident that she could save someone in a pool, but not at the beach: “... no, I don’t think so in the surf” (Kate, Interview, p. 1). Commensurate with her own rating, Kate was unable to display all of the required survival skills and performed the 300 metre swim in 11 minutes and 27 seconds. Therefore, she did not pass the Bronze Star Award. Kate had: “... done swimming lessons Grade 1 to 7 with the school,” but had not made any consistent attempt to swim beyond her school experiences and “not as a competitive sport” (Interview, p. 1). Kate rated both her parents as average swimmers.

Life History and Teaching Philosophy

Annika was 25 years of age and was in her 5th year of teaching primary and secondary HPE. This was her 4th year at PBGS, after teaching one year at a metropolitan Senior High School. She completed a Bachelor of Health and Physical Education in 1996 and a Diploma of Education in 1997. Annika was the oldest of four siblings in a family that: “... grew up in the country generally being very active in sport and the community, sport was a big part of the lifestyle” (Interview 1, p. 1). Her “tiny little” primary school “... didn’t have a phys-ed specialist”, but “...parents would come in and do netball or hockey, depending on what you played” (Annika, Interview, p. 1). Annika, completed her secondary education at a regional Western Australian high school which was an experience that she didn’t enjoy: “I guess there were a whole host of reasons, but particularly being strong at sport I found that quite intimidating, ... almost tall poppy syndrome cut down because people didn’t, weren’t comfortable with you because you made them look bad” (Annika, Interview, p. 3).

When she had finished school: “... the last thing I wanted to be was a teacher” (Interview 1, p. 3). Annika entered a Human Movement course after she followed her mother’s advice: “you love sport, you are good at sport, chances are that you will do well if you study it” (Annika, Interview 1, p. 3).

In contrast to what she described as her own PE experience, Annika summarised her approach as student focused: “I guess the thing I love about my job is kids, they’re crazy, they make me laugh, hopefully I make them laugh too” (Interview 1, p. 5). Her approach was based on the successful union of what she described as key elements: “PE should be fun, they should be safe, they should try new things ... and they should hopefully want to keep doing it” (Annika, Interview 1, p. 5). In addition, the acquisition of skill was important to Annika’s teaching of the girls: “... if you (*read students*) don’t have the skills it is not likely that you (*read they*) will enjoy it” (Interview 1, p. 5). She stated: “they need to have the opportunity to safely develop those, so that could be physical or that could be emotional, ... safe to excel,... or fail and, ... there is no-one that is going to ridicule them,” (Annika , Interview 1, p. 6). She reflected that: “... phys-ed is obviously part of their whole learning experience; it doesn’t have to be the be-all and end-all” (Annika, Interview 1, p. 6). Asked if she were able to live out her beliefs and philosophy, Annika stated: “yes, ... I still enjoy it and a lot of kids have a relationship with their phys-ed teacher, they will come in and tell you and I hope that means that something is working” (Interview 1, p. 5).

Swimming Experiences

During her primary school years, Annika remembered traveling into the nearest regional city for Interm swimming lessons: “I think we did them twice a year for two weeks at a time about half hour, three quarter hour lessons” (Interview 1, p. 2). In addition, Annika participated in Vacswim lessons, predominantly at the beach: “I started ... when I was about six and probably carried over through until ... Year 9” (Interview 1, p. 2). Annika, described her own secondary school HPE swimming experiences as: “... in-house swimming carnivals every year” and “... we would have done swimming along the way and a surfing unit as well,” but “... no formal swimming or training or private lessons” (Interview 1, p. 2). Growing up in the country, Annika confirmed that swimming was “... not huge, although people did surf it was too cold to swim” (Interview 1, p. 2). Further to these relatively limited opportunities, Annika confirmed that swimming was not currently a significant part of her life: “I do try to swim in summer-time, to cool down” (Interview 1, p. 2). Annika, described herself as: “...capable and I am technically okay, ... I can do everything that I need to do but I don’t feel that I am a strong swimmer ... I would consider swimming is one of my weakest abilities” (Interview 1, p. 2).

In her undergraduate preparation, Annika "... spent two hours, ... once a week for a semester basically going through all the teaching progressions and strokes, and how to teach I guess basically young children" (Interview 1, p. 4) as part of a compulsory biomechanics unit. Further to this, Annika "did my (*her*) 20 hours for AUSTSWIM" accreditation at UWA and from there they offered me a position... and I taught (*in the Uniswim Programme*) for about three and a half years (Interview 1, p. 4). The Uniswim Programme provided Annika with a strong swim teaching experience, with "lessons ... all maximum of 4 kids in a class and predominantly stroke technique, and I took squad as well" (Interview 1, p. 4). Since joining PBGS Annika has maintained a Royal Life-saving Society Bronze Medallion.

The Importance of Swimming in Schools

With a strong link to the inter-school programme, Annika confirmed that swimming was "... the only one (*read activity*) that they pick up every year" in the HPE programme (Interview, 1, p. 6). The climate and the proximity of the school to the beach, according to Annika, were important reasons for a focus on swimming at PBGS, confirming: "... it's a big part of most of the girls' lifestyles so therefore if they are in the water, ... it's got to be one of the major priorities" (Interview 1, p. 6). Furthermore, Annika expressed as a student outcome: "... it is really important that they feel confident and they are also aware of their own fears, so they know what they can do, but they also know what they can't do" (Interview 2, p. 1). Annika's students also rated aquatic proficiencies highly, with most of the Year 9 students confirming that it was important to learn how to be a safe swimmer (86.4%) and to learn how to save people in the water (90.9%).

Although Annika's belief in the importance of delivering consecutive aquatic units was much in evidence, she confirmed that, without the school pool: "I think it would be very difficult if we had to go off campus" (Interview, 2, p. 2). Given the existing timetable structure at PBGS, and the need to travel "... at least 10 minutes," it was suggested: "... from previous experience, ... they would only get half an hour in the water, ... there's not much point" and "... it wouldn't be viable" (Annika, Interview 2, p. 2).

Whilst believing that: "... there are a huge range in the standards and qualifications and interests of teachers" in the HPE community, to teach swimming in schools, Annika believed that professional development "... is really important you

need to keep it up to date with new ideas” (Interview 3, p. 4 and 5). Annika considered that the success of swimming in schools was dependent “... on what the attitudes of the staff (*were*) to take classes” (Annika, Interview 3, p. 4). When discussing swimming in schools in general, Annika was not complimentary: “If I was a parent and I had kids, I wouldn’t be relying on what happens at school to teach my kid to swim” (Interview 3, p. 5). Annika believed that the quality of teaching and time allocation, were “... just not sufficient to get their skills to a reasonable level or to a safe level” (Interview 3, p. 5).

Year 9 HPE Swimming Programme

Unlike the Year 8 HPE swimming programme at PBGS, there were no written prescribed department activities or related progressions for the Year 9 Bronze Star unit. The relative newness of the unit may in-part have been a reason: “this is, ... only the second time that we have done this course like this” (Annika, Interview 2, p. 3), and the unit was focused on teaching and assessing the RLSSA prescribed Bronze Star Award. Using an external award determined the content delivered: “... pretty much all of the stuff had ... been done specifically because it related to the course” (Annika, Interview 2, p. 4). Annika described the unit: “... (*it*) is actually divided into two parts, there is the swimming side of it but there is also the EAR-resuscitation (*expired air resuscitation*) side of it” (Interview 2, p. 2). In defining the course focus: “I guess the general safety, just safety of themselves is probably the most important thing, their self-preservation, ... and them having the ability to help someone else,” while you’re “... not going to put yourself at risk” (Annika, Interview 2, p. 2). While Annika referred to a package from RLSSA which detailed lesson content and process, the influencing factors of “... what you end up doing each day,” included “... how many other classes are in the pool, whether they’re also doing Bronze or just Junior School classes and whether they need to go up and down the pool or across the pool” (Annika, Interview 2, p. 4).

The observed activities (Table 9) were focused on life-saving, which consumed 84.1% of the total activity time. Survival and safety/water awareness activities were observed 7.5% of the time. For nearly 20% of the allocated class time, the class was engaged in administrative or non-teaching activities.

Table 9: Annika's Year 9 Unit - Activity and Administration Time

Pebble Beach – Year 9	Class format
% Allocated Activity Time	Whole class %
Stroke technique analysis/correction	3.2
Life-saving	84.1
Survival	4.7
Safety/water awareness	2.8
Preparing for carnivals – e.g., time trials, starts, turns	-
Water confidence activities and games	3.8
Specific training/fitness programme	-
Free swim/recreation	1.5
Structured games – e.g., water polo	-
Administration Time (% of total class time): administrative duties, equipment management, student transition and rest	19.7

A maximum of two classes were observed in the pool at any one time during the unit. Although pool space was raised by Annika: “I would probably like to see ... to reduce the number of classes that are using ... the pool at one time” (Interview 3, p. 3), it didn't appear as a major issue of concern (Field notes, February 12). However, the pool closure: “... has been causing havoc” (Annika, Interview 1, p. 7), combined with the subsequent use of the beach for two lessons, appeared to impact on not so much what was offered, but the time available to complete the Bronze Star Award. Whilst reflecting on the first beach lesson, Annika said: “... it wasn't a crash hot lesson, it was a shocker” (Interview 2, p. 8). Without the lesson backing onto a lunchtime or “... another break, it's really not worth going down there” (Annika, Interview 1, p. 8). Supporting these comments, the researcher measured an in-water time for the first beach lesson of 12 minutes and 20 seconds (Field notes, February 25), this equating to approximately one quarter of the allocated HPE lesson time. In addition, the new guidelines for water-based activities according to Annika, “... makes it harder to take classes to the beach because you need more supervision and more preparation and organisation” (Interview 1, p. 7). The beach, Annika said: “... gave the girls a chance to practice some of their skills in an open water environment,” and “... we also talked about beach safety” (Interview 1, p. 7). Moreover, Annika expressed concern for the

safety of the students at the beach: "... that was a huge thing, especially the first time so you have to get all of your buddy systems together and what your signals are going to be and the defining areas" (Interview 1, p. 7). Reaffirming the implications of the pool closure, during two of the programmed swimming lessons, Annika delivered athletics lessons. Given that this time was lost at the beginning of the unit, Annika confirmed that she had to "... plough through ... as quickly as possible, ... and get them out before it gets too cold and they really hate being in the water and hate swimming" (Interview 2, p. 4).

Assessment and Reporting of HPE Swimming

When discussing the Curriculum Framework, Annika declared it inappropriate for the Bronze Star Award: "... we had looked at the grids that have come out and modified and altered those to suit our needs at PBGS" (Interview 2, p. 8). Annika maintained an Assessment – Bronze Star checklist (Appendix U) in her teaching clip-board. Referring to the end of semester student report she stated:

... all Year 9's have a portfolio of their term and that checklist ... has got a little box for each section of the Bronze Star. If they have passed that, that will be ticked off ... and also there is a little bit at the bottom which says if they have completed the whole thing, and then they will get a written report (Annika, Interview 2, p. 3).

Whilst not using the Student Outcomes as defined by the Curriculum Framework, Annika confirmed during Interview 2 that she was not sure if one of those outcomes, Interpersonal Skills, would be assessed in this unit. She stated: "I think at this stage we still have a choice as to whether we want to assess that formally or not" (p. 3). She added: "They're certainly a big group of girls there and they have shown excellent interpersonal skills in terms of their ability to work with other people, help other people and take on assessing roles" (Annika, Interview 2, p. 3). Whilst confirming that she "... would informally take notes on who does what" (Annika, Interview 2 p. 3), the final assessment of the students included only the skills checklist for the Bronze Star Award.

The Impact of HPE Year 9 Swimming

When asked her opinion about the outcomes of the swimming unit, Annika said: "... most of them have gotten through which is good" (Interview 3, p. 1). She believed

that: "... they are all more confident about their own abilities ... and they have got a better idea of the whole life-saving process ... the concept of self-preservation has been reinforced" (Interview 3, p. 2). Whilst Annika reflected on the constraints: "... given the time in the classroom," "... the beach ... that wasn't ideal" and "... a lot of girls in and out doing music lessons", she confirmed: "... out of 24 students, we had 11 who passed the Bronze Star assessment and we had another 11 pass the resus (*read resuscitation*) component of that, so we had 2 students who didn't pass certain sections" (Interview 3, p. 1). Annika believed that these two unsuccessful students were "... quite weak swimmers at the start" (Interview 3, p. 1), she was convinced that they had developed new skills and they had improved, but: "... they are not at a level where they would be able to rescue someone competently" (Annika, Interview 3, p. 1). The researcher agreed and wrote: "low ability students over-challenged by timed distance swim, search and towing" (Field notes, March 23).

Annika also reflected on a relatively low number of girls who presented without their swimming uniform, when discussing the success of the programme. Several students who had completed the Year 9 HPE swimming course before the final lesson were invited to come unchanged and peer-teach. Therefore, providing a simple numeric summary of the non-participants would be inappropriate. During the first six lessons, the highest number of non-participants was 3 girls (Field notes, February 12, March 20 and 25). In the second last HPE swimming lesson, there were six non-participants, five of whom did not have their uniforms (Field notes, April 4). During this session, the conditions were: "windy, cool, low twenties (*temperature*)," and not particularly inviting (Researcher, Field notes, April 4). It was during the second interview that Annika specifically referred to "a couple" of students who had consistently forgotten their uniforms: "... so they won't get through the course because they haven't spent enough time in the water and they suffered a detention" (Interview 2, p. 9).

According to Annika the concept of focusing the unit on an award has: "...been very motivating for them to actually know that there is an award to achieve, something like a certificate at the end ... I think they like that" (Interview 2, p. 1). Simone and Kate agreed that it was a motivator, confirming it was "important for me to pass" (Simone, Field notes, March 15), while Lisa suggested that she did not care (Field notes, March 25). The researcher regularly noted that the students displayed high levels of interest and motivation (Field notes, February 12 and March 20), were very keen and

motivated to learn and achieve (Field notes, March 15). Also, they showed high levels of concentration, asked questions and were focused (Field notes, March 25).

Eight students (38.1%) agreed that their swimming had improved, four believed that they had not improved, and the remaining 12 were unsure. Moreover, 86.4% of the students stated that their ability to save someone had improved during the term. Sharon's comments were reflective of these data: "No I wouldn't say it (*swimming*) has, but ... my sense of ... knowing what to do if somebody is in trouble (*has*), but not my swimming" (Interview, p. 3). Lisa, whilst not convinced that her swimming had improved, believed that she was a "stronger" swimmer and had "... learnt a lot which I didn't know" (Interview, p. 3). Kate was the least proficient swimmer of the three girls interviewed and also confirmed that she had learned "a lot" (Interview, p. 3). Unlike the others, she did believe that her swimming had improved. The students provided a positive response when describing the outcomes attained from HPE swimming ($M=3.36$).

Whilst discussing the outcomes for the weakest swimmers, Annika proposed: "... they haven't achieved as much," but three of the girls "... they kept progressing ... they have really grown in confidence as well" (Interview 2, p. 6 and p. 7). Annika suggested that the weakest girl in the class was "an extreme case," suggesting: "... she can actually float from front and back now, her breaststroke is looking okay, and she has started to learn backstroke, which she had never done before" (Interview 2, p. 6).

When discussing the level of student enjoyment, Annika said: "... probably wasn't as fun as other aspects," ... "I guess the nature of swimming is that there is quite a lot of content that you have to get through and the time aspect is not always as it could be" (Interview, 3, p. 1). Moreover, in response to one lesson, Annika expressed similar concerns: "Got lots done, ... still a bit boring, trying to get it done before it gets too cold" (Field notes, March 25). In recognition of her unease and nearing the end of this lesson, Annika presented a game of scarecrow tag and a handstand competition (Field notes, March 25). On the same day, Annika remained behind after class with four students, who: "... had struggled during the lesson and re-assessed with further instruction" (Researcher, Field notes, March 25).

Sharon and Lisa declared enjoyment of HPE swimming and both confirmed the acquisition of new skills. Kate did like it, but: "usually I'd rather swim by myself rather than have, like teachers testing you" (Interview, p. 2). Nearly 70% of Annika's class declared their enjoyment of HPE swimming, while two students did not enjoy it. This

agreed with Annika's estimation that 60-79% of the students enjoyed the unit. Fourteen (63.6%) of the Year 9 students agreed that the activities were interesting, while only 19.0% of the students wanted to do more HPE swimming. Annika's class generally declared PE swimming to be fun ($M=3.55$). 'It's fun', was recorded most commonly by Annika's class when responding to the open question: 'What is the best thing about PE swimming?' Sixty-eight percent of the girls in Annika's class confirmed that they would choose to do HPE swimming if it were optional, while seven girls would not. This compared with 66.6% of the total Year 9 student cohort in the study.

Kate rated the programme 8/10 and stated: "... it taught me lots of things, it taught me what to do when someone's in trouble" (Interview, p. 3). Both Lisa and Sharon also declared the programme worthy of 8/10, with Lisa stating: "... it did meet my needs, I learned to rescue people and like I got my Bronze Star" (Interview, p. 3). When asked what was required to give PE swimming a 10/10, only Sharon presented any ideas: "Maybe if we had like, more time just to figure it out ourselves as well, like we had a teacher show us but then if we maybe ... 5 minutes just to spend working it out and practising" (Interview, p. 3).

A Teacher of Year 9 HPE Swimming

Annika identified teaching experience as the number one source of understanding of what and how to teach HPE swimming and the second most important quality leading to teaching success. Furthermore, she identified "Enthusiasm for the unit" and "Technique and life-saving professional development" as the first and third most important qualities needed to successfully teach Year 9 HPE swimming.

During the unit, Annika was accompanied by an assistant teacher (Gayle) on 4 occasions (Field notes, March 7, 15 and 25; April 4). Gayle, a former PGBS HPE administrative staff member, was a qualified RLSSA instructor and examiner. While believing that she could get by without that help, she described working with Gayle as "fantastic" (Annika, Interview 2, p. 6). The researcher noted the value of Gayle: "Two staff, significant impact on allowing for maximising participation and activity levels and learning experience" (Field notes, March 7). Annika highlighted Gayle's level of importance at the beach: "Thank God we had Gayle today she is full-on on RLSS and that was a great help, we just couldn't of got through (*read the content/award*) without her" (Field notes, March 7). Perhaps Annika's appreciation of Gayle was indirectly reinforced in her comments: "Teaching swimming is not my thing" and along

with aerobics: "... the two I am least equipped in personally" (Annika, Field notes, February 25). Whilst comfortable teaching in the pool environment, Annika expressed some concern for teaching at the beach in a "much less defined" location (Interview 2, p. 7). However, Annika confirmed that next year she would still like to "... be able to take them to the beach" (Interview 3, p. 4). For the first beach session Annika was supported by an assistant GAP student teacher. During the second beach session, she was accompanied by Gayle and the GAP student teacher.

During Interview 2, Annika declared the importance of using a student-centred approach when she said: "I would hope that would be the case because that is what I am there for!" (p. 5). However, in clarification, she expressed for using a teacher-centred approach in the initial stages of the unit: "...the kids don't know me very well and they don't know what I expect and I don't know what their abilities are like, so especially that first few lessons, they are very structured" (Interview 2, p. 5). The researcher observed predominantly a teacher-centred command and practice styles during the first pool session and the subsequent two beach lessons, with some paired reciprocal activities (Field notes, February 12 and 25; March 7). Whilst believing: "I can make them jump out, sit down, do whatever," Annika thought "... in terms of their overall development, that it is much better for them to have the opportunity to explore things for themselves, ... and by the end of the year, they ... can pretty much run themselves" (Interview 2, p. 8). It was noted late, in the unit that: "Students are very good at working independently without direct teacher supervision and in practice style" (Researcher, Field notes, April 4). Whilst consistently using a reciprocal peer teaching/assessing format, Annika employed a practice style with students working in pairs or small groups, independent of her direct supervision, in all of her classes. In addition, Annika used the inclusion style on several occasions, aware of a need to balance her desired approach within the constraints of time, as she had to "plough through" (Interview 2, p. 4) and would "... probably ... of liked to make it more interactive" (Interview 3, p. 3). While Annika consistently employed land and water-based demonstrations, her instructional and administration techniques were employed with minimal loss of activity time (Researcher, Field notes).

Annika described her goal as trying to: "... assess that their swimming ability was okay" and "... start with the basic sequences, ... so they gradually get more confident, so that the kids are gradually being taken along that continuum" (Interview 2, p. 4 and p. 5). Whilst the first lesson activities appeared to be "... pitched at the middle

ability swimmers,” “... the focus was to make on-going diagnostic assessment through survival activities with stroke correction and confidence activities” (Researcher, Field notes, February 12). As the unit unfolded, Annika attempted to: “... definitely try and get them to take ownership of their own learning,” by “... a station type situation where we might have a demonstration at the start of the new skill, and then put people straight into that” (Interview 2, p. 5). Annika described some of the weaker students in the class: “... they’ve all done two laps at different stages albeit a fair bit slower” (Interview 2, p. 7). She identified how the use of teaching stations allowed these weaker students to work together: “... and it means that they can go off and do the thing that they need to do without everyone knowing that maybe they are struggling” (Interview 2, p. 7). While Annika did not use stations during the beach lessons, station work was consistently employed in the preceding lessons, with a high level of success (Researcher, Field notes). The students worked “extremely well” in small groups with “lots of continuous feedback from the teacher” (Researcher, Field notes, March 15), they were also seen to be “very good” at working independently in a station format (Researcher, Field notes, April 4).

Annika reflected on the unit lending itself to the use of peer teaching: “... you sort of get smaller groups and then you give them jobs to do and supervisory roles, And, at the end, they knew what they needed to do and it was up to them to get on and do it” (Interview 2, p. 5). Whilst referring to the benefits of peer teaching: “... it is a positive thing for all of them to be involved in, as long as it’s done in a positive way,” and Annika believed that “it has worked out really well” (Interview 2, p. 6). On reflection, Annika believed that the students enjoyed the opportunity to assist each other, and the opportunity “... to let them show me what they can do and let them take on that responsibility” and as a consequence this had allowed her “... to get through a lot more” (Interview 2, p. 5). The researcher noted the difficulties of operating in smaller groups with a teacher-centred approach to assessment: “This is very time consuming and lots of standing around,” and: “Sharon and her group waited, watched and listened poolside (5 minutes and 51 seconds), while another group was assessed” (Field notes, March 15). This occurred despite the assistance of Gayle. Further to this, and notwithstanding the cooperation of the students, the: “whole group appeared very motivated and interested in the tasks, they were very keen and worked hard,” ... “lesson went over-time because of assessment of the final groups, who were not strong and needed further work” (Researcher, Field notes, March 15).

When rating Annika as a teacher of HPE swimming, the students expressed positive sentiments and recorded a mean of 4.04. In addition, all of her students believed that she was good at explaining how to improve their swimming.

Annika made informal diagnostic student evaluations during the early lessons (Field notes, February 12 and 25) and, in the third and fourth lesson the students were formally assessed (Annika, Field notes, March 7). Formal assessment was undertaken within the teaching framework: “With assessment came practice and instruction, revision from the teacher and Gayle, before the assessment took place” and the opportunity to immediately repeat inappropriately performed tasks (Researcher, Field notes, March 25). In later classes, the researcher observed: “There is always a lot of teaching and revision that goes ‘with’ formal assessment, it is not just assessment” (Field notes, April 4).

Meeting Individual Needs

When asked if she thought the Year 9 HPE swimming programme was meeting the needs of students, Annika replied: “I tried to relate it to them and their lives and the things that they do in order to make it relevant to them” (Interview 3, p. 2). In declaring a self-expressed desire to take students from where they are at, Annika said: “... for some kids that have never swum before and we do get kids like that in our classes, ... getting them to float, that in itself might be an achievement for them” (Interview 3, p. 3). Further to this, Annika confirmed that the existing abilities of the students’ functions influenced her teaching approach: “If they are weak, ... they probably need more one-on-one attention and it really helps if they can touch the bottom of the pool” (Interview 2, p. 8). With medium ability swimmers: “... you probably find it better to do more drill and they can either have direction from the teacher or I can get them to work in pairs” (Annika, Interview 2, p. 8). Stronger swimmers, according to Annika, work well by: “... giving them a situation to what they need to achieve and then giving them the opportunity to figure that out for themselves” (Interview, p. 3). The latter comments were reinforced by Sharon. In addition, they “... are really good to go back and help some of the weaker swimmers (Interview 2, p. 8 and p. 9). Such rhetoric supports the PBGS School Aims and Policy document, both of which profess an educational belief to differentiate. According to Annika, by trying to use different strategies and different techniques, this allowed the students: “... different opportunities to find the teaching style or learning style that suits them and at a level that is appropriate for them, it

has been quite flexible in terms of that" (Interview 2, p. 9). Annika also identified: "Peer teaching, students select own activities, group work, individual work, having multiple activities running" as methods to cater for varied ability levels in the class. Peer assessment also served to contribute, so: "... students can achieve at their own level" and this Annika identified as the strength of the Year 9 programme.

Annika believed that she had: "a realistic point of view, everybody comes with different expectations and different things that they want to get out of it" (Interview 2, p. 6). She also felt that she that responded to student needs:

... over time we... talk to our class about what they liked of (*sic*) courses, what they didn't like, and if you've got a big range of students in your class it's hard to challenge and motivate everyone, ... so that has been an important focus and has included talking to those students (Interview 3, p. 2).

All of Annika's students believed that she was interested in what they wanted to learn in swimming lessons, while only one disagreed with the statement: 'My PE teacher teaches interesting things in swimming (Agree=63.6%). The students' perceptions of the teacher differentiation in PE swimming were generally positive (M=3.66).

Annika identified the provision of choice:

Basically all the kids had the opportunity to select tasks that were appropriate to their level, so they started off with the ones (*read activities*) that they could all do and then split them into groups in levels of what they needed to do next, but that was sort of based on their strength ability wise without being told that they were streamed for ability. (Interview 3, p. 5)

An example of Annika's differentiated approach was noted: "Students were divided into groups based on what activities had and had not been done in previous lessons" (Researcher, Field notes, March 20) for the majority of the lesson. The researcher concluded: "... the students work very well, motivated, interest high, maximising use of time, this was a very effective lesson" (Field notes, March 20). Interestingly, whilst Annika would like to stream out "... the girls that really can't swim," she was not in favour of streaming students into separate classes for ability: "I don't think it's a bad thing to have students at different levels" (Interview 3, p. 4). She further explained that

it was good for both the high and low ability students to mix: "... the strong swimmers see what it's like for a weak swimmer, and the weak swimmers to see what the strong swimmers do" (Annika, Interview 3, p. 4).

Peer teaching was seen by Annika as "absolutely" having a role in her Year 9 swimming class (Interview 3, p. 5): "I wouldn't of been able to get through anything like that amount that I did, if I didn't use peer teaching" (Interview 3, p. 6). Annika identified the use of the stronger swimmers to assist others to pass, particularly: "... once those students have met all the criteria and passed that section of the course" (Interview 3, p. 6).

The Issues: Now and in the Future

Annika perceived a need for more time: "... if probably the classes are about 15 minutes longer then you would be able to teach and assess them more effectively, wrap things up and get closure" (Interview 3, p. 3). In addition, Annika said that more time and space would alleviate some of the pressure to get through the course and, "I probably would of liked to make it more interactive" (Interview 3, p. 3).

In raising cultural issues, Annika discussed one girl from her class: "... quite often the Asian girls when they are menstruating they won't participate in swimming, to do with the whole tampon issue and they just don't go there," in addition to her, "... there are two in that class, ... boarders who are overseas students, that regularly had to have time out for those sort of reasons" (Interview 2, p. 9). She believed a relationship between ethnicity and ability existed: "... they tend to be your weaker swimmers as well because of the swimming thing isn't emphasised as much in their culture, and they just don't value it as much as we do here" (Annika, Interview 2, p. 9).

Annika saw water temperature as one of the possible reasons why several of the girls were non-participants. Cold water and feeling cold was most commonly listed by Annika's class when describing the worst thing about PE swimming. The researcher noted that during late March, the girls were finding the conditions cold and this negatively impacted on the students' attitudes and the lesson outcomes (Field notes, March 25). Annika was aware of the cold issue and was attempting to complete the course as quickly as possible (Annika, Field notes, March 25).

Having to swim the 300 metres was the worst aspect of Year 9 HPE swimming for Lisa (Interview, p. 2). However, Sharon highlighted repetition: "going over the stuff

that I'd done" (Interview, p. 3). Kate didn't have a worst aspect: "... just keep it as it is" (Interview, p. 2).

Lisa's comments at the second of the beach sessions highlighted a level of dissatisfaction: "I don't like the beach that much, I would rather just swim around and have fun, play games, free swim" (Field notes, March 7). In contrast, Lisa referred to going to the beach as the best part of Year 9 HPE swimming: "the beach... was like better than the pool" (Interview, p. 2). While Sharon agreed, she valued its practical application: "... cos there's probably more people getting stuck out at the beach than in a pool" and "... we did tows there, which was good" so "... you get used to it" (Interview p. 2). Furthermore, Sharon and Lisa believed: "... maybe two (*beach*) sessions" (Sharon, Interview, p. 2) would be most appropriate for future swimming classes. While the researcher noted: "... the open water experience is a positive learning environment for these students," however: "... concentration and operating in a public beach environment is unsettling for some" (Field notes, February 25). Students appeared distracted by the 'being seen' and 'image issues' (Researcher, Field notes, February 25). Heightening these concerns for the students may have been the wearing of compulsory school bathers at a public beach, however: "I think this issue was minimised by the low key tone and voice of a young teacher, decreasing the embarrassment for some" (Researcher, February 25).

During the third interview, Annika reflected: "... if we think that the status of swimming (*in schools*) is really important, then I think we need to develop training for all those who are involved" (p. 4). Further to the enhanced development of training that is specific to HPE swimming teachers, Annika expressed: "... by reducing the number of students in classes and have extra help that allows you to split them into smaller groups" (Interview 3, p. 4).

Year 9 Swimming Competencies

Annika suggested that good swimmers must be able to swim at least 400 metres; including 100 metres freestyle, 100 metres backstroke, 200 metres in 2 survival strokes, and 25 metres of butterfly (Category 6). Annika's students generally disagreed and most frequently (59.1%) chose the easier Category 5 (can swim at least 200 metres; including 50 metres freestyle, 50 metres backstroke, and 100 metres in 3 survival strokes) to define a good swimmer.

When selecting a safe swimmer, Annika identified Category 5; while her students (58.8%) chose Category 4 which requires a minimum swim of 25-50 metres of freestyle, 15 metres of breaststroke, 15 metres in at least 2 other strokes, and perform a dive entry. During Interview 3, Annika further discussed a safe swimmer: "...not too fast and they need to be efficient and they need to be able to swim three to four hundred metres so if they are going to the beach then they can swim out and back" (p. 2). While having "... some fundamentals of life-saving" was included in Annika's safe swimmer definition, she listed self-preservation and "how to preserve energy over time if you are tired and if you are in trouble" as important (Interview 3, p. 2).

When asked about the minimum HPE exit competencies for a Year 9, Annika was reluctant to list anything specific but, in differentiated terms, she said: 'I would prefer to take them from where they are at and build on that rather than take them up to a set level' (Interview 3, p. 3).

Summary

Annika: Young and Determined

Annika taught Year 9 HPE swimming to a class of 24 students and was observed over eight lessons. Two of the lessons were presented at the beach. Annika was in her 5th year of teaching and her fourth year at PBGS. The climate and the proximity of the school to the beach, according to Annika, were important reasons for a focus on swimming at PBGS.

Year 9 HPE Swimming at PBGS

Annika's Year 9 HPE swimming unit was focused on the RLSSA prescribed Bronze Star Award. The majority of the class activities were focused on life-saving. The concept of an award had positive outcomes, with the students highly motivated throughout the unit.

Of the 24 students, 11 passed the Bronze Star Award, with another 11 passing the resuscitation component. The pool closure necessitated use of the beach and impacted negatively on the time available to complete the unit. Most of the students agreed that their ability to save someone had improved during the term, while less than half believed that their swimming had improved. The students enjoyed the experience and declared it to be fun with the majority confirming that they would choose to do HPE swimming if it were optional. While the three focus group girls rated the programme

highly, Sharon wanted more time after teacher instruction/demonstration just working it out and practising.

Teaching Year 9 HPE Swimming at PBGS

While Annika was observed using the practice style in all of her classes, she consistently, and with positive outcomes, used a reciprocal peer teaching/assessing format aided by a very high level of student cooperation. In addition, Annika successfully employed the inclusion style with students working in pairs or small groups, independent of her direct supervision. During four of the lessons Annika assisted by a qualified RLSSA instructor and examiner. The value of Gayle was highly recognised.

Annika saw her teaching experience as the major source of understanding how and what to teach swimming, and her students rated her ability to teach swimming highly. Further to this, Annika confirmed that the existing abilities of the students influenced her teaching approach. Peer teaching, students selecting their own activities, group work, individual work, having multiple activities running and peer assessment were employed to cater for varied ability levels in the class. Using a differentiated approach, Annika divided students into groups for much of the unit. Both formal and informal assessment were a feature of her teaching.

Cold water and feeling cold were most commonly listed by the students when describing as the worst thing about HPE swimming. While the open-water experience was seen as a positive learning environment for students, operating at a public beach was unsettling for some. To improve the quality of HPE swimming and its effectiveness in general, Annika believed there was a need to develop specific HPE swimming training for the teachers, reduce the number of students in classes and ensure the availability of an assistant teacher.

Swimming Competencies

Good swimmers, according to Annika could swim at least 400 metres. While the Year 9 students most frequently suggested swimming 200 metres was the minimum which defined a good swimmer, this for Annika defined a safe swimmer. When asked about the minimum HPE exit competencies for a Year 9, Annika was reluctant to list anything specific, but reflecting her sensitivity to differentiation she preferred to build on the existing swimming ability of students.

Ernie at Augusta National High School

The School Context

Within 2 km of the coast and approximately 15 km from the city centre, Augusta National High School (ANHS) was a Western Australian Department of Education state secondary school. The school claimed to offer: "... a broad curriculum in Year's 8, 9 and 10, ... and a wide range of Tertiary Entrance Scoring Subjects, Accredited Courses and Vocational Education and Training Programmes in Years 11 and 12" (ANHS Information Brochure, 2001, p. 1). Nine teachers taught in the HPE department. The school outdoor swimming pool was 25 metres in length, 6 lanes wide (approximately 12 metres) and 'L' shaped, with two diving boards servicing the 5 metre square diving area. Classes were first held on the existing Augusta School site in 1973, reaching senior high school status three years later.

School Aims and Policy

Augusta School claimed to represent: "... the very best that government schools have to offer," whilst the "... community, students and staff are justifiably proud of its reputation" (ASHA, n.d.). Its goals and expectations included: "Students are encouraged to participate in a broad range of sporting activities," and they boasted "... an excellent record of achievement at district and state level" (ANHS, n.d.). Augusta School claimed both academic and sporting traditions. Examples include, ANHS claiming a university admission exceeding the state average by 15% (ASHA, n.d.), and its swimming team recognised through the West Australian newspaper "... as the powerhouse of swimming among government schools" after winning four successive division 'A' championships (April 1, 2003).

Health and Physical Education Department Aims and Policy

Whilst not detailing an HPE departmental aims or policy statement, the learning activities in HPE were: "... integrated across classroom and practical activities" (ANHS Handbook, 2003, p. 6). Physical education was allocated 120 minutes per week in both Year 8 and Year 9 (ANHS Handbook 2003, p. 2). As a consequence of undertaking HPE, students would acquire: "... an understanding of health issues and the skills needed for confident participation in sport and recreation activities, ... allowing them to make responsible decisions, and ... to promote their own and other people's well being"

(ANHS Handbook, 2003, p. 6). These aims were reinforced by the Head of the Physical Education Department (TiC), Ernie, when he said: “We want kids to engage in physical activity here, in and out of school hours” (Interview 1, p. 4). According to recordings in the ANHS Handbook, opportunities will be provided for students in HPE: “... to reflect on their own level of performance, goal setting, planning and collaboratively problem solving to enhance their learning in relation to the HPE outcomes” (2003, p. 6).

All Year 8-10 HPE learning areas and assessments were based on Curriculum Framework Health and Physical Education Student Outcome Statements, “... which has five broad learning outcomes (or strands),” including: “Skills and Physical Activity; Knowledge and Understandings; Self Management Skills; Interpersonal Skills; and Values and Attitudes (ANHS Handbook, 2003, p. 6). Moreover, working with others was seen by Ernie as a very important outcome: “... we also want all kids to be very good to one another and to staff, we really push it hard in terms of interpersonal skills” (Interview 1, p. 4).

Ernie: Encouraging all to be Active, but Mindful of the Weaker

The Case Study Context

Ernie was the TiC and agreed to be the focus of observation whilst teaching both his Year 8 and Year 9 HPE swimming lessons. All classes were undertaken in the ANHS swimming pool. Ernie was observed 12 times whilst teaching a co-educational Year 8 class (n=28). He delivered 13 HPE swimming lessons (6th February to 3rd April, 2002) to this Year 8 class, six of which were of 50 minutes duration and seven were allocated 70 minutes. Ernie was also observed 10 times whilst delivering a swimming unit to a class of 30 Year 9 males. He taught 14 lessons to his Year 9 class (5th February to 4th April, 2002), eight of which were 50 minutes in duration and six were allocated 70 minutes. One boy, attended the classes but did not swim: “one boy is ADHD, and they (*read family*) are playing with his medication and he has a few other problems so I agreed with his mum that he would just help out where he could and not swim” (Ernie, Field notes, February 7).

Ernie was formally interviewed on three separate occasions, 20th February, 10th April and 22nd May, and he completed a TiC project questionnaire on the 25th February. The Year 8 students and the Year 9 boys in each class completed a post-unit student questionnaire on the 4th of April.

Three of the Year 8 students, Vinnie, Sarah and Leanne were pre-selected by the teacher as possessing a range of swimming abilities. All three agreed to be the target of specific observations during the swimming lessons, supply post-lesson comments and be part of a post-unit focus interview group (10th April). Vinnie was interviewed while accompanied by two friends he had chosen from the class, Matt and Daniel; and they were interviewed separately from the two girls. Three Year 9 boys; Joe, Terry and Robert also agreed to participate in the study and were interviewed on the 5th April.

The Year 8 focus group students: Vinnie, Sarah and Leanne.

Vinnie and his parents were born in Yugoslavia and was a strong swimmer: "... my swimming background is pretty good, I am a good swimmer, and I have been swimming for six years, in clubs" "I did surf club for a year" (Vinnie, Interview, p. 2 and p. 3). Vinnie liked swimming: "Heaps, I reckon it is fun and it keeps you fit as well" (Interview, p. 2). Also, he believed that he could save someone in an open-water environment, providing: "... they are not too big, like my dad" (Vinnie, Interview, p. 3). Vinnie said that his parents had influenced him to do swimming: "... so I could keep fit, so when I become older I could do other sports" (Interview, p. 4). While Vinnie rated his father "a pretty good swimmer," he believed that his mother: "is no good, she is scared to go in the water, higher than her knee" (Interview, p. 4). Vinnie described his mother's aquatic inadequacies, as a reason why she encouraged him to swim.

Sarah believed that she was "... probably average for my age, but if I was doing laps I tend not to score myself against other people, but I would be average" (Interview, p. 1). She stated that "I like swimming it's fun" (Sarah, Interview, p. 2 and p. 5). She also believed it was a good way to stay fit. Sarah did not swim regularly but declared swimming to be important to her, and believed that she had the ability to save someone in both an open and closed aquatic environment. Whilst evaluating who was the strongest influence on her aptitude for swimming, Sarah believed no one had: "it's just me," but did concede that her "... friends encourage me to swim" (Interview, p. 2). She rated her parents swimming ability as "... probably good swimmers but not the best" (Sarah, Interview, p. 2).

Unlike both Vinnie and Sarah, who were of Anglo-Saxon origin, Leanne was of Asian descent. Her parents were born in Taiwan, and she in Australia (Leanne, Field notes, February 13). Leanne was the least proficient swimmer of the three focus group students and perhaps of the class (Researcher, Field notes, February 13). However, she

identified herself in the Student Interview as: “average,” although she did confirm that she could not rescue anyone in a pool: “No, I couldn’t” (Leanne, Interview, p. 2). In describing her parents as “not good” swimmers (Interview, p. 2), Leanne believed that her “friends encourage me” to swim, but was unsure if she would continue to swim beyond her school years (Interview, p. 6).

The Year 9 focus group students: Joe, Terry and Robert.

Joe was the strongest of the Year 9 swimmers targeted for observation and rated his own swimming ability as “...pretty good” (Interview, p. 3). He said that swimming was important to him. Born in the Northern Territory, Joe had lived in New South Wales and had resided in Perth (WA) for the last four years. He was planning to return to club swim training and surf club in the near future, where he had qualified to do “supervised” beach patrol (Interview, p. 3). Joe rated his father a “strong swimmer, ... he can swim a long way but not fast” (Interview, p. 5), and was proud to confirm that his mum: “... was a state swimmer, ... in New South Wales” (Interview, p. 1). He rated his mother the strongest influence on his own swimming endeavours. Whilst competition was important to Joe, it was not as important as life-saving. He believed that he could save someone in a backyard pool, a 50 metre pool and the ocean, but: “... it also depends, like it’s not safe to get in with them, they might be two times bigger than you” (Interview, p. 4).

Terry was born in England: “... and of course we didn’t go to the beach,” a lifestyle choice that he has maintained whilst living in Perth (Interview, p. 2). Possessing a pool at home, Terry said: “... my mum and dad like the water and they’re like pretty good at swimming so they got me in,” particularly in summer, but “not laps” (Interview, p. 2). Terry confirmed that it was his mother, a pool Bronze certificate holder, who thought that: “it is a good idea that I learn how to swim,” and had “... influenced me to do swimming in the first place” (Interview, p. 4 and p. 5). First swimming at about age four, Terry rated his own swimming ability as “average,” “I’m quite a strong swimmer, ... just not very fast, but I can swim for a long time” (Interview, p. 2 and p. 3). Terry was not convinced of his own ability to save someone in an aquatic environment and said: “I don’t know, I suppose you’d panic if you were in that situation” (Interview p. 3). In addition, he further confirmed that he wouldn’t be “... that confident in saving someone at the beach” (Terry, Interview, p. 4). Terry rated

swimming as his third sport of choice, declaring soccer and Tae Kwon Do more important.

Robert was not a swimming fan (Interview, p. 2) and confirmed that he does not go to the beach on a regular basis. He only "... swam in a pool a little bit" (Interview, p. 1), before arriving from New Zealand four years ago. Robert also said that whilst living in New Zealand, the closest swimming pool was "about twenty minutes" away, and they visited it "... about once a month" (Interview, p. 5). Whilst Robert said that his mother didn't like swimming, he confirmed that "I've got a pool at home" (Interview, p. 1). Robert rated his own ability as "average" and believed that no-one had influenced his attitude to swim. However, he rated his father as "pretty good" (Interview, p. 3 and p. 5).

Life History and Teaching Philosophy

At 39 years of age, Ernie has "... been teaching since 84, had two years out working with a mining company, ... that was 90, part of 91, part of 89, and three years with the BASC project (Be Active Schools Community Project)" (Ernie, Interview 1, p. 1). Since 1994, Ernie has been a Head of Department (TiC) in Government schools. During his undergraduate training, Ernie completed a Bachelor of Education, majoring in HPE.

Ernie described his upbringing as from a "dysfunctional family," but reflected that he and his two sisters received "... a good grounding in life" (Interview 1, p. 1). The educational approach adopted during his primary school days was: "Sit, shut-up and face-up and do the right thing," a mode of delivery, not well-matched to the needs of a boy who "... didn't enjoy sitting down and being talked at for a long period of time" (Ernie, Interview 1, p. 1). During his primary school days, Ernie experienced a curriculum he described as "narrow in terms of the opportunities," with PE including: "... footy, cricket, bit of swimming, ... pretty narrow as well" (Interview 1, p. 1). Despite limited school opportunities and "... parental support and encouragement (*that*) wasn't that strong," Ernie recalled being "consistently active even as a kid in primary school" (Interview 1, p. 1).

Describing himself as "... a democratic teacher, still with a firm hand," Ernie professed to embrace a differentiated approach, by: "... looking at streaming the ability levels and meeting the needs of individuals and the class." Whilst believing that he had "... matured as a teacher," Ernie described how he had progressed from "... very much

an authoritarian teacher,” to one who works to “... relax a bit more once you build rapport” (Interview 1, p. 4). Further to this, Ernie believed that, with his years of experience and level of control, he was “... prepared to push in terms of letting the kids, having more say, in terms of curriculum and how it’s delivered” (Interview 1, p. 4). However, Ernie’s preparedness to allow student input, was qualified with a need for appropriate student behaviour: “... the kids need to know that there’s a line and if you go over it, you’re in deep” (Interview 1, p. 4).

Ernie was keen to identify his support for the lesser skilled: “There was a notion in the school before I got here that champion athletes were everything, and if you were in the middle of the pack and below, that didn’t count for much, and I’ve swung that around” (Interview 1, p. 5). Further to this, Ernie was keen to target “... the kids who are falling through the cracks,” in contrast to the talented: “... they don’t need our attention, the parents have got the money and ... the time to give them, to push them along” (Interview 1, p. 5).

Having seen “a need for teacher resources,” and looking to “.... make teachers’ lives easier in terms of direction, providing better understanding of activities at levels (*sic*) as related to the Curriculum Framework Outcomes” (Interview 1, p. 5), Ernie was a leader in writing and publishing national HPE curriculum and assessment support materials. Whilst this innovative work provided Ernie with: “... the little business that we’ve got going,” it is seen by the HPE community as a significant and important contribution, serving to address and bring clarity to outcome related performance indicators.

Swimming Experiences

When asked about his school swimming experiences, Ernie replied: “I hated it, I didn’t want to do it, and quite a number of us refused to do it” (Interview 1, p. 2). Ernie described it as “... just too uncomfortable,” attributing this to the teaching methods employed: “... the old dictator style, sitting around not doing much,” and the cold water and the wind howling. His unpleasant memories were portrayed in descriptive terms: “Skinny kid, not an ounce of fat, ... sit there and listen to them while you shiver yourself to death, you’d freeze your nuts off” (Ernie, Interview 1, p. 1). Given that secondary school HPE provided “... nothing formal, nothing structured” in terms of swimming, Ernie said he was lucky to have received informal tuition from

peers, gaining from “adventurous” personal experiences at the pool and the beach (Interview 1, p. 1).

Completing the AUSTSWIM course was Ernie’s undergraduate training experience, describing it as “worthwhile” and “critical” to his teacher preparation (Interview 1, p. 3). Ernie, rated himself as “... just average” as a swimmer, and “... not the sort of person who likes to swim up and down”, but he did enjoy the opportunity to compete against the elements: “like surfing or wave skiing” (Interview 1, p. 3). Also, he had been a member of a local surf club, for “... probably two years, ... not now” (Ernie, Interview 1, p. 3).

The Importance of Swimming in Schools

Swimming in HPE was, for Ernie, “very important,” as he rated it “... at the top level with fundamental movement skills” (Interview 2, p. 1). In discussing swimming in schools as imperative, he described how both the school and the students’ homes were in close proximity to the water: “... most of the kids frequent the beach or they’ll frequent the local swimming pool” (Interview 2, p. 1). When asked would he deliver HPE swimming off-campus, he was non-committal and listed constraints such as the distance to the local pool and/or beach, cost of travel and the timetable structure (Interview 2, p. 1). Ernie believed it would be stressful to deliver swimming without a school pool: “... it would have a serious impact on somebody after a year of attempting” (Interview 2, p. 1). In addition, Ernie identified cost: “The cost is too high \$125, for a double-decker bus just to go to the local pool, ... maybe 50 cents or \$1.00 entry per kid – it’s prohibitive” (Ernie, Field notes, February 6). To alleviate some of his concerns: “... strong local government support” (Ernie, Interview 2, p. 1), in the form of assistant teachers, would make it a more attractive proposition. Ernie’s students also rated aquatic proficiencies highly, with the majority of the Year 8 and Year 9 students confirming that it was important to learn how to be a safe swimmer (Yr 8=88.9%; Yr 9=89.2%) and to learn how to save people in the water (Yr 8=78.6%; Yr 9=85.1%).

Year 8 and Year 9 HPE Swimming Programme

Foremost in Ernie’s mind when delivering HPE swimming to students at ANHS was purposeful content and fun: “... relating it to something meaningful, trying to give the kids a purpose of being in the water, and the fun part, well to turn kids on that really don’t like the water” (Interview 1, p. 6). Consistent with his previously

discussed aims and teaching philosophy, Ernie said: "I'm not that concerned about swimming carnivals, ... the kids need to do swimming lessons" (Interview 1, p. 6). Further to this, he was hoping that "...we can get some kids in the lower levels moving on, and they will be encouraged to go to private swim classes during the holidays" (Interview 1, p. 6). Supplementary to the desire to assist the weaker swimmer: "The focus would be initially every student a confident swimmer, safe and from that point on, show some responsibility in terms of water safety and an awareness so they can assist if there is trouble" (Ernie, Interview 2, p. 1). During the swimming unit, an assistant teacher named Richard, was employed to teach the least proficient swimmers from Year 8 and Year 9 classes (n=8 lessons and n=6 lessons, respectively). Initiated by Ernie, the assistant teacher programme was financially sponsored by a local business. Richard was a qualified HPE teacher and part-time swimming teacher who was allocated students from each class by the respective class teacher. He then proceeded to deliver stroke technique development lessons.

In general, the focus of the Year 8 and Year 9 programme was "the same" (Ernie, Interview 2, p. 1), and centred around "... swimming water safety, swimming survive and stroke deficiency for getting them through the awards" (Ernie, Interview 3, p. 2). Analysis of the percentage of activity time observed during the Year 8 and Year 9 HPE swimming programmes (Table 10 and 11), supports the claim of a similar activity focus. Consistent with Ernie's grouping of students based on ability, the tables are differentiated for Groups 1 and 2 combined, and the highest ability group – Group 3.

The amount of time allocated to the specified activities was similar across the groups. For life-saving activities, Year 8 Groups 1 and 2 swimmers were engaged 36.4% of the activity time, while Group 3 students undertook life-saving activities 53.7% of the time. This compared with the Year 9 Groups 1 and 2 swimmers who engaged in life-saving activities 28.5% of the time and Group 3 students 55.7% of the time.

Table 10: Ernie's Year 8 Unit - Activity and Administration Time

Augusta School – Year 8	Class format				
Activity Time	Whole class	Group 1 & 2		Group 3	
% Allocated Activity Time	%	%	Total %	%	Total %
Stroke technique analysis/correction	1.1	5.5	6.6	-	1.1
Life-saving	12.3	24.1	36.4	41.4	53.7
Survival	7.8	19.8	27.6	4.5	12.3
Safety/water awareness	1.2	-	1.2	-	1.2
Preparing for carnivals – e.g., time trials, starts, turns	-	-	-	-	-
Water confidence activities and games	13.0	-	13.0	-	13.0
Specific training/fitness programme	3.4	1.2	4.6	3.4	6.8
Free swim/recreation	8.5	-	8.5	-	8.5
Structured games – e.g., water polo	-	-	-	-	-
Administration Time (% of total class time): administrative duties, equipment management, student transition and rest	20.6	3.1	23.7	3.8	24.4

Group 1=weaker swimmers. Group 2=middle ability swimmers. Group 3=stronger swimmers.

Using the Department of Education swimming continuum (Appendix V), in conjunction with the RLSSA awards structure; Ernie said: "... the programmes are aiming ... at a student's overall development from their existing levels, so stroke development, some fitness, some fun as well as water safety are all equally placed, as far as I am concerned" (Interview 2, p. 1). Table 10 demonstrates that the time allocated to each of these focus areas was not equal. As detailed in Tables 10 and 11, life-saving was the most frequent activity undertaken by all Year 8 and Year 9 students, whilst survival and water confidence activities were the next most common. Post-unit evaluation confirmed that approximately 24% of the total class time was allocated to administration time (Table 10 and Table 11).

Table 11: Ernie's Year 9 Unit - Activity and Administration Time

Augusta School – Year 9	Class format				
Activity Time	Whole class	Group 1 & 2		Group 3	
% Allocated Activity Time	%	%	Total %	%	Total %
Stroke technique analysis/correction	1.2	7.4	8.6	-	1.2
Life-saving	11.2	17.3	28.5	44.5	55.7
Survival	12.2	25.3	37.5	7.4	19.6
Safety/water awareness	-	1.5	1.5	-	-
Preparing for carnivals – e.g., time trials, starts, turns	-	-	-	-	-
Water confidence activities and games	14.3	-	14.3	-	14.3
Specific training/fitness programme	-	7.2	7.2	6.8	6.8
Free swim/recreation	2.1	-	2.1	-	2.1
Structured games – e.g., water polo	-	-		-	
Administration Time (% of total class time): administrative duties, equipment management, student transition and rest	20.4	3.7	24.1	4.3	24.7

Group 1=weaker swimmers. Group 2=middle ability swimmers. Group 3=stronger swimmers.

When deciding what content to teach in HPE swimming, Ernie confirmed: “that depends on the skill level of the kids” (Interview 2, p. 2). Augusta School enrollment required the completion of a ‘Consent For Water-Based Excursion/Activities’ document (Appendix W). This provided HPE teachers with an insight into the students’ existing swimming abilities. During the initial sessions, Ernie used ongoing diagnostic assessment (Researcher, Field notes, February 5, 6, 7, 8 and 13): “... I need to observe them in the pool in terms of their skill and that assists to determine the depth of content that I need to cover and the direction I’m going” (Interview 2, p. 3). This approach was supplemented by the students reading the Education Department Levels guide during class time and confirming their current level of achievement (Field notes, February 6 and 7). Not all of the students’ self-determined ability leveling appeared accurate, as confirmed by Ernie: “Whilst students claimed to be 5-14 (Stage), some are ‘bullshitting’ and would be a 3-4 and maybe a 1 or 2” (Ernie, Field notes, February 5).

While the school and HPE programme aims and/or policy documentation did not specifically refer to individualised teaching methodologies, Ernie chose to describe his HPE swimming programme in differentiated terms: “... it was not uncommon for us to

provide opportunity for kids to spend more time learning to swim if they need that at one end (*of the pool*) and for other kids to spend more time learning about water safety, survival skills, rescue skills” (Interview 2, p. 1). It was noted that, whilst choosing to differentiate, Ernie was working to set an example of “peer leadership” (Interview 2, p. 2) for other members of his HPE department to follow: “... piloting a small group and individualised approach based on student ability levels” (Ernie, Field notes, February 12). This, according to Ernie, allowed the outcomes to be individualised: “... transparent ... in terms of their own study ... and achievements,” when compared to the approach of his “conservative” colleagues (Interview 2, p. 2). In response to using this approach, Ernie said: “It’s given me a chance to map out purely on paper some of my ideas, this gives me some sort of base and endorsement to what works and what doesn’t work” (Interview 2, p. 2). Whilst speculating on the positive departmental outcomes: “I think it’s done a big shift on some of those that haven’t embraced student outcomes,” while “... for those that are dragging their knuckles, I can then hopefully motivate them to move more toward some student-centred approach” (Ernie, Interview 2, p. 2). In trying to account for the departmental approach to HPE and the swimming programme, Ernie believed it was reflective of the guidance prior to his arrival: “... to be fair to them, there wasn’t a lot of leadership” (Interview 2, p. 2).

Assessment and Reporting of HPE Swimming

As previously discussed, the ANHS Swimming Assessment Framework (Appendix X), referred to the EDWA Vacswim Levels 2-9, EDWA Swimming and Water Safety Continuum Stages 1-9, and the RLSSA Stages 10-14 of swimming ability culminating in the Bronze Star Award. Ernie expressed concern about these documents: “what puzzles me is why after Stage 9 you would actually regress, you can go through 10, 11 and 12, before they get to the real challenging and interesting stuff” (Interview 2, p. 6). Ernie said there was a need to “streamline” the Vacswim, RLSSA and outcomes related material: “Why don’t we just make one long line out of the swimming continuum stuff (Interview 2, p. 6). In future, Ernie was considering a number of options; limit the assessment process and use the EDWA Vacswim continuum to Stage 9, and the RLSSA rescue certificate levels for the students who were advanced, or “... go one way and just focus on one or the other (Interview 3, p. 1). In the third interview, Ernie said: “... my personal feeling is I would like to keep Vacswim” (p. 5). The use of a swimming ability continuum served a purpose: “...

having the continuum ... is very good for kids because they get to take some ownership for their direction and probably develop a better understanding of where they're at in terms of their swimming confidence" (Interview 3, p. 3).

The Impact of HPE Year 8 and Year 9 Swimming

Ernie was generally happy with the students' progress: "... overall their experience was a positive one" (Interview 3, p. 1), confirming a belief during the second interview, that "the majority moved on, 80 odd percent" on the educational continuum, while 10 or 15% of "... the kids who have got many other agendas," these being "... kids you just can't deal with and they're ... home, life ... and personal agendas ... are bigger," did not (p. 4 and p. 5). Whilst Joe, a strong Year 9 swimmer, believed that he didn't learn anything new: "... well it's sort of like revision because we do it all in surf rescue" (Interview, p. 7); Robert, the weakest of the observed Year 9 swimmers said: "I was able to swim longer, like for most of my survival strokes" (Interview, p. 8). Ernie said that the non-achievers were from the "... bottom and the middle (*ability*) range in the class;" however, he also stated that this ability range contained the student cohort who "... showed the most dramatic improvement" (Interview 2, p. 5). Further to this, Ernie believed that: "... at the lower end we had some kids who moved two or three stages on the swimming continuum which is just magnificent" (Interview 2, p. 5).

The part-time swimming teacher worked with approximately 15-17 students in each class, although this number decreased as students improved during the unit and returned to their class group (Researcher, Field notes, March 27). The plan was for students who were Level 6 and below (Department of Education scale) to work with the assistant teacher (Ernie, Field notes, February 8). Whilst sending no Year 9 students on one occasion, because the weak swimmers didn't swim (Ernie, Field notes, February 14), he generally sent one Year 9 student, and 3 or 4 Year 8 students to swim with Richard (Researcher, Field notes, February 15, 20, 21, 22, 26, 27; March 1, 5, 14, 15, 21). This would alleviate a problem for Ernie: "In the past, these people just didn't get what they needed" (Ernie, Field notes, February 8). During the third interview, Ernie confirmed Richard's significance in helping the lower ability students to improve (p. 1). In addition, Ernie confirmed, that when able to send Leanne (weakest swimmer) to Richard, it made it easier: "Relief getting Leanne off to the assistant – freed me up" (Ernie, Field notes, February 15). However, Leanne indicated that she: "... would rather

be with the other members of the class” (Leanne, Field notes, March 15). Further to this, Leanne seemed “... reticent to leave her friends, she doesn’t like being isolated from her clique” when instructed to engage in Richard’s classes (Researcher, Field notes, February 22) and was “excited to be with her friends, very chatty re-establishing herself with her mates” on her return (Researcher, Field notes, March 27).

While Ernie believed that the students “... at the very top end showed some improvement” (Interview 2, p. 5), he conceded that the opportunity to deliver the higher order learning activities was problematic. Content such as “EAR and CPR” was a challenge: “... difficult for us to deal with when you’ve got 30 kids you know, in an aquatic environment” (Interview 2, p. 5), and this was “frustrating” (Interview 3, p. 1). Ernie confirmed that, whilst it was a unit goal, no Year 8 and Year 9 student fully completed the Bronze Star Award: “... because we haven’t had time to do the EAR and resus (*read resuscitation*) stuff” (Ernie, Field notes, March 27 and April 3). Of those who didn’t improve, Ernie speculated: “... in many cases they had ... those issues that centre around our lack of parent support at home, to a lesser extent, ethnicity,” whilst, more importantly, “... if parents aren’t prepared to work in partnership with you then I don’t see us having impact at all” (Interview 3, p. 2).

Of the Year 8 students, 61% agreed that their swimming had improved, with four students believing that they had not improved this term. The students’ perceptions of the outcomes attained from participating in HPE swimming were positive ($M=3.75$). Furthermore, 85.7% of the students agreed that their ability to save someone had improved during the term. The strongest Year 8 swimmer was Vinnie who thought his ability to rescue someone had improved, but noted that he: “... did not improve in swimming” (Interview, p. 7). Similarly, Leanne, who was a relatively weak Year 8 swimmer agreed, and said: “my swimming hasn’t (improved) but my survival skills have, ... like rescues and that have” (Interview, p. 4).

Evaluation of the Year 9 boys’ data confirmed that less than half (46.4%) believed that their swimming had improved with six students judging that they had not improved. However, the students’ perceptions of their outcomes ($M=3.60$) appeared more positive than were recorded for all Year 9 students ($M=3.24$). Moreover, nearly 80% of the students agreed that their ability to save someone had improved during the term.

Ernie believed the majority of students enjoyed HPE swimming: “... a lot of the kids, they seemed quite happy with some of the activities they were doing” (Interview 3,

p. 1). While nearly 70% of Ernie's Year 8 class agreed with these sentiments, less than half of his Year 9 class (46.4%) held similar views. Three Year 8 students and six of the Year 9 students expressed a lack of enjoyment. Seventy-five percent of the Year 8 students and 67.8% of the Year 9 students agreed that the activities were interesting. While 75% of the Year 8 students wanted to do more HPE swimming, only 39.3% of the Year 9 students held similar sentiments. More of Ernie's Year 8 and Year 9 class declared PE swimming to be fun ($M=3.96$ and $M=3.68$, respectively) than the Year 8 ($M=3.66$) and Year 9 ($M=3.45$) average. 'It's fun', was most commonly recorded by Ernie's Year 8 class when responding to the open question: 'What is the best thing about PE swimming?' 'It's fun', was the third most frequent response provided by his Year 9 class, whilst 'diving boards/diving' and 'getting wet/being in water' were the most popular responses. Ninety-two percent of the Year 8 students and 78% of the Year 9 boys in Ernie's classes who responded to the questionnaire, confirmed that they would choose to do PE swimming if it were optional. This compared with 74.8% of all Year 8's and 66.6% of all Year 9 students who would choose to do PE swimming if given a choice.

Vinnie rated the Year 8 programme as 10/10 and thought: "... it was all fun" (Interview, p. 6); although at times it was too cold: "... when the water was cold it was like really annoying because it took like half an hour to really stand the water" (Interview, p. 6). The Year 8 girls were less complimentary with Sarah rating it a 5/10, stating: "... because it wasn't good but it wasn't bad" (Interview, p. 5), but "... like most of the time you are sitting down listening to the teacher, you're not actually doing anything" (Interview, p. 3). In addition, Sarah said the worst aspect of PE swimming was: "the fact that you're not allowed to muck around, you have to do what the teacher says" (Interview, p. 3). Leanne scored the unit 6/10, claiming: "it wasn't much fun" (Interview, p. 5), and would prefer "more free time to muck around" (Interview, p. 4). Ernie was conscious that the students probably perceived a lack of "fun games," but was not prepared to compromise content (Interview 2, p. 6). While both Sarah and Leanne would choose to do swimming if it were optional: "it beats picking up rubbish" (Sarah, Interview p. 5), they expressed a need for more personal tuition. Sarah said: "if he picks out that you're doing something wrong, then he comes up and talks to you, ... sometimes he picks up things you just don't need to know and then other times he just lets the more important things go" (Interview, p. 5). Leanne, the least able swimmer and one who spent a number of sessions with the assistant teacher, claimed that she found it

difficult to communicate with Ernie: "... sometimes he doesn't listen to us when we are in the pool" (Interview, p. 5).

Joe scored the unit: "about 6 or a 7" out of 10, whilst Terry rated it a 9/10: "I didn't really hate anything, yeah, I liked most of it" (Terry, Interview, p. 7); and Robert said: "about an 8" (Interview, p. 10). Joe wanted more swimming: "I would like more endurance stuff, cos you do survival most of the time, you are not in the water" (Interview, p. 10). Joe qualified this by confirming that it was not more laps that he wanted, but: "... basically having more goes, just doing it more" (Interview, p. 10). Joe was not confident that beach classes would be appropriate: "... but I don't know if that (*the beach*) is ideal or not, taking everyone down the beach, at least at pools you can see and hear the teacher" (Interview, p. 10). Terry wanted more rescue related activities aimed at: "... learning how to save is the most important" (Interview, p. 10), while Robert agreed that: "... some (*more*) survival, swimming and rescue" (Interview, p. 10). Robert also wanted more laps (Interview, p. 7).

Terry discussed the positive HPE swimming outcomes and recognised the role of his teacher: "Mr (*Ernie*) put pressure on us to try hard in class and not to muck around" (Interview, p. 8). Both Robert and Joe agreed, preferring the teacher to be strict: "cos you won't do it properly and when it comes to being serious at the beach and someone needs saving, we won't know what to do if they don't push us" (Joe, Interview, p. 8).

Whilst the students had the opportunity to demonstrate interpersonal skills: "... we weren't that focused on trying to monitor and assess the performance from that area, however (*we will*) use some of the anecdotal stuff that we have monitored in swimming to support some of the stuff we do in later context for interpersonal skill judgment" (Ernie, Interview 3, p. 2).

A Teacher of Year 8 and Year 9 HPE Swimming

Describing teaching swimming as "great fun," Ernie believed that the "kids like it" and providing "... you don't lose the idea that you're out there having fun with the kids," he was very comfortable teaching the subject matter (Interview 2, p. 5). Ernie confirmed that he was still "passionate" but "a bit frustrated," particularly by his concerns for student improvement and meeting the needs of all students (Ernie, Interview 2, p. 6). He also referred to the indifferent response of the students, opting-out when the weather was less than ideal; and limited space, particularly when there were

four classes in the pool. The limitations of space were confirmed by the researcher: “two lanes more suitable for lap swimming than a differentiated programme meeting all needs” (Field notes, February 7).

Ernie described the assistant teacher programme as a “success.” In addition, it allowed for smaller class sizes which he believed “motivated” staff (Interview 2, p. 2) and fostered improvement for those at the lower end of the ability scale (Interview 3, p. 1). After a Year 8 lesson (February 20), Ernie confirmed the value of Richard: “My ring would be hanging out without the assistant teacher” (Field notes). Initiated by Ernie, the assistant teacher programme appeared not to be fully supported by the students and/or the HPE staff: “... a number of kids who haven’t been going to these specialised groups, ... it’s not fair, ... they’re not getting the opportunity to go over there and have a crack” (Interview 2, p. 2).

Ernie consistently employed the practice style for the three ability-streamed groups. Small groups working on specific tasks enabled Ernie to use terminology specific to the student ability level and to vary the in-water and land-based demonstrations employed (Researcher, Field notes). Whilst the students were separated into 3 work stations, Ernie was observed delivering brief instructions at a “frenetic pace” (Researcher, Field notes, March 3). Much of this highest ability group work (Group 3) in Year 8 and Year 9 was undertaken independently of the teacher’s direct supervision. Ernie utilised guided discovery, reciprocal peer teaching and peer informal/formal assessment techniques on a number of occasions. Formal peer assessment used student recordings to determine outcome levels while, informal peer assessment strategies were employed for teaching/learning purposes. On all but one occasion in Year 8, and once in Year 9, the peer teaching/assessment involved assigning the non-participant students to a position of responsibility.

The grouping of students according to ability attempted to deliver a differentiated programme, but it “... is something that you don’t want to launch into blindly” (Ernie, Interview 2, p. 4). Ernie believed that he could cope with the approach but, described it as “... very demanding sort of work” (Interview 2, p. 4). Ernie claimed that there were days during the term: “... where I came home and I was pretty knocked around” (Interview 2, p. 4). The researcher noted that Ernie was working extremely hard (Field notes, February 27, March 13). Further to this, Ernie would not recommend older staff (Field notes, February 21) or authoritarian style teachers adopt this approach with

HPE swimming: “I feel that they would just after a week or two, they would just throw it in the air and give up” (Ernie, Interview 2, p. 4).

During the second interview, Ernie described the best teaching format as one that was differentiated: “... definitely small group and at a level that they’re comfortable with, but challenged” (p. 6). In the 2002 programme, Ernie introduced an ‘information file’ for each of the three groups in the class. Within the file were prescribed warm-up activities, a copy of the Education Department achievement level requirements and the Bronze Star demands. Ernie said that this approach was: “brought on by 3-5% (*of students*) slipping through the net” (Field notes, February 7). Students read the file at the beginning of each lesson to determine the warm-up requirements and to reinforce the needs at each level (Field notes, February 7). Whilst the files gained the interest of the high ability group, the others struggled to be engaged by them: “It will be hard work for Ernie if he can’t trust the top group to work independently” (Researcher, Field notes, February 7). Such difficulties were observed soon after, and proved frustrating for Ernie: “Students are showing signs of struggling with unsupervised work,” and “Group 3 (*highest ability group*) worked independently of direct teacher supervision – efficiency, interest and concentration waned without direct supervision” (Researcher, Field notes, February 8, 12). Vinnie confirmed that the lesson content was what he wanted to do (Vinnie, Field notes, February 20) and while he “... found the lesson fun and generally appropriate tasks, he does not work well when given independence” (Researcher, Field notes, February 20). Vinnie clearly enjoyed direct one-to-one teacher contact (Researcher, Field notes, March 22). While the students, particularly the boys, did not respond to the independent work opportunities: “the (*student*) motivation is in question.” It was also speculated that the activities were attainable by most and the content familiarity may have contributed to the apparent lack of student interest (Researcher, Field notes, February 12). At other times: “... the activities (content) were appropriate with respectful tasks” (Researcher, Field notes, February 21, 27; March 5) and over-challenging for some: “... distance swim and underwater search (*was*) ... beyond the ability of the low ability swimmers (Researcher, Field notes, March 5).

Despite Ernie recording the Year 9 (Group 3) lesson programme on a pool-side whiteboard (February 14), and some subsequent improvement from the group (Ernie and Researcher, Field notes), the researcher noted: “Group 3 (Year 9) working independently does not work effectively and does not achieve” (Researcher, Field notes,

February 14). This occurred also in other lessons for both Year 8 and Year 9 classes (Researcher, Field notes, February 22, 27; March 27), although the girls responded better during independent work (Researcher, Field notes, February 27; March 27). Inappropriate behaviour culminated in the Year 9 class being removed from the pool (5 minutes) for disciplinary reasons during the March 3 lesson (Researcher, Field notes). There were times when the researcher observed a very positive student response to the teacher's preparation and efforts to meet the needs of all (Researcher, Field notes, February 13, 15; March 15), but this generally required direct or close teacher supervision.

When the students were aware that they were being observed for assessment purposes, the attentiveness of some improved considerably (Researcher, Field notes, March 5). In contrast, not all were motivated by assessment. For example Robert, expressed little concern for passing the unit (Field notes, March 14). Lack of student motivation to work independently of the teacher's supervision was noted during the small group teacher-centred approach to assessment for the high ability swimmers: "Vinnie, waited poolside and played in the water with his partner (10 minutes and 10 seconds), while waiting for the teacher to become available to observe his assessment activity – he was not involved in practice, just casual play" (Researcher, Field notes, February 8).

Ernie described the style employed for the swimming classes as, going "... in with a theme and key content and you just run with it and you try to do the best you can." This, he confirmed was "... a more demanding way, not like traditional lesson plans, ... where everything is mapped out" (Interview 2, p. 3). These "...constantly changing dynamics" meant there was "no rest" for the teacher, and the lessons were susceptible to "... two or three immature kids or kids who have got other agendas to really turn it on its head" (Ernie, Interview 2, p. 3). This was evidenced during the Year 9 boys' third lesson, where it was noted by Ernie that: "Maturity of the Group 3, disappointing, distracted me. I'm hoping after two weeks they will settle" (Field notes, February 12). While the researcher agreed with Ernie's concern for student readiness: "Student maturity is an issue" (Field notes, February 12), "Student maturity level ... is resulting in an ineffective lesson (Field notes, February 14), in a subsequent Year 9 lesson, Ernie confirmed his frustration: "I've got 8 cockheads, they have a maturity problem, they really can't handle it. Those 8 are holding back the others from working for their certificate" (Ernie, Field notes, February 21).

Ernie said sub-groups of “six to eight kids” were “much easier,” believing: “... we’re meant to be operating at a level they’re comfortable with,” and concerned not to “... push them too far too much otherwise they will give up” (Interview 2, p. 6). Further to this, Ernie confirmed that his decision on how to teach, was based on the “... nature of the kids,” believing that “... if you’re top heavy with a lot of very skilled kids, you can use them in a peer leadership role” (Interview 2, p. 3). However, peer teaching was like: “... living on the edge” and “... not always effective” (Ernie, Interview 2, p. 3). Ernie further clarified these sentiments during the third interview, when he confirmed that it was: “... particularly in Year 8 (*that they*) embrace that and do well” (p. 1). In contrast, the researcher observed that a small sub-group (Group 2) of Year 8 students did not work well when peer assisted by a non-changed student during backstroke kicking activities (Field notes, March 5), despite a firm teacher warning: “You disobey Corin, then you disobey me” (Ernie, Field notes, March 5). Again, during subsequent Year 8 and Year 9 lessons, students struggled with informal and formal non-participant-peer assessment (Researcher, Field notes, March 15, 21 and 22). On one occasion, Ernie provided the non-changed students with an observation rubric check-sheet and whilst confirmed that he had used these in past years. However, this year: “I won’t put much weight (*on these student assessments*)” (Ernie, Field notes, March 21), reflecting it was beyond the students’ level of readiness level, and consequently, the assessment lacked reliability. Ernie believed that the success of peer interaction was dependent on a range of factors, which included the students: “... the background, ... whether they’ve had lunch or not, ... a good sleep” (Interview 2, p. 3).

Ernie was confident in his ability to deliver a HPE swimming unit: “yeah, I am very comfortable with it” (Interview 2, p. 5). Vinnie agreed with these sentiments by confirming that Ernie displayed confidence as a swimming teacher: “he makes you want to stay,” and believed that he reflected someone who “... has probably been coaching for heaps of years” (Interview, p. 8). Not all of the students enjoyed Ernie’s approach because: “he is not concerned with being nice to people, he is a bit mean sometimes, ... orders you around” (Sarah, Interview, p. 4). Further to this, Sarah said: “... he is like an army teacher... (laughter), if you jump in he makes you do push-ups... and if you don’t bring your clothes he makes you do work ... like essays and stuff” (Interview, p. 4). Leanne disagreed, and said: “I think he is good” (Interview, p. 4). The students in Ernie’s classes appeared to agree more with Leanne and Vinnie. The Year 8 ($M=4.05$) and Year 9 ($M=3.66$) mean scores for the construct which evaluated the student

perceptions of their PE swimming teacher were positive. More than 64% of Ernie's students believed that he was good at explaining how to improve their swimming, and only two of his Year 8 class and four of his Year 9 students disagreed.

Meeting Individual Needs

In supporting individualised or differentiated HPE swimming programmes, Ernie said: "because it motivates the kids and gives them a sense of purpose" and "... it actually enhances the level of rapport you can have with some kids" (Interview 3, p. 6). Individualised instruction was important to the students: "... cos then they can point out what you are doing wrong and you can work on it" (Terry, Interview, p. 8). With the existence of a strong assessment framework, Ernie believed: "... swimming is in a very good position to cater for individuals." However, he was conscious that: "... because of the numbers factor and water environment, it's difficult to teach and move kids along the continuum in the water," confirming that it "can be demanding on them and me" (Interview 2, p. 8). Joe agreed, and said of individualised instruction and small groups: "... I reckon that's a bit difficult, ... because if you split into two groups according to our skill level, like what we are doing, so that would be hard, you would be saying this group do this, this group do that" (Interview, p. 8). In addition, Ernie stated that both he and members of the HPE Department were concerned about individualised swimming programmes "...in terms of the volume of paper-work that it might create for teachers" (Interview 3, p. 6). Ernie said that individualised programmes, if deemed necessary, would be "very scary" for many teachers, and something that the Education Department "... will have to be very careful about how to manage, ... what ever it puts as a term of reference" (Interview 3, p. 7).

Small group stations, according to Ernie was reflective of his teaching philosophy: "I'm concerned for the welfare of all kids, ... we're trying to give every kid an opportunity to move along at their own pace" (Interview 3, p. 4). Joe considered that the use of small groups working at stations was, no guarantee for success: "... (you) get like swimmers of the same standard from one or two classes working together at the same time with a different teacher, so like put all the strong swimmers with one teacher" (Interview, p. 9). Whilst Ernie did not speculate on streaming across classes, he agreed with Joe's thoughts within a class, saying that small groups were time consuming but fundamental to providing opportunity for individual student success (Interview 3, p. 1).

Ernie emphasised helping the lower ability swimmers: "... the kids at the lower end who can't swim, they've certainly been given plenty of opportunities and nurtured" (Interview 3, p. 2). Further to this, Ernie cited an example: "... there's a kid you know gone in the water with very poor skills and they've come out being able to swim 25 metres confident freestyle and backstroke, and demonstrated reasonable breaststroke over 15 or 20 metres" (Interview 3, p. 2). Ernie's description of the opportunities made available to the middle ability swimmers and those at the upper end appeared more reserved: "... to see where they are at on the educational continuum and work forward from there" (Ernie, Interview 3, p. 2).

Ernie declared it a fundamental educational belief to differentiate, meeting students individually at their existing ability level. The Year 8 ($M=3.84$) and Year 9 ($M=3.64$) perceptions of Ernie's efforts to differentiate in HPE swimming were positive. Four students from the Year 8 class (14.3%) and two from the Year 9 class (7.1%) believed that Ernie was not interested in what they wanted to learn in swimming lessons. The majority of students confirmed that interesting things were taught in HPE swimming (Year 8 Agree=77.8%; Year 9 Agree=57.1%), while only one Year 8 and one Year 9 student declared HPE swimming to lack interest.

In the HPE swimming lessons observed, life-saving was the most frequent activity undertaken by all Year 8 and Year 9 students (Table 10 and 11), and this appeared commensurate with meeting students' needs. Terry expressed his needs, as: "... well it's definitely not racing, but yeah, being in the water and being able to save someone" (Interview, p. 2). While Vinnie, Sarah, Leanne, Robert and Joe agreed; Robert, also wanted to learn survival strokes. With survival and water confidence activities the next most common activities undertaken, this further showed that Ernie was meeting the Year 9 boys' needs.

The Issues: Now and in the Future

When asked 'what limited the HPE swimming programme,' Ernie was adamant that it was: "money and time, when I say time I mean student ratios" (Interview 3, p. 4). Ernie was uncomplimentary about the Education Department, suggesting that it was: "... renowned for not doing in terms of providing adequate support for our school and programme" (Interview 3, p. 4). He also raised the lack of resources to "... help teachers approach curriculum planning in a student-centred way and the framework" (Ernie, Interview 3, p. 4). Furthermore, Ernie discussed the varied student swimming ability

levels: "... we've got 32 kids all of a huge range, ... we have a continuum that just goes and goes as far as we need it," and includes students who are challenged just "... getting in the water, right up to Royal Life stuff and CPR" (Interview 3, p. 4). Ernie rated varied ability levels in the one class as the number one issue impacting on HPE swimming, and 'staff/student ratios' as the second most important issue. These thoughts were echoed during the unit: "... you need an extra person or 15 kids, get rid of 5 or 6 half-wits and you're right (Ernie, Field notes, February 21). Terry, a Year 9 boy agreed: "smaller classes, cos we are quite a big class so they could have got another teacher" would have made the experience better (Interview, p. 8). When probed for clarification, Terry said he wanted 10 less students in the class: "... the ones that were mucking around and just concentrate on the ones that do want to swim" (Interview, p. 8). Joe reflected that the outcomes were impacted on by the behaviour of his fellow students: "some of the people, like were pretty immature, they were mucking around, ... chasing people with their towels" (Interview, p. 7). This was an issue for Joe: "because everyone gets stopped by them (*and*) I miss out" (Interview, p. 7). Whilst Joe confirmed that this didn't happen a lot, he along with Terry and Robert, believed that others' behaviours had impacted negatively on the unit outcomes. Terry's comments were reflective of the boys' thoughts: "... it was wasting time" (Interview, p. 7). A reduction in class numbers, to the low twenties would mean "... we would have more impact," however, without additional financial support he speculated that: "... we're not going to see a massive shift in kids schooling" (Ernie, Interview 3, p. 4).

Ernie again highlighted the need for additional curricula guidance and support, and to reduce class numbers: "... if teachers don't get adequate support to understand how to administer the Curriculum Framework," and "... if they (*the system*) don't support people to reduce these class sizes," he believed that "... swimming could be at risk in schools and disadvantaged" (Interview 3, p. 6). Revised student outcome assessment guidelines, presented in conjunction with "structured learning activities that teachers can engage students in," were needed (Ernie, Interview 3, p. 7). Without this support, teachers doing the same thing, such as "laps" and students becoming bored, would be the result (Ernie, Interview 3, p. 6). Further to this, Ernie expressed a concern for adolescents, as they appeared "... slower and less confident in their swimming" (Interview 3, p. 6). This, he thought was due to a general decline in the "fitness of kids, ... from the 80's to the 90's through to now," and he believed that students were "definitely ... larger in size, ... carrying a bit more weight" (Interview 3, p. 6). Without

quality fun programmes in schools, that are well supported by the “system,” Ernie was convinced that swimming in schools is “... not going to work” (Interview 3, p. 6).

Consistent with Ernie’s Interview 2 comments where he expressed concern for a lack of sequential activity progression in the RLSSA award scheme, Ernie said: “... perhaps suggest to organisations like Royal Life that they revisit their awards schemes, it is difficult for schools to pursue that (*CPR component*),” suggesting a need for “... some sort of an interim certification that kids can get and then they can go away and demonstrate CPR somewhere else” (Interview 2, p. 1). Whilst Ernie speculated that they could go from Stage 9 straight into the Rescue Certificate One and Two, he believed that could cause problems: “... there is not enough meat, you probably have that qualification in four or five lessons” (Interview 3, p. 5).

The criteria used for assessment and the terminology used in the existing swimming continuum documents were also an issue of concern: “Vacswim ... talks about distances, it talks a little about proficiency, but there’s not a hell of a lot of words on efficiency” (Ernie, Interview 3, p. 7). Concerned even during the formative years of the Curriculum Framework, Ernie said: “... we need to show teachers that we are actually looking at a behaviour not a product not the metres, because some level four kids have still got problems with their freestyle technique (*and*) can still achieve a level six” (Interview 3, p. 7). Ernie further discussed the issue, stating that it’s not just about swimming laps: “... it’s about showing the right technique and that’s where the continuum needs to be sorted out” (Interview 3, p. 7). Ernie drew on a baseball analogy to highlight the point: “... if they can throw over 60 metres they are at level 6, if they can throw 30 metres they are at level three, that’s bullshit, it’s not what it is about, it’s about throwing technique” (Interview 3, p. 7). Further evaluation and modification made in partnership with all of the stakeholders was needed to develop “easily identifiable bench marks,” otherwise, Ernie believed that: “the teachers out there will get the wrong message about what a level six is” (Interview 3, p. 7).

Confirming that “... some kids just don’t care;” Ernie also believed that ethnicity, particularly those of “Asian origin,” had an impact, but not one of major significance (Interview 2, p. 7). In contrast, Leanne said that cultural background or ethnicity did not have any impact on one’s swimming aptitude (Interview, p. 3). Terry was born in England and Robert was born in New Zealand, and both agreed that: “... people in Australia are brought up to swim” (Terry, Interview, p. 6). According to Terry “people in England are brought up to play soccer” (Interview, p. 6). In addition he said:

“... we haven’t got many resources to swim in England” (Interview, p. 6). Robert believed that a lack of access and the weather in New Zealand impacted negatively on his swimming development: “... it is mostly people playing rugby because it is freezing all the time and there aren’t many pools around” (Interview, p. 6). Vinnie suggested that those in Yugoslavia, where he was born, lacked swimming related development because: “... the kids were not trained and we did not have many good swimmers” (Interview, p. 5).

Ernie believed that mixed gender Year 8 classes were “no worries at all,” and “... you can actually get them (*the boys*) to engage with the girls” (Interview 2, p. 7). Sarah confirmed that she did not mind swimming with the boys, although this was discussed in terms of the uniform worn: “you can wear boardies and stuff” (Interview, p. 3 and p. 4). In contrast: “... the Year 9 boys, ... they’re pumped up with testosterone,” and “then you’ve got some girls who are probably mature physically and emotionally, ... that can be a handful, ... you can really have problems” (Interview 2, p. 7).

Ernie rated the non-participant levels in both Year 8 and Year 9 HPE swimming at Augusta School as “acceptable” (Interview 3, p. 1). The researcher noted that non-participation numbers in Year 9 ranged from 2 to 12 students, with the mean non-participation rate above 6 students for the lessons observed (Mean=6.4). While this included 12 students in the first class who declared that they were unaware of the HPE swimming demands, when removed from the calculation the mean non-participation rate was similar (Mean=5.8). Non-participation numbers in Year 8 ranged from 1 to 6 students, with mean non-participation rate above 3 students for the lessons observed (Mean=3.3).

Cold water and feeling cold were most commonly listed by Ernie’s Year 8 class and was the second most common concern listed by his Year 9 class when describing the worst thing about PE swimming. Despite the ‘hot’ weather (Researcher, Field notes), Joe expressed concern for the cold after a February 21 class: “... pretty cold when you get out” (Field notes). Vinnie expressed concern at being cold but indicated that: “you cannot really block out the wind so there is not much you can do to improve it” (Interview, p. 7). Ernie rated the temperature of the water as the number seven issue of concern and chose to rate it as ‘important’ rather than ‘very important.’ The Year 9 students listed ‘teaching technique/style/relationship’ as the worst aspect of PE swimming.

Swimming Competencies

Ernie defined a safe swimmer as: “someone who knows their own limitations, who can interpret safe and unsafe situations, ... who can deal with unsafe situations, can swim confidently, ... save themselves and or someone else” and know some survival skills (Interview 2, p. 1 and p. 2). In highlighting the importance of including survival and rescue skills in the safe swimmer definition, Ernie confirmed that it’s not just about being able to swim:

... in fact that’s probably like waving a red flag to a bull if you teach them swimming skills and you don’t draw a link or a bridge in their mind to water safety and rescue skills and put it all together, I think you’re actually encouraging kids to put themselves at risk, they may be confident in their swimming ability; however, they might not have the understanding of the competency to effect a rescue (Interview 3, p. 3).

When probed, Ernie used examples to clarify his definition: “... survival skills if they’re boating, enough now to hang with the boat and put a life jacket on and not panic and prevent heat loss” or “... if you were on the river, ... read some currents and probably get out of a tricky situation,” possessing “enough strength and endurance, and enough swimming skills” (Interview 2, p. 2). Terry, from Ernie’s Year 9 class, used a similar example: “being able to keep your head afloat like, if your boat sank, be able to stay alive” (Interview, p. 3). Ernie further discussed the swimming skills needed to be a safe swimmer: “... a couple of hundred metres, ... swimming 200 metres, ... at least,” including freestyle, and “you gotta be able to do the three survival strokes and you gotta be able to do that in the open water, ocean I would say” (Ernie, Interview 3, p. 3). Consistent with this, in the TiC Questionnaire, Ernie identified Category 5 (swim 200 metres; including 50 metres of freestyle, 50 metres of backstroke, 100 metres in 3 survival strokes) as a safe swimmer. The Year 8 students (48.1%) chose Category 4 in which one could swim 25-50 metres of freestyle, 15 metres of breaststroke, 15 metres in at least 2 other strokes, and perform a dive entry. While 39.3% of Ernie’s Year 9 identified Category 4 as a safe swimmer, more (42.9%) chose Category 3 which can swim 10 metres of freestyle, 10 metres of backstroke, and 10 metres of survival/life-saving backstroke.

When discussing secondary school aquatic exit competencies, Ernie said that: “... by the time kids are leaving high school in Year 9 or 10, I think 400 metres in open water, ... they should, ... all of them be able to swim 400 metres non-stop, confidently,

they don't have to be fast" (Interview 3, p. 3). He justified these expectations on the belief that students frequent the beach and local pool. During a Year 8 class, Ernie said to the students that Level 4 (*Vacswim*) was a minimum expectation and qualified this by asking students not to be judgmental of others: "... need to tolerate those who are better and not as good as us" (Ernie, Field notes, February 6).

Summary

Ernie: A Differentiator Experiencing Difficulties

Ernie was observed 22 times teaching Year 8 and Year 9 HPE swimming. There were 28 students in his Year 8 co-educational class, and 30 boys in the Year 9 class. At 39 years of age, Ernie was in his 13th year of teaching and has been a TiC in Government schools for 8 years. Ernie professed to embrace a differentiated approach, looking at streaming the ability levels and meeting the needs of individuals and the class. In addition, Ernie was keen to identify his support for the lesser skilled. Ernie rated swimming along with fundamental movement skills as the most important for Year 8 students.

Year 8 and Year 9 HPE Swimming at ANHS

Foremost in Ernie's mind when delivering HPE swimming to students at ANHS was purposeful content and fun. In general, the focus of the Year 8 and Year 9 programme was the same, and centred on correcting stroke technique and the Bronze Star Award.

Whilst choosing to differentiate his teaching, Ernie was working to set an example for other members of his HPE department to follow. During the swimming unit an assistant teacher, Richard a qualified HPE teacher, was employed to teach the least proficient swimmers from each of the classes. Confirming the significance of Richard in helping the lower ability students to improve, Ernie said that sending Leanne (weakest swimmer) to Richard made it easier. However, Leanne expressed a dislike for being separated from her friends.

Ernie and his Year 8 students believed that the majority had improved their swimming, while nearly all of the students stated that their ability to save someone had improved during the term. Evaluation of the Year 9 boys' data confirmed that less than half believed that their swimming had improved, while nearly 80% of the students

agreed that their ability to save someone had improved. Ernie conceded that the opportunity to deliver the higher order learning activities was a challenge and was impacted on by student numbers at or near 30.

In general, Ernie's students enjoyed the HPE swimming activities and would choose to do HPE swimming if it were optional. While some students expressed a need for more personal tuition, others wanted more opportunities to respond.

Teaching Year 8 and Year 9 HPE Swimming at ANHS

As well as being passionate for HPE swimming, Ernie was frustrated by the issues related to meeting the needs of all and student improvement. Some of his anxiety was alleviated by the assistant teacher programme, as it served to facilitate smaller class sizes and improvement for those at the lower end of the ability scale.

Ernie consistently employed the practice style for three groups that were stratified for ability. On occasion he utilised guided discovery, reciprocal peer teaching and peer assessment techniques. When challenged to work independently of direct teacher supervision, the boys did not work effectively. In addition, the students struggled with peer teaching and assessment by their non-changed colleagues. In contrast, when the students were under direct teacher supervision or were being observed for assessment purposes, their attentiveness was much improved.

Ernie's confidence in his ability to deliver a HPE swimming unit was generally supported by his students. However, in describing the limits to the HPE swimming programme, Ernie was resolute; money, staff/student ratios, varied student swimming ability levels, student behaviour/motivation and a lack of suitable teaching resources. The number of students in the class and immature behaviour had decreased their opportunities to learn. Cold water and feeling cold was commonly listed by the students when describing the worst thing about HPE swimming.

Swimming Competencies

Safe swimmers, according to Ernie could swim at least 200 metres, including 50 metres of freestyle. While the Year 8 students most frequently suggested swimming 25-50 metres of freestyle was the minimum which defined a safe swimmer, the Year 9 students chose 10 metres. When discussing secondary school aquatic exit competencies, Ernie described swimming 400 metres non-stop in open water.

CHAPTER SIX

CROSS-CASE ANALYSIS

Introduction

The cross-case analysis is an explanation building procedure (Bickman & Rog, 1998). It served to facilitate the seeing of the teaching and learning processes and outcomes that occurred in multiple sites. By multiplying the data set, generalisability and the scope of the study are potentially increased. This serves to amplify the understanding of the teaching and learning as they are contextualised for specific local variations (Bickman & Rog, 1998; Miles & Huberman, 1984).

As recommended by Miles and Huberman (1984), the original site cases were used to: “generate a cross-matrix that gets all the data in, ... that captures the dimensions ... and that gets the pertinent data arranged in readily analysable form” (p. 158). The cross-case analysis was framed by the model that conceptually underpinned the study. Therefore, the work was reviewed through the headings of pedagogical content knowledge (PCK) and differentiation (content, process/support and product). Case analyses using variables such as those identified above allow “sub-structuring of the variables using contrasts” (Miles & Huberman, 1984, p. 174) and permit “a way of locating underlying dimensions systematically” (p. 176). These techniques made possible a description of the state of affairs and through evaluation facilitated an understanding of the cause and likely effects of particular processes and outcomes (Bickman & Rog, 1998).

Two Year 8 classes and two Year 9 classes were observed and formed the multi-site case study evaluation. Karrie taught the Year 8 class and Annika the Year 9 class at PBGS – an Independent Girls’ School. Ernie taught both a Year 8 (co-educational) and an all boys Year 9 class at ANHS – a Government Senior High School. At 39 years of age, Karrie and Ernie were experienced teachers and TiC’s of their respective HPE departments, while Annika (25 years of age) was in her 5th year of teaching. Karrie had taught in two Independent girls’ schools and she rated swimming competencies highly and worked hard at focusing on the weaker, but conscious of a need for differentiation with all students. Annika was young and determined, and in her 4th year at PBGS. She facilitated student independence and, whilst limited by time, was supported by an assistant teacher. Since 1994, Ernie has been a TiC in Government schools. He

encouraged all to be active, but was mindful of the weaker participants. Ernie worked hard to differentiate using small groups based on ability.

Pedagogical Content Knowledge

Pedagogical content knowledge embodies the ways of representing and formulating the subject that make it comprehensible to others. Through the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations and demonstrations - teachers address the conceptions and preconceptions that students of different ages and backgrounds bring with them to learning (Shulman, 1986a). Quality teaching involves an amalgamation of the principles that define PCK and differentiation. Knowing what matters to teach, realising that learning happens in us rather than to us, making a conscious effort to continually reflect on and develop learning through the individuality of students (Tomlinson & Allan, 2000).

The most experienced teachers, Karrie and Ernie, were confident in their abilities to deliver a swimming unit. The students in the classes generally agreed, expressing positive sentiments toward their HPE swimming teachers. Moreover, all of Karrie's class believed that she was good at explaining how to improve their swimming, while only two of Ernie's Year 8 class and four of his Year 9 class disagreed with the suggestion. All of the students in Annika's class believed that 'she was good at explaining how they can do better at swimming activities.' However, Annika a less experienced teacher than Karrie and Ernie, expressed some reservations: "Teaching swimming is not my thing" (Field notes, February 25), and she expressed some concern for teaching at the beach (Annika, Interview 2).

Commensurate with the importance of 'experience,' Annika identified teaching experience as the number one source of understanding of what, and how, to teach HPE swimming. Karrie agreed, listing past experiences as informing her approach to HPE swim teaching (Interview 2, p. 7), along with her undergraduate training and learning from knowledgeable colleagues.

In transforming their knowledge of swimming into PCK, Karrie and Ernie believed that it was important to use authentic cues: "... relating it to something meaningful" (Ernie, Interview 1, p. 6) and past student experiences. This was exemplified by Karrie using the example of: "In sidestroke the arm action of pick the apple off the tree put it in the other hand and drop it in the basket" (Interview 2, p. 7).

Analogies and comparisons with known concepts, land-based demonstrations, student in-water demonstrations and avoidance of long-winded discussions were common features of the approach displayed by the teachers observed.

Differentiation

A differentiated classroom reflects an individualised pedagogical approach where the struggling, advanced and in-between students are all valued equally. Such pedagogy is proactively designed and implemented in response to the learner's readiness and interest levels and assumes that different learners have different needs.

While segmenting the curricular elements into content, process/support and product, it is important to be mindful that these elements operate in a more interconnected manner than they may appear in the following discussion. It is through the teacher's knowledge and understanding of the students' readiness and interest that the lesson preparation is devised and the pedagogy determined.

In addition to PBGS claiming to respect individual differences: "... we seek ... a curriculum that is differentiated" (PBGS, n.d., p. 1), both Karrie and Annika professed a fundamental educational belief to value differentiation. While ANHS did not specifically identify a philosophical intention to differentiate; Ernie, embraced a differentiated approach, claiming the best teaching format was one that differentiated. It seemed that the teachers had at least a surface level acceptance of the importance of meeting students at their existing ability level.

While the teachers agreed that it was possible to differentiate in the swimming class, such pedagogical discussion appeared guarded by the limitations/structures of space/numbers, time and student readiness. These sentiments were reinforced by Annika and Ernie, who both highlighted the benefit of an assistant teacher. Attempting to deliver a differentiated programme was demanding. Annika's students displayed high levels of interest and motivation (Field notes, February 12; March 20), and showed high levels of concentration, asked questions and were focused (Field notes, March 25), had excellent interpersonal skills and the maturity to take on assessing roles (Annika, Interview 2, p. 3). Such compliant behaviours positively impacted on the pedagogy Annika employed. Ernie identified the lessons were susceptible to immature students.

While some students acknowledged that meeting their individual needs was complex, another clearly identified the need to differentiate. For example Beatrice stated that: "... I would split everyone into groups ... put the more advanced people in

one group and the less advanced in another, they would both do the same things but more advanced swimmers would do things harder ..." (Interview, p. 13).

Karrie, Annika and Ernie were generally seen by the students as relatively active differentiators. Furthermore, none of Karrie's or Annika's students believed that they were disinterested in their needs, while several from Ernie's classes disagreed. A relatively weak swimmer confirmed that Karrie had provided a unit that: "... involves things for all levels of swimmer" (Rumor, Interview, p. 10). While Annika and Ernie delivered prescribed RLSSA course content, this may have impacted on the students' perceptions of lesson differentiation.

Differentiation techniques employed by the three teachers included ongoing diagnostic student evaluation. This was exemplified by teachers observing student performance, particularly early in the course, to assist/guide future lesson and unit activities and pedagogy. Different activities for different ability levels was reflected by Ernie's three ability-based groups and Annika grouping students based on competency achievement status. Provision of student choice was observed when Karrie allowed students the option to use buoyancy aids, Ernie used discovery techniques, and Annika employed inclusion pedagogy. Annika and Ernie allowed students to work on self-declared areas of need by working on tasks of choice (practice and inclusion style) independent of the teachers' direct supervision. Low ability swimmers were allocated pool space nearest the wall/shallow water side (e.g., Karrie at the pool/beach); self-evaluation, peer-evaluation and peer teaching were observed (e.g., Ernie's class using a peer-observation rubric check-sheet, Karrie using task cards combined with peer-evaluation, and all teachers using reciprocal pedagogy).

Content

The majority of Karrie's Year 8 programme focused on stroke technique analysis/correction (54.5%), with her attention primarily directed "... to the weaker and the moderate swimmers" (Karrie, Interview 3, p. 7). In addition, water confidence and survival activities were seen in combination to constitute nearly 40% of the remaining activity time. In contrast, Annika's Year 9 HPE swimming unit was focused on the RLSSA prescribed Bronze Star Award with 84.1% of the class activities related to life-saving. Similarly, Ernie delivered the Year 8 and Year 9 course framed by the Bronze Star Award with the most frequent activity undertaken, with life-saving accounting for approximately 55% of the highest ability group's activity time. Moreover, whilst

attempting to cater for the needs of all of the swimmers in his classes, Ernie varied content to each of three ability-based groups, with the weaker and moderate swimmers allocated more water confidence and survival activities (approximately 40-52%) and relatively less life-saving tasks (approximately 30%).

Content and student readiness.

The majority of the Year 8 PBGS programme was delivered to the needs of lowest ability swimmers. With this focus, Karrie believed the low ability swimmers improved their swimming, and she thought that some of the middle ability girls also improved. Karrie conceded a failure to extend the higher ability swimmers, thoughts echoed by the students with 58.9% agreeing that their swimming had improved. Amber and Beatrice, relatively strong swimmers, concurred confirming that they had not improved or acquired new knowledge, while Rumor, a relatively weak swimmer declared improvement for her sidestroke, freestyle, survival backstroke, and she experienced swimming at the beach.

Despite pitching the first lesson at the “middle ability swimmers” (Field notes, February 12), with less than half of Annika’s 24 students (n=11) passing the Bronze Star Award and 38.1% believing that their swimming had improved, one might speculate that the unit content was pitched at the higher ability swimmers. However, nearly all of the students (86.4%) agreed that their ability to save someone had improved during the term, while another 11, without achieving the Bronze Star Award, did pass the resuscitation component. These outcomes are commensurate with Annika’s aims: “... safety of themselves ..., their self-preservation, ... and them having the ability to help someone else,” while your “... not putting yourself at risk” (Annika, Interview 2, p. 2).

When deciding what content to teach in HPE swimming, Ernie confirmed that, despite operating within the Bronze Star framework: “that depends on the skill level of the kids” (Interview 2, p. 2). True to his philosophy, Ernie modified lesson content for all three groups. Unlike Annika, who used an assistant teacher to split the class into two non-streamed groups, Ernie, along with other class teachers, sent the weakest swimmers to a remedial sub-group. While 61% of Ernie’s Year 8 swimmers agreed that their swimming had improved, less than half of the Year 9 students (46.4%) confirmed improvement. Like Annika’s students, approximately 80% of the ANHS Year 8 and Year 9 students agreed that their ability to save someone had improved during the term.

Believing that the students "... at the very top end showed some improvement" (Ernie, Interview 2, p. 5), Ernie conceded that the opportunity to deliver the more complex learning activities was a challenge and was impacted on by student numbers at or near 30 in an aquatic environment. While nearly half of Annika's class achieved the Bronze Star Award, none from Ernie's classes were successful. While the researcher believes that the content was commensurate with the physical readiness for a proportion of Ernie's students (Field notes); when compared to Annika's class, factors such as lower levels of class compliance, 4-to-6 more students per class, and sharing the assistance teacher with other classes impacted on the student outcomes attained. Contrary to this, Ernie's HPE swimming programme was allocated significantly more time (Yr 8 = 790 minutes; Yr 9 = 820 minutes) than that afforded Annika's class (550 minutes).

Karrie and Ernie found it difficult to extend the higher ability students. While this was in contrast to Ernie's perceptions that the non-achievers were from the "bottom and the middle (*ability*)" (Interview, p. 5), it was consistent with his self-confessed difficulty in presenting and assessing the higher order learning activities (e.g., EAR and CPR). To maximise the intervention impact on the stronger swimmers, Karrie declared a need for more space and staff to facilitate smaller groups, while Ernie confirmed a need for less students in a class, more time and greater student compliance to work independently of his direct supervision. Annika appeared to forge ahead, determined to deliver the course content. Annika's resolve, in combination with a high level of student compliance and a class-based assistant teacher, resulted in the opportunity for the strongest to maximise their outcomes. The researcher judged some of the RLSSA Bronze Star content (e.g., distance swim, under-water search pattern, tow rescues) to be beyond the readiness level of the lower ability swimmers (Field notes, March 23). Annika confirmed similar sentiments when asked of the weaker swimmers: "... they haven't achieved as much" (Interview 2, p.6). However, one cannot discount the impact of the pool closure: "causing havoc" (Annika, Interview 1, p. 7) and the subsequent need to "plough through ... as quickly as possible (Annika, Interview 2, p. 4).

Content and student interest.

Most of the case study students were very interested in advancing their aquatic competencies with approximately 90% of students indicating it was important to learn how to be a safe swimmer (Range = 86.4%-94.0%) and learning how to save people in water (Range = 78.6%-94.1%). In addition, more than 90% of Karrie's and Ernie's Year

8 students declared that they would choose to do HPE swimming if it were optional, while less of the Year 9 students (Annika = 68%; Ernie = 78%) would pursue the option. While the number of students who were interested in HPE swimming was high, less agreed that the teacher had taught interesting things (Range = 57.1%-77.8%) and that the activities offered were interesting (Range = 63.6%-75.0%). When compared with the Year 8 students, there were fewer Year 9 students who agreed to experiencing interesting content. This appeared to be in contrast to some of the PBGS perceptions of the RLSSA Bronze Star Award providing motivation: “been very motivating for them to know that there is an award to achieve” (Annika, Interview 2, p. 1) and it being “important for me to pass” (Simone, Field notes, March 15). There appeared to be a difference between the interest in achieving an award and the interest in learning/mastering the content as defined by the Bronze Star. Moreover, the manner in which the content was delivered may have impacted on student motivation, an issue discussed in the ‘process’ sub-section which follows. When commenting on additional content that interested them, some of the students said; more challenging activities, lap swimming, group work and games (Karrie’s Year 8 students), while Ernie’s Year 9 boys wanted more rescue and survival-related activities and more laps, and several of his Year 8 girls wanted more free time in the water.

One student from each of the PBGS classes declared they did not enjoy HPE swimming, while three of Ernie’s Year 8 students and six of his Year 9 students agreed to a lack of enjoyment. Such negative thoughts were reinforced by Leanne and Sarah (ANHS Year 8) who wanted more time to ‘muck around.’ With less than half of Ernie’s Year 9 boys (n=13) enjoying HPE swimming and only four (19%) confirming that they would like to do more HPE swimming during the year, the post-unit interest appeared relatively low. Moreover, 39.3% of Annika’s Year 9 students and a higher proportion of Karrie’s (75%) and Ernie’s (52.9%) Year 8 students wanted to do more HPE swimming.

Karrie did not believe that non-participation was related to ability level, however, she believed that ethnicity had an impact. Rumor, born and schooled in Singapore agreed. Annika concurred, believing that a relationship between ability and ethnicity existed. Believing that “... some kids just don’t care;” Ernie, also believed that ethnicity, particularly those of “Asian origin,” had an impact (Interview 2, p. 7). In contrast, Leanne (of Asian decent) said that cultural background or ethnicity did not have any impact on swimming aptitude. Terry, who was born in England and Robert born in New Zealand, both agreed that: “... people in Australia are brought up to swim”

(Terry, Interview, p. 6). Whilst not observing a relationship between ethnicity and enthusiasm/participation during the case studies, the researcher identified those of Asian decent in the classes observed to be of relatively low swimming ability.

Process/Support

Teaching HPE swimming was impacted on by the space allocated, with two lanes at ANHS seen as problematic to the delivery of a differentiated HPE swimming programme (Researcher, Field notes, February 7). When teaching life-saving; Karrie expressed a need for “at least half the pool, if not all... particularly with students of different ability levels” (Karrie, Field notes, April 4). In support, whilst observing survival and life-saving activities, the need for, and “big difference” (Researcher, Field notes, February 20) of additional space beyond that equivalent to 2x25 metres was noted at ANHS. On that occasion, Ernie’s Year 8 class was divided into three groups, with the highest ability group using the deep-water diving area, whilst the moderate and low ability groups swam in the two lanes (Researcher, Field notes, February 20).

The beach also impacted on the pedagogy employed and was difficult to work in. It required more teacher-centredness and limited student choice (Karrie, Interview 3, p. 5), with Karrie considering a student self-assessment strategy used at the pool, inappropriate for the open water. Moreover, Annika forfeited small group work for a whole-class teacher-centred approach at the beach.

The students’ aquatic proficiencies were seen to impact the pedagogy deemed most appropriate. Working across the pool best matched the needs of stroke technique evaluation and correction (Karrie, Interview 3, p. 4), while Karrie placed the least able swimmers nearest the pool wall (Field notes, February 8) or closest to shore at the beach (Rumor, Interview). Ernie and Annika believed that small group stations allowed the weaker students to work together: “comfortable but challenged” (Ernie, Interview 2, p. 6), “... without everyone knowing that maybe they are struggling” (Annika, Interview 2, p. 7). Annika identified being able to touch the bottom of the pool and one-on-one teacher assistance as important for the least able. Teacher directed drill-work and a paired format better suited the middle ability swimmers, while the stronger swimmers responded to: “... giving them a situation, ... then giving them the opportunity to figure it out for themselves” (Annika, Interview 2, p. 8). Sharon, a ‘state swimmer’ agreed: “Maybe ... a teacher show us but then ... 5 minutes just to spend working it out and practicing” (PBGS Year 9, Interview, p. 3). Ernie also identified that the students’

readiness and interest levels impacted on the pedagogy employed and this was evidenced during observation of the Year 8 and 9 ANHS lessons. Student behaviours during reciprocal peer teaching and assessment, practice and indirectly supervised class activities included casual play, disinterest and an unwillingness to work (Researcher, Field notes, February 7, 8, 12, 22, 27; March 5, 15, 21, 27). These uncooperative responses impacted on Ernie's teaching, having to stop a lesson and remove the Year 9 students from the pool for disciplinary reasons (Field notes, March 3), choosing to reject the results of peer-assessment (Field notes, March 21) and minimising the use of student-centred pedagogies.

In the initial stages of the unit, a structured teacher-centred approach was employed by the teachers: "... simply because you are establishing yourself" (Karrie, Interview 2, p. 7) and "... they don't know what I expect" (Annika, Interview 2, p. 5). In addition, ongoing diagnostic evaluation was used by the teachers to determine class format: "... I don't know what their abilities are like" (Annika, Interview 2, p. 5) and "... I need to observe them ... their skill, ... to determine the ... direction I'm going" (Ernie, Interview 2, p. 3).

Karrie, Annika and Ernie predominately used the practice style, using it at times in every lesson observed. This is in contrast to Annika's declared importance for using a student-centred approach: "I can make them jump out, sit down, do whatever," but "... in terms of their overall development, that it is much better for them to have the opportunity to explore things for themselves" (Interview 2, p. 8). While Karrie and Annika also consistently used a reciprocal peer teaching/assessing style, they employed inclusion methods. The girls at PBGS responded very positively to the teaching methods employed. Ernie used reciprocal peer teaching/assessment for three ability selected groups and he also irregularly employed the guided discovery method. In response to the methods Ernie employed the outcomes were indifferent, with the students failing to work effectively in the absence of direct teacher supervision.

Process/support and student readiness.

Annika, aided by a very high level of student cooperation (Researcher, Field notes, March 20; April 4), used the reciprocal peer teaching/assessing format and the practice and inclusion styles successfully with the girls working in pairs or small groups, independent of her direct supervision. In contrast, Ernie's boys and some of the girls, when challenged to work independently in pairs and small groups without direct

teacher supervision, did not work effectively (Researcher, Field notes, February 14, 22, 27; March 27). In addition, the ANHS students struggled with peer teaching and assessment when directed by their non-changed colleagues (Researcher, Field notes, March 5, 15, 21, 22). However, when the ANHS students were under direct teacher supervision or were being observed for assessment purposes, their attentiveness was much improved (Researcher, Field notes, March 5). This suggested that it was not the small group format or the content that was problematic, but as the researcher and Ernie described a maturity problem (Researcher, Field notes, February 12, 14; Ernie, Field notes, February 21), and a lack of readiness to work in a peer assisted and an independent format. Students were “wasting time” (Terry, Interview, p. 7) which impacted negatively “because everyone gets stopped by them” (Joe, Interview, p. 7). Noteworthy, is that the success of peer teaching during Karrie’s class, also appeared to be related to the swimming ability of the student leader. When the non-participant peer teachers included higher ability swimmers at PBGS the amount of feedback and the outcomes were more positive (Researcher, Field notes, February 8; March 14). However, when low ability swimmers paired themselves during reciprocal styled activities, the challenge of assisting each other appeared beyond their capacity, while high ability paired swimmers in the same lesson worked well (Researcher, Field notes, March 6). Further to this, Annika confirmed that her teaching approach was influenced by the existing abilities of the students. Moreover, given that both the peer teacher and learner were generally seen to benefit at PBGS, and the ANHS girls responded better to unsupervised work (Researcher, Field notes, February 27; March 27), the case observations evidenced the proposition that the success of peer-assisted/unsupervised swimming pedagogy interacted with gender at the Year 8 and Year 9 level.

Process/support and student interest.

One reason to use peer teaching, according to Annika, was that it: “... has worked out really well” (Interview 2, p. 6). Moreover, peer related teaching/assessing interested the high ability swimmer: “... we could sort of help other people to show them how to do things and I like doing that, that’s really fun” (Beatrice PBGS, Interview, p. 11).

It appeared that not only was student interest in the teacher’s mind when determining the HPE swimming pedagogy; but, the lane space, the student’s swimming ability and student numbers were also important variables. Karrie identified that: “...

how you go about your class on a given day,” is significantly influenced by the lane space allocated (Interview 2, p. 6 and p. 7). Annika concurred, and both teachers referring to the detrimental impact of crowding. Ernie identified the impact of ability level, however he also reiterated the “numbers factor” (Interview 3, p. 4; Field notes, February 21) as impacting on the learning experience.

While Ernie confirmed that when able to send Leanne (weakest swimmer) to the assistant teacher, it made it easier: “... freed me up” (Ernie, Field notes, February 15); Leanne, indicated that she: “... would rather be with the other members of the class” (Leanne, Field notes, March 15). Further to this, Leanne presented as “reticent to leave her friends” when instructed to engage in Richards classes (Researcher, Field notes, February 22) and “excited” on her return (Researcher, Field notes, March 27). The importance of such sentiments was reinforced by Karrie when she confirmed that allowing friends to work together in a non-threatening environment was indicative of the best HPE swimming classroom.

Product

As the teachers confirmed that product in the HPE swimming classroom could not be evaluated within the student needs framework (Tomlinson, 1999), this section will not be discussed under the readiness and interest sub-headings.

Assessment of outcomes in a differentiated form, that is opportunities for students to display learning was in Karrie’s eyes, difficult. Collaboration between the teacher and the students occurred to some extent: “but I would say not a huge amount” (Karrie, Interview 3, p. 2). Karrie reported that asking students to show and talk about their performance, or a partner’s explanation of what they think they could do better, tends to be what happens (Karrie, Interview 3, p. 2). Such techniques were not observed during the case study and were said to be forfeited, in response to the loss of the pool and inclusion of the beach, for teacher-centred observations (Karrie, Interview 2, p. 5).

Informal peer assessment strategies, or student evaluations in the course of the teaching/learning process, were employed by the three teachers observed with varying degrees of success. Whilst confirming that she would normally include formal peer assessment by using the student recordings in determining outcome levels, Karrie said that with the loss the school pool and allocated swimming time and the inclusion of the beach had prevented her from doing this. Ernie provided the non-changed students with an observation rubric check-sheet but was concerned with reliability issues.

The researcher noted the difficulties of operating in smaller groups with a teacher-centred approach to assessment: “This is very time consuming and lots of standing around while another group was assessed,” exemplified as “Sharon and her group waited, watched and listened poolside” (5 minutes and 51 seconds) (Field notes, March 15), and Vinnie waited poolside and casually played in the water with his partner (10 minutes and 7 seconds) (Field notes, March 13). Formal assessment, when undertaken within the teaching framework: “With assessment came practice and instruction” and the opportunity to immediately repeat inappropriately performed tasks (Researcher, Field notes, March 25), was seen to be very successful. Assessment was problematic, difficult and for those undertaking the Bronze Star controlled by the award.

Summary

The cross-case analysis facilitates the seeing and understanding of processes and outcomes, contextualised for specific local variations. Karrie and Ernie were experienced teachers and TiC’s of their respective HPE departments, while Annika was the least experienced. Teaching experience was reported to be the most significant factor in transforming their knowledge of swimming into pedagogy. Meaningful cues were instrumental in forming teaching practice, while analogies and comparisons with known concepts, demonstrations and avoiding long-winded instruction were common features of the approach displayed by the teachers observed.

Three main approaches to differentiation had been identified; by content, process/support and product, all proactively implemented in response to the learner’s readiness and interest levels. The teachers professed a fundamental educational belief in differentiation, meeting the needs of individuals and the class. Differentiation techniques by the three teachers included; ongoing diagnostic student evaluation, different activities for different ability levels, provision of student choice, allowing students to work on self-declared inefficiencies, least ability swimmers allocated pool space nearest the wall side, self-evaluation, peer-evaluation and peer teaching were observed. However, while all agreed that it was possible to differentiate content and process/support in the swimming classroom, it was difficult to differentiate for product. Moreover, positive teacher discussion of differentiation in general was guarded by the limitations of space/numbers, time and student readiness.

Karrie’s Year 8 programme focused on stroke technique analysis/correction, while Annika’s Year 9, and Ernie’s Year 8/9 HPE swimming unit was framed by the

RLSSA prescribed Bronze Star Award. While life-saving activities accounted for more of Ernie's highest ability group's activity time, he presented the weaker and moderate swimmers with more water confidence and survival activities. While Ernie modified lesson content for ability level, Karrie's programme was aimed at the lowest ability swimmers. However, both conceded a failure to extend the higher ability swimmers. Annika's unit content was commensurate with the needs of the higher ability swimmers, with the lower ability students only able to achieve some outcomes. When compared to the Year 8 students there were less Year 9 students who agreed to experiencing interesting content. Ethnicity, particularly students of Asian decent, was generally believed to impact on participation levels and swimming aptitude.

The students' aquatic proficiencies and readiness levels were seen to impact on the lesson format deemed most appropriate. Working across the pool, small group stations, being able to touch the bottom of the pool and one-on-one teacher assistance were identified as important for the least able swimmer. The stronger swimmers responded to reciprocal peer teaching/assessing, practice and inclusion methods; however, this was dependent on student readiness, maturity and compliance levels which appeared to interact with gender – appealing more to the girls. Activities and pedagogy that were centred too far above or below the level of the learner's readiness left students challenged beyond their capacity to work alone.

The assessment of HPE swimming product, or opportunities for students to display learning in a differentiated form was not undertaken by the teachers and was described as at best difficult.

CHAPTER SEVEN

QUESTIONNAIRE FINDINGS

Introduction

Given the extensive nature of the data collected, generally only significant differences ($p < 0.05$) in data with some unanticipated non-significant differences in results and key findings were highlighted in the text and in the following discussion (Chapter 8). Data from a sub-set of Year 6/7 students were presented as a reference point to provide a context for discussion of the Year 8/9 data. Tabulated data which were seen to support the key findings are presented in Appendix Y.

Questionnaire Findings – The Teachers in Charge and Teachers (Educators)

The Educators Described

Summary Description of the Teachers in Charge (TiC's)

Of the 33 TiC's who responded to the questionnaire, 78.8% were male and 21.2% female (Table 12). All respondent schools provided compulsory Year 8 HPE swimming and three of the schools did not offer Year 9 HPE swimming. Twenty-seven TiC's (81.8%) had taught for more than 10 years, while five (15.2%) had taught for less than 5 years, and one (3%) reported 5-10 years experience (Table 13). The 21 Government school TiC's appeared to be more experienced than the 12 Independent school TiC's (Table 13).

Table 12: TiC Data

TiC Data	Government	Independent	Total
TiC	21	12	33
Male TiC	19	7	26
Female TiC	2	5	7

Table 13: TiC Experience

Years Experience	Government Teachers		Independent Teachers	
	HPE	TiC	HPE	TiC
1-4		4	5	7
5-10	1	2		4
11-15		2	3	
16-20	2	4	1	
21+	18	9	3	1
Mean	-	17.4	-	4.7

Summary Description of the Year 8/9 Teachers

Of the 43 teachers who responded to the questionnaire, 55.8% were male and 44.2% female (Table 14). The total sample comprised 25 (58.1%) teachers who taught Year 8 and 18 (41.9%) who taught Year 9 HPE swimming classes. Twenty-three teachers (53.5%) had taught for more than 10 years, while 11 (25.6%) reported less than 5 years, and eight (18.6%) reported 5-10 years experience (Table 15). Twenty (69%) of the Government school teachers had taught for more than 10 years of HPE (Table 15), while 78.6% (n=11) of the Independent school teachers reported 10 or less years experience.

Table 14: Teacher Data

Teacher Data	Government		Independent		Total
	Year 8	Year 9	Year 8	Year 9	
Teachers	18	11	7	7	43
Male	13	6	2	3	24
Female	5	5	5	4	19

Table 15: Teacher Experience

Years	Teachers' HPE Experience			
	Year 8	Year 9	Government Year 8/9	Independent Year 8/9
1-4	6	6	3	9
5-10	5	3	6	2
11-15	6	5	10	1
16-20	4	1	4	1
21+	4	3	6	1

Qualifications – TiC's and Teachers Combined

Six of the TiC's (18.2%) and six of the teachers (14.0%) confirmed that they did not possess any current swim teaching qualifications (Table Appendix Y1). A Bronze Medallion (RLSSA) was listed by 54% of the educators and was the most commonly held qualification. In addition, 10.5% confirmed that they were accredited with a Bronze Medallion Instructors/Examiners. When asked to identify any out-of-date certificates, 29% declared a Bronze Medallion (RLSSA) and 28% an AUSTSWIM/AUSTSWIM Instructors certificate (Table Appendix Y2).

The Educators' Perceptions of HPE Swimming

TiC's and Teachers' Perceptions – In Summary

A school-based pool was available to 58% of the teachers. Of those who accessed a public pool, 85% believed that they did not receive adequate consideration for their booking needs. Two thirds of those accessing a pool reported a lane/space allocation for HPE swimming of 2 lanes of a 50 metre pool or less. With a median of 25 students per class, 62% confirmed that the lane/space allocation was adequate, while others expressed concern for over-crowding. More than half (57.6%) believed that there were pool related issues that restricted the teaching of HPE swimming.

Year 8 and Year 9 students received an average of 11.3 (Range=4-30) HPE swimming lessons per year. Each lesson averaged 71.2 minutes. This accumulated to a mean swimming unit time of approximately 13 hours with 521.1 minutes allocated to in-water activities. Schools with a pool offered approximately twice as many HPE swimming lessons and offered 48.4% more allocated swimming time, when compared to those schools that did not possess a pool. Government schools presented an average of 192.3 minutes more unit time (32.4% more) than that offered by Independent schools.

Teachers indicated that the most important skills a teacher of Year 8/9 HPE swimming should possess were 'knowledge of swimming related skills' and declared teaching experience the number one source of knowing 'what' and 'how' to teach swimming. Most of the teachers believed that they were 'appropriately qualified' and 'enjoyed' teaching HPE swimming. They also reported to 'feel comfortable' with the task. A teacher-centred approach was more commonly seen as the best instructional format.

While educators saw 'developing student confidence' as the most important goal/outcome for both Year 8 and Year 9 HPE swimming, stroke technique analysis and correction was the most frequent activity undertaken. 'Life-saving, survival, safety and water awareness' activities ranked second for the most frequent activity undertaken in Year 8 and Year 9. Independent Schools included more carnival preparation activities in their programmes, while Government schools included more training/fitness specific activities. Few schools offered a formalised programme leading to potential certification for Year 8 (n=3) and Year 9 (n=8).

Teachers described many (n=15) different methods for monitoring/assessing student performance or learning outcomes, but 'technique/endurance through observation and evaluation' was the most frequent procedure used.

Perceived student swimming abilities did not differ greatly when Year 8 and Year 9 comparisons were made. Twenty-nine percent of students could only swim 25/50 metres of freestyle and 58% could swim continuously for at least 200 metres. Teachers believed that approximately 18% could swim 400 metres continuously and swim 25 metres of butterfly.

Educators defined a safe swimmer as possessing the ability to swim at least 25-50 metres of freestyle. A good swimmer was defined as one who could swim 200 metres continuously and also had the ability to save another person in a 50 metre pool. In defining the potential to save another swimmer in the ocean/surf, the ability to swim 400 metres continuously with a least 100 metres of freestyle was deemed essential.

More than half of girls (55.4%) and boys (59.4%) were seen by the teachers to have shown little improvement during HPE swimming, while it was believed that 60-79% enjoyed HPE swimming classes. In describing the weaknesses of the HPE swimming programme, class numbers and issues related to space, time, and varied student swimming ability levels were most commonly listed. Staff/student ratios were reported by educators to be the most important issue related to the teaching of swimming in Year 8/9 HPE classes, with varied student ability levels and staff qualifications also ranking highly. The majority of teachers (55.8%) believed that they did not consistently cater for all of the students in their classes. When asked what would need to happen for them to do this, 54.2% reported the need for smaller class sizes/additional staff.

Swimming Facilities and Time Allocation

The Venue and Pool Use

A school-based pool was available to 58% of the teachers (Table 16). Thirty-nine percent of TiC's accessed an outdoor school pool during Term 1 and again during Term 4 (Table 17). During Term 1, six schools used an outdoor public pool, and six travelled to the beach. While 31% (n=9) of the Government teachers did not have access to a school pool, a higher proportion (64%; n=9) of the Independent school teachers did not use a school pool.

Table 16: School Pool Access

Pool Access	Government Teachers		Independent Teachers		Total
	Year 8	Year 9	Year 8	Year 9	
School pool	11	9	2	3	25
No school pool	7	2	5	4	18

Table 17: Facilities Used in HPE Swimming Classes

Facilities Used	Year 8						Year 9					
	Term 1	Term 2	Term 3	Term 4	Term 1&4	Term 1,2&3	Term 1	Term 2	Term 3	Term 4	Term 1&4	Term 1,2&3
Indoor school	1				1		1				1	
Outdoor school	5				13		4				13	
Indoor public	1					1	1					
Outdoor public	6						6					
Beach/River	6			1	2		5			1	2	

Eighty-five percent of the TiC's believed that they did not receive adequate consideration for their booking needs at public pools. Issues raised by the TiC's focused on pool unavailability (n=7), management concerns (n=4) and prohibitive cost (n=1).

Half (50.1%) of the TiC's reported a lane/space allocation for HPE swimming of 2 lanes of a 50 metre pool, or an equivalent space (Table 18). Sixteen percent (16.4%) used the equivalent of 1 lane of a 50 metre pool. While 62% confirmed that the lane/space allocation was appropriate, others expressed concern for over-crowding (Table Appendix Y3). According to 70% of the TiC's, the pools were of the appropriate depth. Whilst some identified the pool as being too deep (n=4) others indicated that it was not deep enough (n=3) (Table Appendix Y4). Nearly 58% of the TiC's (n=19) believed that there were pool related issues that restricted the unit offered. These included 'pool unavailability' (n=13), 'space restrictions' (n=8) and the 'cold temperature of the pool' (n=4) (Table Appendix Y5).

Table 18: Lane/Space Allocation - HPE Swimming Classes

Year Level	Lane Allocation						
	Ocean or River	1x50m or 2x25m	2x50m or 3/4x25m or 3/4x30m	3x50m or 6x25m	4x50m or 8x25m	5x50m or 10x25m or 8x30m	Large range
Total	Frequency of TiC response						
Year 8	5	5	15	1	5	1	2
Year 9	4	4	13		6		3
With pool							
Year 8	1	3	10		5		2
Year 9	1	2	8		6		3
Without pool							
Year 8	4	2	5	1		1	
Year 9	3	2	5				

Class Size

As shown in Table 19, class size ranged from 12 to 37, with a median of 25 students.

Table 19: Student Numbers

Students Per Class	Year 8	Year 9	Year 8/9	Government Year 8/9	Independent Year 8/9
Mean	26.4	25.1	25.8	26.2	25.0
Median	25.0	25.0	25.0	27.5	24.0
Range	19-35	12-37	12-37	12-35	17-37

Time for HPE Swimming

Year 8 and Year 9 students received an average of 11.3 (Range=4-30) HPE swimming lessons per year (Table 20). Each lesson averaged 71.2 minutes, which accumulated to a mean swimming unit time allocation of 780 minutes for Year 8/9 students – approximately 13 hours. However, the time (300-1800 minutes) allocated to the HPE swimming unit was varied. Schools with a pool offered approximately twice as many HPE swimming lessons (13.9) when compared to schools that did not have a pool (6.9). Moreover, the total time allocated to an HPE swimming unit for schools that had a pool (14 hours) was approximately 29% greater than schools without a pool (10 hours).

Table 20: Time Allocated to Year 8/9 HPE Swimming

Time Allocated	Year 8/9		
	Lesson duration (Minutes)	Lessons per unit	Unit time (Minutes)
Overall mean	71.2	11.3	779.6
School pool	61.0	13.9	873.9
No school pool	88.6	6.9	617.8
Range	45-140	4-30	300-1800

Time Allocation to HPE Swimming

The time allocated to in-water activities was 521.1 minutes per year (Table 21). The mean allocated swim time per lesson was 44.8 minutes per lesson, with a diverse range (15-90 minutes). Fifteen minutes was the mean change time allocated in preparation for HPE swimming, while 10 schools spent an average of approximately 23 minutes in bus transit to and from a pool (Range=10-30 minutes). As shown in Table 22, schools that possessed a pool offered 48.4% more allocated in-water swimming time, when compared to those schools that did not possess a pool. Government schools presented more in-water swimming time (192.3 minutes; 32.4%) than that offered by Independent schools (Table 22).

Table 21: Time Allocation (Minutes) to Year 8/9 HPE Swimming

Time Allocated	Year 8/9 - Time allocation (Minutes)			
	Bus	Change	Allocated swim per lesson	Allocated in-water unit
Mean	23.2	14.8	44.8	521.1
Range	10-30	5-30	15-90	150-1350

Allocated in-water unit time=total time – (bus time + change time).

Table 22: Allocated Year 8/9 HPE In-Water Swimming Unit Time (Minutes)

Allocated Time	Year 8/9 – Allocated in-water unit time (Minutes)			
	Government	Independent	School pool	No school pool
Mean	592.7	400.4	633.4	326.7
Range	240-1350	150-900	240-1350	150-500

Allocated in-water unit time=total time – (bus time + change time).

Perceptions of Teaching HPE Swimming

Teaching HPE Swimming

Ninety-three percent of the teachers believed that they were ‘appropriately qualified’ and 93% reported ‘enjoying’ teaching HPE swimming with 86% of the teachers ‘feeling comfortable’ with the task (Table 23). Comfort levels would improve for the six teachers who did not feel comfortable; with additional experience (n=2), training/knowledge (n=2), smaller class sizes (n=2) and changes to the venue (n=2). Seventy-two percent of the teachers believed that they were ‘suitably skilled’ to advance students of all ability levels, while 28% did not. Of those who reported to be ‘under-skilled’, a majority of the teacher responses (71.4%; n=10) detailed a need for additional training, with half specifying needs relative to advanced/high level swimmers.

Teachers indicated that the most important skills a teacher of Year 8/9 HPE swimming should possess were ‘knowledge of swimming related skills’ which allowed for teachers to analyse, correct and improve student swimming skills (Table 24). Knowledge of water safety, rescue, life-saving and resuscitation procedures ranked 2nd.

Table 23: Teachers' Qualifications and Comfort Levels with Teaching Swimming

Teaching Swimming	Yes		No		Coded responses from teachers to the question - What would need to happen/change for teachers to respond with a 'YES'?	
	n	%	n	%	Code description	f
Are you appropriately qualified?	40	93.0	3	7.0	➤ Training at minimum – Bronze Medallion level ➤ In-service on all aspects – not just technique ➤ PD on teaching techniques – pedagogy	1 1 1
Are you suitably skilled?	31	72.1	12	27.9	➤ PD/Courses specific to advanced swimmers ➤ PD on handling school HPE ➤ Smaller class sizes ➤ Motivated students ➤ Advanced coaching courses ➤ Refresher courses ➤ Training – general (non-specific) ➤ Experience ➤ Time with elite swimmers	5 2 1 1 1 1 1 1 1 1
Are you comfortable?	37	86.0	6	14.0	➤ Need additional experience ➤ Smaller class sizes ➤ Need additional training ➤ Greater understanding of the law and teacher law coverage. ➤ More space ➤ The venue – river	2 2 1 1 1 1
Do you enjoy?	40	93.0	3	7.0	➤ Concerns for duty of care requirement ➤ Too many students – leading to high discipline needs ➤ Need more teachers per number of students	1 1 1

Table 24: Most Important Skills Required to Teach Swimming

Most Important Skills			Frequencies				
			Rank				
Coded description of teachers' responses	Overall Rank	Points	1	2	3	4	5
Knowledge and Qualifications							
Knowledge of swimming skills – analyse/correct/improve skills	1	109	8	11	7	2	
Knowledge of – water safety/rescue/life-saving and resuscitation	2	61	7	4	2	2	
Qualifications	3	36	5	2	1		
Knowledge – general	5	32	5		1	2	
Swimming teaching experience	8	28	1	5	1		
Personal swimming fitness/ability	10	22	1	1	2	3	1
Knowledge of drills	16	9	1	1			
Ability to assess current levels	25	3			1		
Teaching Skills/Class Management							
Communication	4	35	3	3	2	1	
Organisation – general/class	6	30	1	3	3	2	
Teaching skills	7	29		4	3	2	
Class control/authoritarian approach/management	9	25	1	3	2	1	
Ability to handle a large group of students	11	12	1	1	1		
Ability to handle a range of student ability	11	12	1	1	1		
Quality lesson plans/activities	11	12		1	2	1	
Ability to keep non-participants busy	14	11	1		2		
Visual skills/observation	18	8	1		1		
Maintain safe environment	21	5	1				
Awareness of student needs	21	5	1				
Good time management	21	5			1	1	
Teacher's Personal Qualities							
A special interest/motivation in swimming	14	11	1			3	
Ability to instil confidence in the students	16	9	1	1			
Be encouraging, enthusiastic, motivational, make it enjoyable	16	9			2	1	1
Rapport with students	18	8	1		1		
Confidence	20	7	1			1	
Patience	21	5				2	1
Voice	26	1					1

Note: Overall rank was determined by allocating: 5 points to categories ranked 1; 4 points to categories ranked 2; 3 points to categories ranked 3; 2 points to categories ranked 4; 1 point to categories ranked 5.

Strongest Source of What and How to Teach in Year 8/9 Swimming

In knowing ‘what’ and ‘how’ to teach Year 8/9 HPE swimming, teachers’ ranked teaching experience the number one source of information (Tables 25, Appendix Y6 and Y7). Royal Life-saving Society of Australia (RLSSA) and AUSTSWIM training were seen to be important in determining what to teach and how to teach HPE swimming. As a source, ‘other teachers’ was ranked 2nd and seen as important in determining how to teach HPE swimming.

Table 25: Strongest Source of ‘What’ and ‘How’ to Teach in HPE Swimming

Description	What to Teach		How to Teach	
	Overall Rank	Mean Rank	Overall Rank	Mean Rank
Teaching experience	1	2.53	1	1.40
RLSSA training	2	2.79	4	3.11
AUSTSWIM training	3	2.89	3	2.85
Undergraduate training	4	2.93	5	3.17
Other teachers	5	3.64	2	2.41
SLSA training	6	3.78	8	5.00
Books	7	3.87	6	3.27
PD training	8	4.19	7	4.80
Other	9	-	9	-

Other ‘What’=Appropriate resource materials; club coaching experience; curriculum; own swim classes; own swimming experience; Vacswim/Interm teaching.

Other ‘How’=Club experience; advanced swimming option at University; Vacswim/Interm swimming experience; own swimming experience.

The Best Way to Teach Swimming

While a teacher-centred approach was ranked the number one instructional format (best way) to teach Year 8 HPE swimming (Tables 26, Appendix Y8 and Y9), it ranked lower (rank=5) for teaching Year 9 classes. However, it was noted that a teacher-centred approach was ranked first by 38.9% (n=7) of the Year 9 teachers – this being the highest number one rank for any of the ‘best way’ options offered by the Year 9 teachers. Eighty-one percent of the teachers believed that they used the best teaching methods. Of the teachers who did not use the best teaching methods, 58.3% identified factors related to staff/student ratios.

Resources Used in Planning, Teaching and Assessing HPE Swimming

As shown in Table 27, ‘student outcome statements’ (SOS) and the ‘RLSSA Manual’ (RLSSM) were the most frequently used resources in the implementation of

the Year 8/9 HPE swimming unit. When planning their unit, the TiC's referenced the use of the SOS and the RLSSM equally (n=28). However, for the purposes of teaching, the RLSSM was most frequently sourced (n=30). The TiC's identified the SOS (n=34) as the main resource used to assist in the development of the assessment schedule.

Table 26: The Best Way to Teach Year 8 and Year 9 HPE Swimming

Best Way to Teach	Yr 8		Yr 9	
	Overall Rank	Mean Rank	Overall Rank	Mean Rank
Teacher-centred	1	2.74	5	3.41
Student-centred	2	2.88	2	2.70
Technique drills	3	3.05	1	2.43
Games	4	3.63	3	3.23
Challenge activities	5	3.88	6	3.79
Peer teaching	6	4.33	7	3.80
Groups at stations	7	4.82	4	3.29
Discovery learning	8	6.27	8	5.00
Other	-	-	9	-

Other=Ability grouping.

Table 27: Resources Used in Planning, Teaching and Assessing HPE Swimming

Coded TiC responses describing resources used	Frequency							
	Planning		Teaching		Assessing		Total	
	Yr 8	Yr 9	Yr 8	Yr 9	Yr 8	Yr 9	Yr 8	Yr 9
Student outcome statements	16	12	12	8	19	15	47	35
RLSSA Manual	14	14	14	16	7	7	35	37
SLSA Manual	4	3	2	2	2	2	8	7
Videos	1	1	4	5	1		6	6
Interm (ISP) documentation and levels	2	2	1	1	2	2	5	5
Books	1	1	2	2	1	1	4	4
Vacswim levels	1	1	1	1	2	1	4	3
OBS Schedules					2	2	2	2
RLSSA Awards		1		1		1		3
FME: Outcomes and Standards in PE and Sport					1	1	1	1
Professional development		1						1
SLSA magazines	1	1					1	

The Swimming Programme Described

Goals/Outcomes of HPE Swimming

TiC's and teachers saw 'developing student confidence' as the most important goal/outcome for both Year 8 and Year 9 HPE swimming (Tables 28, 29; Appendix Y10, Y11, Y12, Y13). To develop a 'safer water participant' and 'stroke proficiency' also ranked highly. Mean rankings confirmed to 'improve race times' (rank=8) was the least important goal/outcomes for HPE swimming.

Table 28: TiC and Teacher Goals/Outcomes for Year 8 HPE Swimming

Goals/Outcomes	TiC		Teacher	
Description	Overall Rank	Mean Rank	Overall Rank	Mean Rank
Develop confidence	1	2.18	1	2.29
Safer water participant	2	2.55	2	2.90
Develop stroke proficiency	3	3.35	4	3.65
Develop survival skills	4	3.64	3	3.32
Have fun	5	4.36	5	3.86
Improve fitness	6	4.88	7	5.50
Develop rescue skills	7	6.00	6	4.71
Improve race times	8	6.21	8	6.39
Other	9	-	-	-

Other 'TiC'=Achieve qualifications; interpersonal skills.

Table 29: TiC and Teacher Goals/Outcomes for Year 9 HPE Swimming

Goals/Outcomes	TiC		Teacher	
Description	Overall Rank	Mean Rank	Overall Rank	Mean Rank
Develop confidence	1	2.44	1	2.93
Safer water participant	2	2.79	3	3.65
Develop survival skills	3	3.00	4	3.72
Develop stroke proficiency	4	3.87	2	3.44
Have fun	5	4.28	5	3.83
Improve fitness	6	4.50	7	4.74
Develop rescue skills	7	4.56	6	4.40
Improve race times	8	6.89	8	7.50
Other	9	-	-	-

Other 'TiC'=Achieve qualifications; interpersonal skills.

The Most Important Content to Teach in HPE Swimming

While confidence activities were reported by teachers to be the most important content to teach in Year 8 HPE swimming, Year 9 teachers reported that survival skills were the most important (Tables 30, Appendix Y14 and Y15). While 76.7% (n=33) of

the teachers believed that they taught the most important content, 23.3% (n=10) did not. Of the latter group, the teachers commonly listed structural factors (57.1%) such as large class sizes (n=3), limited time (n=2), pool space (n=2) and venue restrictions (n=1) inhibited them. Others thought that curriculum related issues (n=5) and pre-existing student skill levels (n=3) inhibited the delivery of the most important content.

Table 30: The Most Important Content to Teach in Year 8 and Year 9 HPE

Swimming

Most Important Content Description	Yr 8		Yr 9	
	Overall Rank	Mean Rank	Overall Rank	Mean Rank
Confidence activities	1	2.65	3	3.50
Survival skills	2	2.83	1	2.18
Stroke proficiency F/S,BR/S,BA/S,FLY	3	3.04	2	2.71
Safety activities	4	3.14	4	3.77
Rescue skills	5	4.73	5	4.13
Fun activities	6	5.00	7	5.69
Fitness activities	7	5.68	6	5.06
Race techniques	8	7.53	8	6.71
Other	-	-	9	-

Other 'Year 9'=Self preservation.

Activities Undertaken in the HPE Swimming Unit

Stroke technique analysis and correction is the most frequent activity undertaken in HPE swimming. The TiC's confirmed such activities for 23 (100%) of Year 8, and 19 (90.5%) of the Year 9 classes (Tables 31 and 33). Stroke technique analysis and correction constituted 47.0% of the Year 8 and 43.1% of the Year 9 unit time. 'Life-saving, survival, safety and water awareness' activities ranked second for the most frequent activity undertaken in Year 8 and Year 9. Moreover, the TiC's of these schools reported a mean of 27.8% of the Year 8 and 38.9% of the Year 9 programmes being allocated to 'life-saving, survival, safety and water awareness' activities. Seventy-nine percent of the Year 8/9 Independent Schools offered carnival preparation, allocating 27.8% and 30.7% of the Year 8 and Year 9 time, respectively, to these activities (Tables 32 and 34). Approximately 10% of the Government school swimming time was allocated to carnival preparation, with less than half (47%) of these schools offering such activities. More of the Government schools (Year 8=53.3%; Year 9=33.3%) offered fitness/training activities than Independent schools (Year 8=25.0%; Year

9=16.7%), these contributing to the Government school programme in greater proportion (Government = approximately 26%; Independent = approximately 17%). Fifteen TiC's (45.5%) reported that activities were offered outside of the pool as a part of the Year 8/9 HPE swimming unit. Content relating to the skills of rescue/initial emergency care were reported by 80% (Yr 8/9 n=12) of those who offered additional out-of-pool activities (Table Appendix Y16).

Table 31: Activities Undertaken in the HPE Swimming Unit – Year 8

Activities Undertaken	Year 8			
	n=23	% of time allocated		
	f	M	Med	Range
Stroke technique analysis/correction	23	47.0	50.0	9.5-90
Life-saving activities and survival/safety/water awareness	16	27.8	29.6	4.4-80
Preparing for carnivals – e.g., time trials, starts, turns	14	17.6	10.6	3.3-50
Water confidence activities and games	13	10.9	10.0	5.6-20
Specific training/fitness programme	10	25.3	16.7	11-50
Free swim/recreation	8	10.4	10.3	5-16.7
Structured games – e.g., water polo	2	12.5	12.5	8.3-16.7
Other	2	22.2	22.2	11.1-33.3

Other=Assessment; administration.

Table 32: Activities Undertaken in the HPE Swimming Unit – Year 8 Government School and Independent School

Activities Undertaken in Year 8	Government			Independent		
	n=15	% of time allocated (min)		n=8	% of time allocated (min)	
	f	M	Range	f	M	Range
Stroke technique analysis/correction	15	48.3	10-90	8	44.8	9.5-66.7
Life-saving activities and survival/safety/water awareness	11	27.7	4.4-80	5	28.1	16.7-43.3
Preparing for carnivals – e.g., time trials, starts, turns	8	10.0	3.3-16.7	6	27.8	5.6-50
Water confidence activities and games	9	11.1	5.6-20	4	10.4	6.7-16.7
Specific training/fitness programme	8	27.4	11-50	2	16.7	16.7
Free swim/recreation	6	10.9	5-16.7	6	10.9	5-16.7
Structured games – e.g., water polo	1	16.7	-	1	8.3	-
Other	1	11.1	-	1	33.3	-

Other=Assessment; administration.

Table 33: Activities Undertaken in the HPE Swimming Unit – Year 9

Activities Undertaken	Year 9			
	n=21		% of time allocated	
	f	M	Med	Range
Stroke technique analysis/correction	19	43.1	41.7	5.6-100
Life-saving activities and survival/safety/water awareness	15	38.9	30.0	4.4-100
Preparing for carnivals – e.g., time trials, starts, turns	11	19.9	12.5	2.2-50
Water confidence activities and games	10	11.8	10.2	3.3-22.2
Specific training/fitness programme	6	23.6	16.7	15-44.4
Free swim/recreation	8	11.7	11.5	5-16.7
Structured games – e.g., water polo	5	20.4	22.2	7-33
Other	2	22.2	22.2	11.1-33.3

Other=Assessment; administration.

Table 34: Activities Undertaken in the HPE Swimming Unit – Year 9 Government School and Independent School

Activities Undertaken in Year 9	Government			Independent		
	n=15	% of time allocated (min)		n=6	% of time allocated (min)	
	f	M	Range	f	M	Range
Stroke technique analysis/correction	13	47.3	10-90	6	33.9	5.6-100
Life-saving activities and survival/safety/water awareness	9	26.7	4.4-80	6	57.1	21.4-100
Preparing for carnivals – e.g., time trials, starts, turns	6	10.9	3.3-16.7	5	30.7	2.2-50
Water confidence activities and games	8	13.1	6.7-22.2	2	6.9	3.3-10.4
Specific training/fitness programme	5	25.0	15-44.4	1	16.7	-
Free swim/recreation	5	12.7	5-16.7	3	10.0	9.5-10.4
Structured games – e.g., water polo	4	23.9	15-33	1	6.7	-
Other	1	33.3	-	1	33.3	-

Other=Assessment; administration.

Life-Saving and Survival/Safety/Water Awareness Content

Three TiC's identified a formalised programme leading to potential certification for Year 8 and eight in Year 9 (Table Appendix Y17). In defining the activities that were categorised as 'life-saving and survival/safety/water awareness' TiC's most frequently listed survival strokes (rank 1), water entries (rank 2) and treading water (rank 3) (Table Appendix Y18).

Monitoring/Assessing Student Outcomes

To determine student-related HPE swimming performance/outcomes ‘technique/endurance through observation and evaluation’ was the most frequent procedure used at the beginning (n=21), during (n=16) and at the end (n=9) of a unit (Tables 35 and Appendix Y19). Teachers described 15 different methods for monitoring/assessing student performance or learning outcomes.

Table 35: Methods Used to Monitor/Assess Student Outcomes

Coded teacher responses describing monitoring or assessment procedures	Overall Rank	f
Technique/endurance – observation/evaluation	1	46
Times for strokes – time-trials	2	18
Teaching/practical test/pre-test	3	12
General checklist – observation	4	11
Student Outcome Statement – pointers	5	10
Education Department – stages/levels	6	8
Asking students	7	6
Challenge activities	7	6
RLSSA awards/stage criteria	9	4
Sportfolio’s	10	3
Progress maps/notes	10	3
Curriculum Framework – levels	12	2
Peer assessment/observation using a rubric	12	2
Student self-assessment	14	1
Participation	15	-

Swimming Abilities, Definitions and Outcomes

Year 8 and Year 9 Swimming Abilities - TiC and Teacher Combined

Perceived student swimming abilities did not differ greatly when Year 8 and Year 9 comparisons were made. As shown in Table 36, educators reported that 13% of Year 8/9 students, at best, could swim 10 metres or less. While 29% of students, at best, could swim 25/50 metres of freestyle, perform 15 metres of alternate strokes and execute a dive entry (Category 4), 58% of the Year 8/9 students could swim continuously for at least 200 metres. According to the teachers approximately 18% of the Year 8/9 population could swim 400 metres continuously and swim 25 metres of butterfly. However, the TiC’s reported 29% could achieve these tasks.

Table 36: Perceptions of Year 8/9 Swimming Abilities – TiC and Teacher Combined

Swim Ability Category		Year 8/9	
#	Description	Mean %	Range %
1	They normally cannot swim in the water without being supported.	1.2	0-8
2	At best, they can glide or float on their front and back. Kick and recover to standing in waist deep water.	3.0	0-37
3	At best, they can swim 10 metres freestyle. Swim 10 metres of backstroke. Swim 10 metres of survival/life-saving backstroke.	8.9	0-58
4	At best, they can swim 25-50 metres of freestyle. Swim 15 metres of breaststroke with the correct kick. Swim 15 metres in at least 2 other strokes (survival strokes are fine). Dive entry.	29.0	0-71
5	At best, they can swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes. With the head in the water.	34.3	0-90
6	Can swim at least 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes. 25 metres of butterfly.	23.7	0-83

Students' Ability to Save Someone

Teachers perceived that girls possessed a lower ability to save someone in an aquatic environment, when compared with boys (Table 37). While 56.5% of students possessed the ability to save someone in a back yard pool and 44.3% of students could save someone in a 50 metre pool, 17.3% were assessed as having the ability to save someone in the ocean/surf.

Table 37: Teachers' Perceptions of the Students' Ability to Save Someone

Students	Back yard pool		50 metre pool		Ocean/surf	
	Mean %	Range %	Mean %	Range %	Mean %	Range %
Year 8/9	56.4	5-95	44.3	2-95	17.3	0-56
Girls	53.6	5-95	42.3	2-95	15.3	0-56
Boys	59.3	5-95	46.2	2-90	19.3	0-56

Swim Capacity Related Definitions - TiC and Teachers Combined

Educators defined a safe swimmer as possessing the ability to swim at least 25-50 metres of freestyle, 15 metres of breaststroke and survival strokes, and perform a dive entry (Table 38). Good swimmers had the ability to swim at least 200 metres, including 50 metres of freestyle. Weak swimmers were categorised as, at best, could swim 10 metres of freestyle. As shown in Table 39, when asked what it would take at minimum, to save someone in a backyard pool, the ability to swim 10 metres was important to the task – this being a weak swimmer. A good swimmer was assessed as one who could swim 200 metres continuously and this also defined a student with the ability to save someone in a 50 metre pool. In defining the potential to save another swimmer in the ocean/surf, the ability to swim 400 metres continuously with a least 100 metres of freestyle and 100 metres of backstroke was considered essential. This is in excess of the criteria that defined a good swimmer.

Table 38: Swim Capacity Related Definitions - TiC and Teacher Combined

Swim Ability Category		Swim definitions Mean %		
#	Description	Weak	Safe	Good
1	They normally cannot swim in the water without being supported.	-	-	-
2	At best, they can glide or float on their front and back. Kick and recover to standing in waist deep water.	10.1	6.4	-
3	At best, they can swim 10 metres freestyle. Swim 10 metres of backstroke. Swim 10 metres of survival/life-saving backstroke.	57.2	15.8	4.3
4	At best, they can swim 25-50 metres of freestyle. Swim 15 metres of breaststroke with the correct kick. Swim 15 metres in at least 2 other strokes (survival strokes are fine). Dive entry.	29.6	48.0	5.9
5	At best, they can swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes. With the head in the water.	3.2	28.3	62.0
6	Can swim at least 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes. 25 metres of butterfly.	-	1.7	28.0

Table 39: Save Capacity Related Definitions - TiC and Teacher Combined

Swim Ability Category		Potential to save definitions Mean %		
#	Description	B/yard pool	50m pool	Ocean/surf
1	They normally cannot swim in the water without being supported.	3.8	3.4	-
2	At best, they can glide or float on their front and back. Kick and recover to standing in waist deep water.	4.6	3.0	-
3	At best, they can swim 10 metres freestyle. Swim 10 metres of backstroke. Swim 10 metres of survival/life-saving backstroke.	40.8	6.8	-
4	At best, they can swim 25-50 metres of freestyle. Swim 15 metres of breaststroke with the correct kick. Swim 15 metres in at least 2 other strokes (survival strokes are fine). Dive entry.	35.8	37.5	4.3
5	At best, they can swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes. With the head in the water.	13.6	47.7	35.2
6	Can swim at least 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes. 25 metres of butterfly.	1.7	4.3	60.6

Teachers' Perceptions of Student Improvement During HPE Swimming Classes

More than half of girls (55.4%) and boys (59.4%) in Year 8/9 were seen by the teachers to have improved a little and/or didn't display any improvement during HPE swimming (Table 40). This compared with moderate improvements for 27.0% of the girls and 21.1% of the boys, and even lower percentages reported for improving a lot (girls=17.4%; boys=18.1%).

Student Enjoyment

The most frequently chosen allocation for the percentage of students who enjoyed HPE swimming classes was for the spread of 60-79% of students (Category 4).

However, according to the teachers, male students enjoy HPE swimming more than females (Table 41).

Table 40: Teachers' Perceptions of Student Improvement during HPE Swimming

Students	Lot		Moderately		Little/didn't improve	
	Mean %	Range %	Mean %	Range %	Mean %	Range %
Year 8/9	17.8	0-80	24.1	0-68	57.4	0-100
Girls	17.4	0-75	27.0	0-68	55.4	0-100
Boys	18.1	0-80	21.1	0-55	59.4	0-100

Table 41: Teachers' Perceptions of Student Enjoyment of HPE Swimming Classes

Students	Percentage of students who enjoyed swimming classes				
	Category 5 80-100%	Category 4 60-79%	Category 3 40-59%	Category 2 20-39%	Category 1 20% or less
Year 8/9	21.3	43.3	25.0	9.1	1.4
Girls	13.9	47.2	25.0	11.1	2.8
Boys	28.6	39.3	25.0	7.1	0

Programme Evaluation and Comment

Strengths/Weaknesses of the Programme

In describing the strengths of the HPE swimming, teachers' rated curriculum content 1st, provision/exposure for all students 2nd and the delivery of fun/enjoyable/safe activities 3rd (Tables 42 and Appendix Y20). In contrast, as shown in Table 43 and Appendix Y21, the most prevalent weaknesses were described as class numbers (rank 1) and issues related to space (rank 1), time (rank=3) and varied student swimming ability levels (rank=4).

Table 42: Strengths of the Programme

Strengths of the Programme	Year 8/9	
	Rank	f
Course content – water safety, rescue, survival, stroke technique	1	14
Provision for all students/exposure to swimming	2	11
Fun/enjoyable/safe activities	3	9
Opportunity for training/fitness	4	8
Participation	5	7
Student improvement	5	7
Having a school pool	7	5
Quality teachers/teaching	8	4
Other	9-11	≤2

Table 43: Weaknesses of the Programme

Weaknesses of the Programme	Year 8/9	
	Rank	f
Large classes	1	12
Space limited	1	12
Not enough time allocated to HPE/swimming unit	3	11
Wide range of abilities	4	9
Course content – inappropriate/insufficient	5	8
Venue	6	4
Lack of student and/or parent support/interest/participation	7	3
Cold water	7	3
Other	9-11	≤2

Ranking/Rating of the Issues Associated with Year 8/9 HPE Swimming Classes – TiC's and Teachers Combined

Staff/student ratios were reported by educators to be the most important issue related to the teaching of swimming in Year 8/9 HPE classes (Tables 44 and 45). Varied ability levels ranked as the second most important issue for the TiC's and third for the teachers sampled. Staff qualifications ranked as the second most important issue for the teachers.

Table 44: Ranking/Rating of the Issues Associated with Year 8/9 HPE Swimming Classes - TiC

Issues	Mean	Rank	Rating					
			Very important		Important		Un-important	
			f	%	f	%	f	%
Staff/student ratios	2.5	1	26	81.3	6	18.8		
Varied ability levels in the one class	3.2	2	23	71.9	7	21.9	2	6.3
Legal liability	3.6	3	17	58.6	12	41.4		
Pool space	3.8	4	16	53.3	11	36.7	3	10.0
Staff Qualifications	4.4	5	16	55.2	11	37.9	2	6.9
Temperature of the water	5.7	6	5	15.6	20	62.5	7	21.9
Cost of the programme	6.5	7	5	17.2	10	34.5	14	48.3
Travel time	6.6	8	7	26.9	6	23.1	13	50.0
Issues related to ethnicity	6.6	8	4	14.8	11	40.7	12	44.4

Table 45: Ranking/Rating of the Issues Associated with Year 8/9 HPE Swimming Classes - Teachers

Issues	Mean	Rank	Rating					
			Very important		Important		Un-important	
			f	%	f	%	f	%
Staff/student ratios	2.4	1	37	90.2	4	9.8		
Staff Qualifications	3.2	2	32	78.0	9	22.0		
Varied ability levels in the one class	3.3	3	26	63.4	15	36.6		
Pool space	4.0	4	24	61.5	15	38.5		
Legal liability	4.2	5	23	57.5	16	40.0	1	2.5
Temperature of the water	6.1	6	10	25.0	19	47.5	11	27.5
Travel time	6.4	7	5	15.2	17	51.5	11	33.3
Cost of the programme	6.7	8	2	6.1	21	63.6	10	30.3
Issues related to ethnicity	7.2	9	3	7.9	17	44.7	18	47.4

Differentiated Instruction

Catering for All of the Students

The majority of teachers (55.8%) believed that they did not consistently cater for all of the students in the class. When asked what would need to happen for them to respond in the affirmative, 54.2% reported smaller class sizes/additional staff (Table 46). Other changes deemed necessary included streaming (n=7), catering for all ability levels (n=4) and venue modifications (n=3).

Table 46: Catering for All Students

Do you believe that you provide a swimming unit that consistently caters for all of the students in your class?

Coded responses from teachers to the question - What would need to happen/change for teachers to respond with a 'Yes'?	f
Smaller class sizes/additional staff	13
Streaming	7
Cater for all ability levels	4
Venue/pool too deep	3
Greater pool space	2
Increased knowledge	1
Assistance	1
Experience	1
Don't cater for elite swimmers	1

Amongst the 17 categories of coded suggestions, the provision of different activities (n=17) and small group stations (n=16) were the most common methods reported by teachers to deal with varied student swimming abilities (Table 47). In addition, peer teaching (n=8) and the use of floatation aids for non-swimmers (n=6) were used. Streaming for ability, student choice, and the use of the deep/shallow end of the pool were listed by 4 of the teachers.

Table 47: Strategies for Dealing with Varied Ability Levels

Coded responses to the question - What strategies/techniques do you employ to cater for the students of varied ability levels in your Year 8/9 PE swimming class?	f
Different activities	17
Groups – according to ability in one class; Small group work	16
Peer teaching	8
Floatation aids (kickboards, noodles etc) for non-swimmers	6
Streaming for ability (classes)	4
Student choice of the programme/level undertaken – student-centred	4
Use of deep/shallow end	4
Weaker swimmers closer to the edge/shore	3
Individualised teaching – 1-on-1	3
Monitor progress, provide varied feedback, peer demonstration	3
Other	≤2

Questionnaire Findings – The Students

The Students Described

Summary Description of the Student Sample

Of the 1532 Year 8/9 students, 69.8% attended Government schools (n=21), while 30.2% were enrolled at Independent schools (n=13) (Table 48). Fifty-five percent of the students sampled were male and 45% female. Two regional secondary schools were sampled, one from the Government sector and one Independent.

The Year 8/9 Perth metropolitan Government/Independent school students sampled represented 4.4% of this student cohort, and 9.5% of all of the Year 8/9 Perth metropolitan Government/Independent students in schools offering HPE swimming in Term 1, 2002 (Table 49). Health and Physical Education swimming was presented during Term 1 – 2002 to 39% of metropolitan Year 8/9 Government school and 56% of Independent school students. The secondary schools sampled represented 90.9% of all Perth metropolitan Government schools and 66.7% Independent schools presenting Year 8/9 HPE swimming (Table 50). The 570 Year 6/7 metropolitan primary school students included 62.6% from six Government schools and 37.4% at five Independent schools (Table 48).

Table 48: School and Student Data

School and Student Data		Student numbers						
Secondary school	n	Yr 6	Yr 7	Yr 8		Yr 9		Total
				Mt	Re	Mt	Re	
Government Secondary School	21	-	-	573	70	405	22	1070
Independent Secondary School	13	-	-	214	49	153	46	462
Total school and student numbers	34			906		626		1532
Primary school								
Government Primary School	6	176	181	-		-		357
Independent Primary School	5	94	119	-		-		213
Total school and student numbers	11	270	300					570

Mt=Metropolitan. Re=Regional.

Table 49: Perth Metropolitan Student Numbers

Student Number	Year 8				Year 9			
	Total		Study sample		Total		Study sample	
	n	%	n	%	n	%	n	%
Government students	11,545	-	573	5.0	11,806	-	405	3.4
HPE swimming – Term 1, 2002	4503	39.0	573	12.7	4570	38.7	405	8.9
Independent students	4122	-	214	5.2	3892	-	153	3.9
HPE swimming – Term 1, 2002	2340	56.8	214	9.2	2156	55.4	153	7.1

Table 50: Perth Metropolitan Secondary School Numbers

School Number	Government			Independent		
	Total	Study sample		Total	Study sample	
	n	n	%	n	n	%
Metropolitan schools	78	20	26.9	53	12	22.6
HPE swimming – Term 1, 2002	22	20	90.9	18	12	66.7

Constructs Under Investigation

Constructs 1-10 – In Summary

To ascertain student thoughts for each construct, the cohort responded to five separate statements using a five point Likert scale (1=Strongly disagree, 3=Neutral, 5=Strongly agree). The standardised alpha coefficient (Range=0.6774–0.8214) for each construct confirmed that each was reliable in assessing the Year 8/9 student attitudes and perceptions of PE, swimming and physical activity (Table 51).

Year 8/9 students were generally positive when reflecting on PE and PE swimming in particular. More specifically, the students' positive attitude to PE was evidenced by a construct mean of 3.95 (maximum 5.00), which ranked highest. The students thoughts on physical activity ranked second highest with a mean of 3.91, while the lowest construct mean of 3.31 was reserved for Year 8/9 student perceptions of the outcomes attained in PE swimming. The Year 8/9 student perceptions of the teacher differentiation in PE swimming was ranked second lowest with a mean of 3.45. Students were generally less positive when reflecting on swimming in PE as they were to physical activity/education in general.

As shown in Table 51, Year 8 students were significantly (Range $p=.020$ – $<.001$) more positive in their response to each of the 10 construct areas relating to PE, swimming and physical activity, when compared to Year 9 students. The mean recorded for each of the 10 constructs was higher for Year 6/7 students when compared to that recorded for Year 8/9 students (Tables 51 and 54).

Table 51: Construct 1-10°: Year 8 - 9

Construct ^o		Yr 8		Yr 9		Yr 8&9 <i>p</i> [*]		Overall Yr 8/9		Yr 8/9 Alpha Co-eff
		M	SD	M	SD			M	SD	
	Students' attitudes toward -									
1.	...PE	4.02	0.75	3.84	0.81	<.001		3.95	0.78	.8214
2.	...PE swimming	3.68	0.81	3.47	0.85	<.001		3.59	0.83	.7956
	Students' perceptions of -									
3.	...the usefulness of PE	3.81	0.71	3.59	0.78	<.001		3.72	0.75	.7337
4.	...the importance of swimming	3.83	0.70	3.67	0.75	<.001		3.76	0.72	.7119
5.	...the outcomes attained in response to participating in PE swimming	3.35	0.85	3.24	0.84	.020		3.31	0.85	.8150
6.	...parental support for swimming	3.63	0.72	3.42	0.79	<.001		3.55	0.76	.7415
7.	...their own activity patterns	3.97	0.72	3.81	0.81	.001		3.91	0.77	.7434
8.	...the teacher attitude to PE swimming	3.78	0.67	3.66	0.64	<.001		3.73	0.66	.6774
9.	...the teacher differentiation in PE swimming	3.52	0.80	3.36	0.76	<.001		3.46	0.79	.7743
10.	...the PE swimming teacher	3.71	0.70	3.58	0.70	.001		3.66	0.70	.7235

°Each construct is a composite of 5 questionnaire items (Appendix Z) on a scale of 1-5 (where 1=Strongly disagree; 5=Strongly agree). M=Mean. SD=Standard deviation.
 p^* =Significant difference - by Mann-Whitney U -test; ns= $p>0.05$.
 Yr 8/9 Alpha Co-eff=Yr 8/9 Standardised Alpha Coefficient.

More females declared swimming and the acquisition of aquatic skills to be important to them, and believed that their PE teachers enjoyed the experience more and were better at teaching swimming (Table 52).

As shown in Table 53, Independent school students believed that their own activity patterns were significantly higher and reported swimming to be more important to them when compared with the Government school students. When compared, Government school students recorded a significantly more positive attitude toward PE swimming, the outcomes attained in response to PE swimming, the PE swimming teacher and their pedagogical differentiation in PE swimming than Independent school students.

A summary of the student responses to the individual construct questions (%) is presented in Appendix Z.

Table 52: Construct 1-10°: Year 8/9 Gender Comparison

Construct ^o		Yr 8/9				M/F <i>p</i> [*]
		Male		Female		
		M	SD	M	SD	
	Students' attitudes toward -					
1.	<i>...PE</i>	3.96	0.79	3.94	0.77	<i>ns</i>
2.	<i>...PE swimming</i>	3.56	0.84	3.64	0.83	<i>ns</i>
	Students' perceptions of -					
3.	<i>...the usefulness of PE</i>	3.74	0.74	3.70	0.75	<i>ns</i>
4.	<i>...the importance of swimming</i>	3.70	0.75	3.84	0.68	<i><.001</i>
5.	<i>...the outcomes attained in response to participating in PE swimming</i>	3.31	0.85	3.30	0.84	<i>ns</i>
6.	<i>...parental support for swimming</i>	3.50	0.77	3.60	0.74	<i>.005</i>
7.	<i>...their own activity patterns</i>	3.91	0.77	3.91	0.75	<i>ns</i>
8.	<i>...the teacher attitude to PE swimming</i>	3.66	0.67	3.82	0.64	<i><.001</i>
9.	<i>...the teacher differentiation in PE swimming</i>	3.42	0.78	3.50	0.8	<i>.023</i>
10.	<i>...the PE swimming teacher</i>	3.60	0.72	3.73	0.68	<i>.002</i>

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*=*p*>0.05.

Table 53: Construct 1-10°: Year 8/9 School Sector Comparison

Construct°		Yr 8/9				G/I <i>p</i> *
		Government M SD		Independent M SD		
	Students' attitudes toward -					
1.	... <i>PE</i>	3.95	0.80	3.93	0.73	<i>ns</i>
2.	... <i>PE swimming</i>	3.62	0.84	3.53	0.82	<i>.048</i>
	Students' perceptions of -					
3.	... <i>the usefulness of PE</i>	3.73	0.74	3.70	0.76	<i>ns</i>
4.	... <i>the importance of swimming</i>	3.73	0.72	3.84	0.72	<i>.007</i>
5.	... <i>the outcomes attained in response to participating in PE swimming</i>	3.37	0.81	3.15	0.90	<i><.001</i>
6.	... <i>parental support for swimming</i>	3.52	0.78	3.60	0.71	<i>ns</i>
7.	... <i>their own activity patterns</i>	3.86	0.79	4.01	0.71	<i>.002</i>
8.	... <i>the teacher attitude to PE swimming</i>	3.74	0.66	3.72	0.67	<i>ns</i>
9.	... <i>the teacher differentiation in PE swimming</i>	3.52	0.76	3.32	0.82	<i><.001</i>
10.	... <i>the PE swimming teacher</i>	3.70	0.69	3.57	0.72	<i>.001</i>

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*=*p*>0.05.

Table 54: Construct 1-10°: Year 6/7

Construct°		Overall Yr 6/7		Yr 6/7 Alpha Co-eff
		M	SD	
	Students' attitudes toward -			
1.	<i>...PE</i>	4.29	0.73	.8095
2.	<i>...school swimming</i>	3.73	0.86	.7931
	Students' perceptions of -			
3.	<i>...the usefulness of PE</i>	4.06	0.73	.7173
4.	<i>...the importance of swimming</i>	4.02	0.68	.6651
5.	<i>...the outcomes attained in response to participating in school swimming</i>	3.60	0.91	.8270
6.	<i>...parental support for swimming</i>	3.95	0.71	.6656
7.	<i>...their own activity patterns</i>	4.17	0.63	.6318
8.	<i>...the teacher attitude to PE swimming</i>	3.89	0.77	.7418
9.	<i>...the teacher differentiation in school swimming</i>	3.65	0.88	.8022
10.	<i>...the school swimming teacher</i>	3.84	0.80	.7713

Construct 1. Students' Attitudes Toward Physical Education

When students (Yr 8/9) were asked about PE, they were generally positive and this ranking was the highest mean for the 10 constructs considered (Table 51). Year 8 students were significantly more positive in their attitudes to PE when compared with the Year 9 students for the construct ($p<.001$), and for each of the five construct statements (Table 55). As shown in Table 55, males were significantly ($p=.017$) stronger in their belief that PE is fun. Government school students were more positive in responding to statements relating to PE enjoyment ($p=.003$), like for PE ($p=.038$) and finding PE activities interesting ($p=.001$), when compared with Independent school students (Table 57).

Table 55: Construct 1. Students' Attitudes Toward PE – Yr 8 - 9

Attitudes to PE	Yr 8		Yr 9		<i>Yr 8&9</i> <i>p*</i>	Yr 8/9	
	M	SD	M	SD		M	SD
1.1 <i>I enjoy PE activities</i>	3.89	0.94	3.74	0.99	.002	3.83	0.96
1.2 <i>PE is fun</i>	4.03	1.08	3.88	1.12	.005	3.97	1.10
1.3 <i>I don't like PE</i>	1.89	1.10	2.13	1.20	<.001	1.99	1.14
1.4 <i>I try hard in PE</i>	4.30	0.84	4.04	0.95	<.001	4.19	0.90
1.5 <i>PE activities are interesting</i>	3.73	1.03	3.60	1.02	.016	3.68	1.04

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.
For Yr 8/9 Standardised Alpha Coefficient=0.8214.

Table 56: Construct 1. Students' Attitudes Toward PE – Yr 8/9 Gender Comparison

Attitudes to PE	Yr 8/9				<i>Yr 8/9 M&F</i>
	Male		Female		<i>p*</i>
	M	SD	M	SD	
1.1 <i>I enjoy PE activities</i>	3.83	1.01	3.83	0.90	<i>ns</i>
1.2 <i>PE is fun</i>	4.01	1.13	3.93	1.05	<i>.017</i>
1.3 <i>I don't like PE</i>	1.97	1.17	1.99	1.11	<i>ns</i>
1.4 <i>I try hard in PE</i>	4.19	0.95	4.24	0.83	<i>ns</i>
1.5 <i>PE activities are interesting</i>	3.66	1.06	3.69	0.99	<i>ns</i>

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.

Table 57: Construct 1. Students' Attitudes Toward PE – Yr 8/9 School Sector Comparison

Attitudes to PE					<i>Yr 8/9 G&I p*</i>
	Government M	SD	Independent M	SD	
1.1 <i>I enjoy PE activities</i>	3.87	0.97	3.74	0.96	.003
1.2 <i>PE is fun</i>	3.97	1.11	3.97	1.07	ns
1.3 <i>I don't like PE</i>	2.03	1.17	1.88	1.07	.038
1.4 <i>I try hard in PE</i>	4.17	0.93	4.25	0.82	ns
1.5 <i>PE activities are interesting</i>	3.73	1.03	3.55	1.02	.001

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.

Construct 2. Students' Attitudes Toward Physical Education Swimming

When asked about PE swimming, students (Yr 8/9) were less positive when compared to PE in general (Table 51). Although the students generally rejected the statement 'I did not enjoy this terms school PE swimming activities' (Disagree/strongly disagree=55.1%), less than half of the students were committed to doing more PE swimming activities this year (48.3% Agree/strongly agree; 24.5% Disagree/strongly disagree) (Table 58). Year 8 students were more positive in their attitude to PE swimming (*p*<.001) than the Year 9 students. Females, when compared to males, were stronger (*p*=.007) in their rejection of the statement suggesting that they did not enjoy PE swimming (Table 59). Year 8/9 Government school students were more positive in their attitude to PE swimming (*p*=.048) when compared to the Independent school students (Table 53). Independent school students found PE swimming to be significantly less interesting (*p*=.002) and they were less (*p*=.006) motivated to do more swimming during the year (Table 60).

Table 58: Construct 2. Students' Attitudes Toward PE Swimming – Yr 8 - 9

Attitudes to PE Swimming	Yr 8		Yr 9		Yr 8&9	Yr 8/9	
	M	SD	M	SD	<i>p</i> *	M	SD
2.1 <i>I didn't enjoy PE swimming</i>	2.47	1.15	2.54	1.10	<i>ns</i>	2.50	1.13
2.2 <i>PE swimming is fun</i>	3.66	1.10	3.45	1.12	<.001	3.58	1.11
2.3 <i>I would like to do more PE swimming</i>	3.51	1.26	3.17	1.29	<.001	3.37	1.29
2.4 <i>I try to do well</i>	4.14	0.95	3.88	1.06	<.001	4.03	1.00
2.5 <i>PE swimming is interesting</i>	3.54	1.10	3.39	1.08	.014	3.48	1.09

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*= *p*>.05 level.
For Yr 8/9 Standardised Alpha Coefficient=0.7956.

Table 59: Construct 2. Students' Attitudes Toward PE Swimming – Yr 8/9 Gender Comparison

Attitudes to PE Swimming	Yr 8/9				Yr 8/9 M&F
	Male		Female		<i>p</i> *
	M	SD	M	SD	
2.1 <i>I didn't enjoy PE swimming</i>	2.57	1.15	2.42	1.12	.007
2.2 <i>PE swimming is fun</i>	3.55	1.14	3.60	1.08	<i>ns</i>
2.3 <i>I would like to do more PE swimming</i>	3.32	1.28	3.44	1.28	<i>ns</i>
2.4 <i>I try to do well</i>	4.01	1.04	4.07	0.95	<i>ns</i>
2.5 <i>PE swimming is interesting</i>	3.45	1.09	3.51	1.09	<i>ns</i>

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*= *p*>.05 level.

Table 60: Construct 2. Students' Attitudes Toward PE Swimming – Yr 8/9 School Sector Comparison

Attitudes to PE Swimming	Yr 8/9				<i>Yr 8/9 G&I</i>
	Government M	SD	Independent M	SD	<i>p*</i>
2.1 <i>I didn't enjoy PE swimming</i>	2.50	1.16	2.49	1.07	<i>ns</i>
2.2 <i>PE swimming is fun</i>	3.60	1.13	3.51	1.08	<i>ns</i>
2.3 <i>I would like to do more PE swimming</i>	3.43	1.27	3.23	1.31	<i>.006</i>
2.4 <i>I try to do well</i>	4.00	1.04	4.11	0.89	<i>ns</i>
2.5 <i>PE swimming is interesting</i>	3.54	1.08	3.34	1.10	<i>.002</i>

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*= *p*>.05 level.

Construct 3. Students' Perceptions of the Usefulness of Physical Education

As shown in Table 51, students (Yr 8/9) found PE to be useful and they confirmed this response through the two negatively prepared questions, 'PE is not important to me' (Disagree/strongly disagree=70.4%) and 'I don't learn much in PE' (Disagree/strongly disagree=59.1%) (Table 61). Year 8 students were more positive in reporting PE to be useful than the Year 9 students (*p*<.001), and for each of the five construct statements. While males perceived PE to be more (*p*=.004) important to their futures than the females, there were no other significant differences between the perceptions reported for Year 8/9 male and female students (Table 62), and Government and Independent students (Table 63).

Table 61: Construct 3. Students' Perceptions of the Usefulness of PE – Yr 8 - 9

Usefulness of PE	Yr 8		Yr 9		Yr 8&9	Yr 8/9	
	M	SD	M	SD	<i>p</i> *	M	SD
3.1 <i>PE is not important to me</i>	2.01	1.12	2.29	1.20	<.001	2.12	1.16
3.2 <i>It is important to be good at PE</i>	3.90	1.04	3.70	1.10	<.001	3.82	1.06
3.3 <i>I will make use of PE</i>	3.82	0.95	3.59	1.00	<.001	3.73	0.98
3.4 <i>I don't learn much in PE</i>	2.30	1.13	2.48	1.13	.001	2.37	1.13
3.5 <i>PE is important to my future</i>	3.56	1.08	3.34	1.12	<.001	3.47	1.10

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.
 For Yr 8/9 Standardised Alpha Coefficient=0.7337

Table 62: Construct 3. Students' Perceptions of the Usefulness of PE – Yr 8/9**Gender Comparison**

Usefulness of PE	Yr 8/9				Yr 8/9
	Male		Female		<i>M&F</i>
	M	SD	M	SD	<i>p</i> *
3.1 <i>PE is not important to me</i>	2.15	1.20	2.08	1.12	<i>ns</i>
3.2 <i>It is important to be good at PE</i>	3.85	1.07	3.79	1.06	<i>ns</i>
3.3 <i>I will make use of PE</i>	3.72	1.00	3.74	0.94	<i>ns</i>
3.4 <i>I don't learn much in PE</i>	2.41	1.18	2.32	1.07	<i>ns</i>
3.5 <i>PE is important to my future</i>	3.54	1.11	3.39	1.09	.004

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.

Table 63: Construct 3. Students' Perceptions of the Usefulness of PE – Yr 8/9
School Sector Comparison

Usefulness of PE	Yr 8/9				Yr 8/9 G&I <i>p</i> *
	Government		Independent		
	M	SD	M	SD	
3.1 <i>PE is not important to me</i>	2.16	1.18	2.04	1.13	<i>ns</i>
3.2 <i>It is important to be good at PE</i>	3.80	1.07	3.87	1.05	<i>ns</i>
3.3 <i>I will make use of PE</i>	3.74	0.97	3.71	0.99	<i>ns</i>
3.4 <i>I don't learn much in PE</i>	2.34	1.14	2.44	1.12	<i>ns</i>
3.5 <i>PE is important to my future</i>	3.49	1.09	3.41	1.12	<i>ns</i>

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*= *p*>.05 level.

Construct 4. Students' Perceptions of the Importance of Swimming

As shown in Table 64, students rejected that 'It is not important to me to be a good swimmer' (Disagree/strongly disagree=67.7%). Whilst it was important for students to learn how to save people in water (Agree/strongly agree=75.6%) and acquire the skills/knowledge to be a safe swimmer (Agree/strongly agree=80.2%) it was more important for females (Agree/strongly agree=81.3% and Agree/strongly agree=87.7%, respectively) and relatively less important for males (Agree/strongly agree=71.1% and Agree/strongly agree=73.6%, respectively) (Appendix Z). Year 8 students were more positive (*p*<.001) in declaring the importance of swimming than the Year 9 students. The Year 8/9 female students perceptions of the importance of swimming were significantly (*p*<.001) higher when compared to males. Females more strongly rejected the statement 'It is not important to me to be a good swimmer,' than males (*p*<.001) and, similarly, females acclaimed it more important to learn how to save people (*p*<.001) and to be a safe swimmer (*p*<.001) (Table 65).

Independent school students were more positive than the Government school students in their perceptions on the importance of swimming (*p*=.007), being a good swimmer (*p*=.014), learning how to save others (*p*=.002) and being a safe swimmer (*p*=.020), (Table 66).

Table 64: Construct 4. Students' Perceptions of the Importance of Swimming – Yr 8 - 9

Importance of PE Swimming	Yr 8		Yr 9		Yr 8&9 <i>p</i> *	Yr 8/9	
	M	SD	M	SD		M	SD
4.1 <i>It is not important to be a good swimmer</i>	2.14	1.18	2.25	1.17	.040	2.19	1.18
4.2 <i>It is important to be good at freestyle</i>	3.78	1.05	3.65	1.05	.018	3.72	1.06
4.3 <i>It is important to be good at swim races</i>	3.11	1.22	3.01	1.20	ns	3.07	1.22
4.4 <i>It is important to be able to save people</i>	4.16	0.96	3.94	1.02	<.001	4.07	0.99
4.5 <i>It is important to be a safe swimmer</i>	4.22	0.90	3.99	0.98	<.001	4.12	0.94

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.
For Yr 8/9 Standardised Alpha Coefficient=0.7119.

Table 65: Construct 4. Students' Perceptions of the Importance of Swimming – Yr 8/9 Gender Comparison

Importance of PE Swimming	Yr 8/9				Yr 8/9 M&F
	Male M	SD	Female M	SD	<i>p</i> *
4.1 <i>It is not important to be a good swimmer</i>	2.30	1.21	2.05	1.12	<.001
4.2 <i>It is important to be good at freestyle</i>	3.73	1.09	3.71	1.01	ns
4.3 <i>It is important to be good at swim races</i>	3.07	1.25	3.08	1.16	ns
4.4 <i>It is important to be able to save people</i>	3.95	1.04	4.22	0.89	<.001
4.5 <i>It is important to be a safe swimmer</i>	3.98	1.02	4.30	0.81	<.001

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.

Table 66: Construct 4. Students' Perceptions of the Importance of Swimming – Yr 8/9 School Sector Comparison

Importance of PE Swimming	Yr 8/9				Yr 8/9 G&I <i>p</i> [*]
	Government M	SD	Independent M	SD	
4.1 <i>It is not important to be a good swimmer</i>	2.24	1.19	2.07	1.13	.014
4.2 <i>It is important to be good at freestyle</i>	3.70	1.07	3.79	1.03	ns
4.3 <i>It is important to be good at swim races</i>	3.06	1.20	3.10	1.25	ns
4.4 <i>It is important to be able to save people</i>	4.01	1.03	4.21	0.88	.002
4.5 <i>It is important to be a safe swimmer</i>	4.08	0.96	4.21	0.88	.020

p^{*}=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.

Construct 5. Students' Perceptions of the Outcomes Attained in Physical Education Swimming

While the students (Yr 8/9) confirmed that their swimming outcomes were positive, it was the lowest mean of those recorded for the 10 constructs (Table 51). Less than half of the students claimed to '... learn a lot about swimming in PE this term' (Agree/strongly agree=44.7%; Disagree/strongly disagree=19.1%), to be more confident (Agree/strongly agree=46%; Disagree/strongly disagree=21.2%) and better equipped to save others (Agree/strongly agree=46.1%; Disagree/strongly disagree=20.0%) (Table 67). Moreover, they were less convinced that their swimming had actually improved (Agree/strongly agree=41.9%; Disagree/strongly disagree=26.3%). Year 8 students were more positive (*p*=.020) than the Year 9 students in their perceptions of the outcomes attained in response to participating in PE swimming. Year 8 students were seen to be more positive in their perceptions of PE swimming outcomes through the statements – 'my swimming improved' (*p*=.041), 'I am a more confident swimmer' (*p*=.009), and for rejecting the suggestion that they 'have not become a stronger swimmer' (*p*=.029). As shown in Table 68, gender differences did not present for the students' perceptions of the outcomes attained in response to undertaking PE swimming. For the construct describing students' perceptions of the outcomes from PE swimming, school sector comparisons revealed that Government school students were more positive (*p*<.001) when compared to Year 8/9 Independent school students (Table

69). Students at Independent schools reported lower levels of improvement ($p<.001$), confidence development ($p<.001$), and to have learned less ($p<.001$) than students at Government schools.

Table 67: Construct 5. Students' Perceptions of the Outcomes Attained in PE Swimming – Yr 8 - 9

Outcomes from PE Swimming	Yr 8		Yr 9		Yr 8&9 p^*	Yr 8/9	
	M	SD	M	SD		M	SD
5.1 <i>My swimming improved</i>	3.31	1.12	3.11	1.08	.041	3.17	1.10
5.2 <i>My ability to save people improved</i>	3.33	1.15	3.35	1.14	ns	3.34	1.15
5.3 <i>I am a more confident swimmer</i>	3.38	1.12	3.22	1.14	.009	3.32	1.13
5.4 <i>I did not become a stronger swimmer</i>	2.59	1.14	2.71	1.13	.029	2.64	1.14
5.5 <i>I learnt a lot</i>	3.37	1.07	3.27	1.09	ns	3.33	1.08

p^* =Significant difference - by Mann-Whitney *U*-test; ns= $p>.05$ level.
For Yr 8/9 Standardised Alpha Coefficient=0.8150.

Table 68: Construct 5. Students' Perceptions of the Outcomes Attained in PE Swimming – Yr 8/9 Gender Comparison

Outcomes from PE Swimming	Yr 8/9				<i>Yr 8/9 M&F</i>
	Male		Female		<i>p*</i>
	M	SD	M	SD	
5.1 <i>My swimming improved</i>	3.20	1.12	3.14	1.07	<i>ns</i>
5.2 <i>My ability to save people improved</i>	3.31	1.16	3.37	1.13	<i>ns</i>
5.3 <i>I am a more confident swimmer</i>	3.35	1.16	3.28	1.09	<i>ns</i>
5.4 <i>I did not become a stronger swimmer</i>	2.66	1.17	2.61	1.10	<i>ns</i>
5.5 <i>I learnt a lot</i>	3.34	1.08	3.33	1.06	<i>ns</i>

p^* =Significant difference - by Mann-Whitney *U*-test; ns= $p>.05$ level.

Table 69: Construct 5. Students' Perceptions of the Outcomes Attained in PE Swimming – Yr 8/9 School Sector Comparison

Outcomes from PE Swimming	Yr 8/9				Yr 8/9 G/I
	Government M	SD	Independent M	SD	p*
5.1 <i>My swimming improved</i>	3.24	1.08	3.01	1.14	<.001
5.2 <i>My ability to save people improved</i>	3.37	1.10	3.27	1.25	ns
5.3 <i>I am a more confident swimmer</i>	3.40	1.11	3.14	1.15	<.001
5.4 <i>I did not become a stronger swimmer</i>	2.62	1.14	2.68	1.13	ns
5.5 <i>I learnt a lot</i>	3.43	1.06	3.10	1.08	<.001

p*=Significant difference - by Mann-Whitney U-test; ns= p>.05 level.

Construct 6. Students' Perceptions of Parental Support for Swimming

The majority of Year 8/9 students believed their parents were supportive of their swimming (Table 51). More than half the students reported that their parents would be unhappy if they avoided PE swimming (Agree/strongly agree=55.3%); that their parents encouraged them to be better swimmers (Agree/strongly agree=55.9%) and to do their best in PE swimming (Agree/strongly agree=59.8%). However, less were certain that their parents were interested in the PE swimming activities that they undertook (Agree/strongly agree=33.0%; Disagree/strongly disagree=27.6%) (Table 70). Year 8 students were more positive (p<.001) in their perceptions of parental support for swimming than Year 9 students. The females saw their parents as more (p=.005) supportive of swimming than the male students (Table 71).

Table 70: Construct 6. Students' Perceptions of Parental Support for Swimming – Yr 8 - 9

Parental Support for Swimming	Yr 8		Yr 9		Yr 8&9 <i>p</i> *	Yr 8/9	
	M	SD	M	SD		M	SD
6.1 <i>My parents are interested</i>	3.13	1.06	2.91	1.10	<.001	3.04	1.08
6.2 <i>My parents don't care</i>	2.08	1.10	2.29	1.09	<.001	2.17	1.10
6.3 <i>My parents encourage my best</i>	3.88	1.03	3.58	1.08	<.001	3.71	1.06
6.4 <i>My parents encourage swimming</i>	3.70	1.03	3.50	1.06	<.001	3.62	1.05
6.5 <i>Avoiding – Unhappy parents</i>	3.61	1.16	3.42	1.15	.001	3.53	1.16

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.
For Yr 8/9 Standardised Alpha Coefficient=0.7415.

Table 71: Construct 6. Students' Perceptions of Parental Support for Swimming – Yr 8/9 Gender Comparison

Parental Support for Swimming	Yr 8/9				<i>Yr 8/9 M&F</i>
	Male		Female		<i>p</i> *
	M	SD	M	SD	
6.1 <i>My parents are interested</i>	2.95	1.09	3.14	1.05	<i><.001</i>
6.2 <i>My parents don't care</i>	2.26	1.16	2.07	1.03	<i>.005</i>
6.3 <i>My parents encourage my best</i>	3.63	1.09	3.81	1.00	<i>.001</i>
6.4 <i>My parents encourage swimming</i>	3.62	1.07	3.63	1.02	<i>ns</i>
6.5 <i>Avoiding – Unhappy parents</i>	3.51	1.14	3.56	1.18	<i>ns</i>

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.

Table 72: Construct 6. Students' Perceptions of Parental Support for Swimming – Yr 8/9 School Sector Comparison

Parental Support for Swimming	Yr 8/9				Yr 8/9 G&I <i>p</i> *
	Government M	SD	Independent M	SD	
6.1 <i>My parents are interested</i>	3.05	1.09	3.02	1.05	<i>ns</i>
6.2 <i>My parents don't care</i>	2.22	1.14	2.04	1.00	<i>.012</i>
6.3 <i>My parents encourage my best</i>	3.70	1.07	3.76	1.03	<i>ns</i>
6.4 <i>My parents encourage swimming</i>	3.59	1.07	3.69	1.01	<i>ns</i>
6.5 <i>Avoiding – Unhappy parents</i>	3.50	1.18	3.61	1.11	<i>ns</i>

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*= *p*>.05 level.

Construct 7. Students' Perceptions of Activity Patterns

Of the ten construct areas reviewed, student activity patterns revealed the second highest positive mean response (Table 51). Students in Year 8/9 clearly rejected the statement 'I don't like doing physical activity' with only 8.6% choosing to agree/strongly agree (Table 73). While Year 8/9 students believed that they participate in most/all of their PE lessons (Agree/strongly agree=78.4%), they did not respond to participating in PE swimming classes as consistently (Agree/strongly agree=71.9%). Year 8 students were more positive (*p*=.001) in their perceptions of their own physical activity patterns when compared to the Year 9 students. Males, when compared with females, were stronger (*p*=.029) in their rejection of the suggestion of a dislike for physical activity (Table 74). Independent school students were more positive (*p*=.002), when compared to Government school students in their perceptions on their own activity levels (Table 75). In addition, Independent school students were stronger (*p*<.001) in the rejection for dislike of physical activity (82.4%) than Government school students (74.9%). Independent students reported to be more consistent in their participation of PE classes (Agree/strongly agree=85.3%; *p*=.002) and PE swimming (Agree/strongly agree=76.8%; *p*=.000) than Government school students (Agree/strongly agree=75.3% and 69.8%, respectively).

Table 73: Construct 7. Students' Perceptions of Activity Patterns – Yr 8 - 9

Student Activity Patterns	Yr 8		Yr 9		Yr 8&9 <i>p</i> *	Yr 8/9	
	M	SD	M	SD		M	SD
7.1 <i>I participate in most/all PE swimming</i>	3.90	1.19	3.76	1.21	<i>ns</i>	3.86	1.20
7.2 <i>I don't like physical activity</i>	1.79	1.07	1.90	1.14	<i>ns</i>	1.83	1.10
7.3 <i>I do as much physical activity as I can</i>	4.03	0.99	3.79	1.10	<.001	3.93	1.04
7.4 <i>I do a lot of swimming</i>	3.40	1.13	3.33	1.19	.021	3.42	1.16
7.5 <i>I participate in most/all of the PE classes</i>	4.17	0.99	3.97	1.04	<.001	4.09	1.01

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*= *p*>.05 level.
For Yr 8/9 Standardised Alpha Coefficient=0.7434.

Table 74: Construct 7. Students' Perceptions of Activity Patterns – Yr 8/9 Gender Comparison

Student Activity Patterns	Yr 8/9				Yr 8/9 <i>M&F</i>
	Male		Female		<i>p</i> [*]
	M	SD	M	SD	
7.1 <i>I participate in most/all PE swimming</i>	3.84	1.23	3.88	1.17	<i>ns</i>
7.2 <i>I don't like physical activity</i>	1.79	1.10	1.87	1.08	.029
7.3 <i>I do as much physical activity as I can</i>	3.93	1.06	3.95	1.01	<i>ns</i>
7.4 <i>I do a lot of swimming</i>	3.39	1.15	3.45	1.17	<i>ns</i>
7.5 <i>I participate in most/all of the PE classes</i>	4.08	1.04	4.10	0.97	<i>ns</i>

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*= *p*>.05 level.

Table 75: Construct 7. Students' Perceptions of Activity Patterns – Yr 8/9 School Sector Comparison

Student Activity Patterns	Yr 8/9				Yr 8/9 <i>G&I</i>
	Government M	SD	Independent M	SD	<i>p</i> *
7.1 <i>I participate in most/all PE swimming</i>	3.78	1.23	4.03	1.11	<.001
7.2 <i>I don't like physical activity</i>	1.90	1.12	1.67	1.03	<.001
7.3 <i>I do as much physical activity as I can</i>	3.90	1.05	4.00	1.02	<i>ns</i>
7.4 <i>I do a lot of swimming</i>	3.41	1.15	3.43	1.17	<i>ns</i>
7.5 <i>I participate in most/all of the PE classes</i>	4.03	1.05	4.23	0.90	.002

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*= *p*>.05 level.

Construct 8. Students' Perceptions of the Teacher Attitude to Physical Education Swimming

According to the majority of Year 8/9 students, their teachers had a positive attitude to PE swimming (Table 51). Students believed that their teachers thought that swimming is important (Agree/strongly agree=81.0%) (Table 76). Furthermore, according to the students, teachers upheld positive sentiments toward swimming with only 7.1% of the students disagreeing with the suggestion that 'PE teachers reflect an interest in teaching swimming activities' (Agree/strongly agree=60.3%) and only 9.8% confirmed that their 'teacher does not care for student improvement in PE swimming' (Disagree/strongly disagree=62.8%). When confronted with the statement 'My PE teacher does not enjoy teaching PE swimming activities', students generally disagreed (Disagree/strongly disagree=59.1%). Year 8 students were more positive (*p*<.001) in their perceptions of their teachers' attitude to PE when compared with the Year 9 students. Year 8/9 female students were significantly (*p*<.001) more positive in their perceptions of the teachers' attitude to PE when compared to the males (Table 77). While some students (Yr 8/9) generally were encouraged to swim more (Agree/strongly agree=40.6%), Government school students believed that their teachers encouraged them to swim more (Strongly agree/agree=43.8%; *p*<.001) than did the Independent school students (Strongly agree/agree=32.9%) (Table 78).

Table 76: Construct 8. Students' Perceptions of the Teacher Attitude to PE Swimming – Yr 8 - 9

Teacher Attitude to PE Swimming	Yr 8		Yr 9		Yr 8&9 <i>p</i> *	Yr 8/9	
	M	SD	M	SD		M	SD
8.1 <i>My teacher does not enjoy</i>	2.23	1.07	2.33	1.07	<i>ns</i>	2.27	1.07
8.2 <i>My teacher thinks it important</i>	4.11	0.88	4.08	0.81	<i>ns</i>	4.10	0.85
8.3 <i>My teacher encourages me to swim</i>	3.37	1.08	3.21	1.05	.009	3.30	1.07
8.4 <i>My teacher doesn't care</i>	2.14	1.06	2.35	1.08	<.001	2.22	1.07
8.5 <i>My teacher is interested</i>	3.76	0.97	3.66	0.9	.036	3.72	0.95

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*= *p*>.05 level.
For Yr 8/9 Standardised Alpha Coefficient=0.6774.

Table 77: Construct 8. Students' Perceptions of the Teacher Attitude to PE Swimming – Yr 8/9 Gender Comparison

Teacher Attitude to PE Swimming	Yr 8/9				Yr 8/9 M&F <i>p</i> *
	Male M SD		Female M SD		
8.1 <i>My teacher does not enjoy</i>	2.40	1.12	2.11	0.98	<.001
8.2 <i>My teacher thinks it important</i>	4.03	0.92	4.19	0.74	.006
8.3 <i>My teacher encourages me to swim</i>	3.32	1.08	3.29	1.05	ns
8.4 <i>My teacher doesn't care</i>	2.32	1.12	2.11	1.00	<.001
8.5 <i>My teacher is interested</i>	3.65	0.98	3.80	0.92	.006

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*= *p*>.05 level.

Table 78: Construct 8. Students' Perceptions of the Teacher Attitude to PE Swimming – Yr 8/9 School Sector Comparison

Teacher Attitude to PE Swimming	Yr 8/9				Yr 8/9 G&I
	Government M	SD	Independent M	SD	<i>p</i> [*]
8.1 <i>My teacher does not enjoy</i>	2.34	1.10	2.12	1.00	<.001
8.2 <i>My teacher thinks it important</i>	4.11	0.87	4.07	0.80	ns
8.3 <i>My teacher encourages me to swim</i>	3.37	1.07	3.15	1.06	<.001
8.4 <i>My teacher doesn't care</i>	2.22	1.08	2.23	1.06	ns
8.5 <i>My teacher is interested</i>	3.72	0.97	3.71	0.93	ns

p^{*}=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.

Construct 9. Students' Perceptions of the Teacher Differentiation in Physical Education Swimming

Although Year 8/9 students generally responded positively to the statements which characterised a differentiated classroom, it was the second lowest mean of the 10 construct areas (Table 51). Whilst students appeared to agree that PE swimming teachers set activities that are appropriate to the student ability level (Agree/strongly agree=58.6%) and they were interested in their swimming needs (56.4%), they were less convinced that everyone liked the swimming activities undertaken (Agree/strongly agree=37.7%; Disagree/strongly disagree=26.2%) (Table 79). Interesting things were taught in PE swimming for 45.4% of the Year 8/9 students. Year 8 students were more positive (*p*<.001) in their perceptions of teacher differentiation in PE swimming than the Year 9 students. Females were significantly (*p*=.023) more positive in their perceptions of teacher differentiation in PE swimming than males (Table 80). For this construct, Government school students were more positive (*p*<.001) when compared with Year 8/9 Independent school students (Table 81). Students at Independent schools more clearly (*p*<.001) confirmed that not all of the students in their classes enjoy PE swimming (Disagree/strongly disagree=35.4%) than Government school students. Independent school students also reported that their teachers presented less interesting swimming lessons than Government school teachers (*p*=.002), less helpful coaching (*p*<.001) and

they were less convinced ($p=.050$) that the activities provided by the teacher were appropriate to their levels.

Table 79: Construct 9. Students' Perceptions of the Teacher Differentiation in PE Swimming – Yr 8 - 9

Teacher Differentiation in PE Swimming	Yr 8		Yr 9		Yr 8&9 p^*	Yr 8/9	
	M	SD	M	SD		M	SD
9.1 <i>We do interesting things in PE swimming</i>	3.37	1.09	3.26	1.06	.048	3.32	1.08
9.2 <i>My teacher is disinterested in my needs</i>	2.33	1.11	2.50	1.11	.003	2.40	1.11
9.3 <i>We do suitable activities</i>	3.65	1.10	3.51	1.09	.009	3.60	1.09
9.4 <i>My teacher gives good coaching</i>	3.65	1.09	3.48	1.03	.001	3.58	1.07
9.5 <i>My teacher caters for all</i>	3.22	1.13	3.01	1.10	<.001	3.14	1.12

p^* =Significant difference - by Mann-Whitney U -test; ns= $p>.05$ level.
For Yr 8/9 Standardised Alpha Coefficient=0.7743.

Table 80: Construct 9. Students' Perceptions of the Teacher Differentiation in PE Swimming – Yr 8/9 Gender Comparison

Teacher Differentiation in PE Swimming	Yr 8/9				Yr 8/9 <i>M&F</i>
	Male M SD		Female M SD		<i>p</i> [*]
9.1 <i>We do interesting things in PE swimming</i>	3.27	1.10	3.38	1.05	<i>ns</i>
9.2 <i>My teacher is disinterested in my needs</i>	2.48	1.13	2.30	1.08	<i>.001</i>
9.3 <i>We do suitable activities</i>	3.57	1.11	3.63	1.07	<i>ns</i>
9.4 <i>My teacher gives good coaching</i>	3.57	1.08	3.58	1.06	<i>ns</i>
9.5 <i>My teacher caters for all</i>	3.11	1.13	3.15	1.10	<i>ns</i>

p^* =Significant difference - by Mann-Whitney U -test; ns= $p>.05$ level.

Table 81: Construct 9. Students' Perceptions of the Teacher Differentiation in PE Swimming – Yr 8/9 School Sector Comparison

Teacher Differentiation in PE Swimming	Yr 8/9				Yr 8/9 <i>G&I</i>
	Government		Independent		<i>p</i> *
	M	SD	M	SD	
9.1 <i>We do interesting things in PE swimming</i>	3.38	1.07	3.19	1.08	.002
9.2 <i>My teacher is disinterested in my needs</i>	2.39	1.12	2.42	1.10	ns
9.3 <i>We do suitable activities</i>	3.63	1.09	3.52	1.10	.050
9.4 <i>My teacher gives good coaching</i>	3.65	1.04	3.42	1.12	<.001
9.5 <i>My teacher caters for all</i>	3.25	1.12	2.89	1.09	<.001

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.

Construct 10. Students' Perceptions of the Swimming Teacher

When Year 8/9 students were asked to respond to statements about their perceptions of the PE teachers' performance in swimming classes, they afforded a positive response (Table 51). As shown in Table 82, there was general student support for PE teachers as good swimming teachers (Agree/strongly agree=61.9%; Disagree/strongly disagree=10.4%). Students believed that teachers knew a lot about swimming (Agree/strongly agree=73.8%), used words that are easily understood (Agree/strongly agree=67.7%) and were good at explaining how to do better at swimming activities (Agree/strongly agree=54.4%).

A quarter of students reported that the activities provided had not helped them to be better swimmers, while 40.8% disagreed. Year 8 students were more positive (*p*<.001) in their perceptions of their PE swimming teacher than the Year 9 students. Year 8/9 female students were significantly (*p*=.002) more positive in their perceptions of their PE swim teacher when compared with males (Table 83). Government school students were more positive (*p*=.001), when compared with Independent school students (*M*=3.57), in their perceptions of their PE swimming teacher (Table 84). Independent school students were less complimentary (*p*=.003) of their teachers' swim teaching abilities, for their assistance to helping students improve (*p*<.001) and their teachers knowledge of swimming (*p*=.002) when compared with Government school students.

Table 82: Construct 10. Students' Perceptions of the Swimming Teacher – Yr 8 - 9

Students' Perceptions of the PE Swim Teacher	Yr 8		Yr 9		Yr 8&9 <i>p</i> *	Yr 8/9	
	M	SD	M	SD		M	SD
10.1 <i>My teacher is a good teacher</i>	3.78	1.05	3.64	1.07	.015	3.72	1.06
10.2 <i>My teacher uses appropriate words</i>	3.84	0.93	3.72	0.96	.028	3.79	0.94
10.3 <i>My teacher assists to improve me</i>	3.60	1.05	3.44	1.08	.005	3.54	1.07
10.4 <i>My teacher has good knowledge</i>	4.01	0.92	3.87	0.98	.006	3.96	0.95
10.5 <i>The activities have not helped</i>	2.72	1.16	2.87	1.12	.020	2.78	1.15

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.
For Yr 8/9 Standardised Alpha Coefficient=0.7235.

Table 83: Construct 10. Students' Perceptions of the Swimming Teacher – Yr 8/9 Gender Comparison

Students' Perceptions of the PE Swim Teacher	Yr 8/9				<i>Yr 8/9 M&F</i>
	Male		Female		<i>p*</i>
	M	SD	M	SD	
10.1 <i>My teacher is a good teacher</i>	3.60	1.09	3.85	1.01	<i><.001</i>
10.2 <i>My teacher uses appropriate words</i>	3.74	0.97	3.84	0.91	<i>.050</i>
10.3 <i>My teacher assists to improve me</i>	3.52	1.09	3.56	1.03	<i>ns</i>
10.4 <i>My teacher has good knowledge</i>	3.89	0.99	4.02	0.89	<i>.039</i>
10.5 <i>The activities have not helped</i>	2.84	1.16	2.71	1.13	<i>.023</i>

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.

**Table 84: Construct 10. Students’ Perceptions of the Swimming Teacher –
Yr 8/9 School Sector Comparison**

Students’ Perceptions of the PE Swim Teacher	Yr 8/9				<i>Yr 8/9 G&I p*</i>
	Government M	SD	Independent M	SD	
10.1 <i>My teacher is a good teacher</i>	3.77	1.06	3.60	1.06	.003
10.2 <i>My teacher uses appropriate words</i>	3.82	0.94	3.73	0.96	ns
10.3 <i>My teacher assists to improve me</i>	3.62	1.04	3.35	1.09	<.001
10.4 <i>My teacher has good knowledge</i>	4.00	0.95	3.86	0.93	.002
10.5 <i>The activities have not helped</i>	2.81	1.16	2.71	1.12	ns

*p**=Significant difference - by Mann-Whitney *U*-test; ns= *p*>.05 level.

The Students’ Perceptions of HPE Swimming

Students’ Perceptions – In Summary

If given the option to undertake PE swimming, the majority of Year 8/9 students would choose to engage, while approximately a quarter would not. Year 8 students were more positive (Yes=74.8%; *p*<.001) in their choice for PE swimming, when compared with the Year 9 students (Yes=66.6%). More of the Independent school students (75.9%; *p*=.010) would choose PE swimming if it were optional, than that reported for Government school students (69.4%). Those who categorised themselves as stronger swimmers were more prepared to participate in PE swimming than weaker swimmers (*p*<.001). Levels of ethnicity did not impact on the students’ willingness to undertake PE swimming.

Whilst the mean rank of the Year 8 students was less (*p*<.001) than others, students’ perceptions of their own swimming abilities were the same for the school Years 6, 7 and 9. Female students perceived themselves as significantly (*p*=.009) weaker swimmers than males. Students who were born overseas recognised themselves to be weaker swimmers than those born in Australia (*p*=.002). Similarly, students who mainly spoke a language other than English at home saw themselves as weaker swimmers than those who mainly speak English (*p*<.001).

Students perceived their fathers to be better/stronger swimmers than their mothers. Students whose parents were born overseas rated their parents as weaker swimmers when compared with the students whose parents were Australian born.

Wearing bathers was generally not an issue for Year 8/9 students. However, Year 8 students were less concerned with wearing bathers in PE ($p < .001$) and in particular 'racing style' bathers ($p = .012$) when compared with the Year 9 students. Moreover, 'racing style' bathers were an issue for both males and females. The wearing of bathers ($p = .003$) and racing style bathers ($p < .001$) proved to be more of an issue for males than females.

Environmental issues and the complexities of relationship and personal issues did not appear to concern the majority of the students. For most students, classes appeared to be presented in an atmosphere of relative 'emotional safety.' When compared with Year 9 students, Year 8 students were significantly stronger in their rejection for being nervous ($p = .022$), embarrassed ($p = .020$) and for the concept that only slim people enjoy PE swimming ($p = .014$). While more females preferred same-sex classes, it was generally seen that mixed-gender classes were favoured.

Enjoying a 'fun' experience was considered the best part of the school swimming. Moreover, when 'learning in general,' 'learning/improving in swimming' and 'learning to save/rescue people' were combined, they ranked as the most positive aspects of swimming. The concept of 'cooling off and being refreshed' ranked as the second highest positive aspect of swimming but, when combined with 'getting wet/being in water,' it was also a significant element. The worst aspect of PE swimming was the sensation of being 'cold', while 'nothing' was the second most reported when students (Year 8/9) responded to the worst aspect. Swimming laps and the activities offered rated highly as a worst aspect of PE swimming.

The ability to swim at least 25 metres of freestyle defined a safe swimmer, while good swimmers at minimum had the ability to swim 50 metres of freestyle. When asked what it would take at minimum to save someone in a backyard pool, the highest percentage of 39.7% was allocated to swimmers who at best could swim 10 metres.

Not only did Interm and Vacswim participants generally believe that it was fun and their swimming proficiencies improved as a consequence of undertaking the programmes, they suggested that the learning outcome was more positive than that derived from secondary school PE swimming lessons. In contrast, Interm participants

generally preferred their PE teacher and the secondary school swimming activities. Students who have undertaken Interm and/or Vacswim lessons generally rated themselves as stronger swimmers than those who had not.

Optional PE Swimming Classes – Would You Choose It?

As shown in Table 85, if given the option to do PE swimming, 71.4% of Year 8/9 students confirmed that they would choose to participate, whilst 26.7% said ‘No’ and 1.8% were unsure. Year 8 students (Yes=74.8%) were more positive ($p<.001$) in their choice for PE swimming, when compared to Year 9 students (Yes=66.6%). With More Independent school students would choose PE swimming (75.9%), which was higher ($p=.010$) than that reported for Government school students (69.4%).

Table 85: Optional PE Swimming – Yr 8 and Yr 9 Comparison - Yr 8/9 School Sector Comparison

Student response	Yr 8	Yr 9	Yr 8 & 9	Yr 8/9		
				Government	Independent	G/I
	%	%	p^*	%	%	$p^\#$
Yes n=1052	74.8	66.6	$p<.001$	69.4	75.9	$p=.010$
No n=394	22.8	32.5		28.7	22.4	
Unsure n=27	2.4	1.0	-	2.0	1.8	-

p^* and $p^\#$ =Significant difference – by Cross-tabulation for Yes/No comparison – Pearson Chi Squared Asymp. Sig. (2-sided); ns= $p>.05$ level.

As shown in Table 86, perceived swimming ability impacted on the desire to swim in PE ($p<.001$). When grouped together, students who described themselves as Category 5/6 swimmers (swim at least 200 metres - including 50m of freestyle) were more prepared to engage in PE swimming (Yes response=65.4%; No=34.7%) when compared with students who could not swim freestyle beyond 50m (Yes response=44.4%; No response=55.6%). Furthermore, of the students who replied ‘No’ to the option of choosing PE swimming, the highest percentage (53.9%) rated themselves as Category 2 swimmers (glide or float on their front/back) and Category 3 swimmers (45.7% - swim 10 metres of freestyle).

Table 86: Choose Optional PE Swimming Classes – Comparisons for Swimming Ability

Student response	Year 8/9 #Category of swim ability						
	1	2	3	4	5	6	Yes & No <i>p</i> *
	Percentage (%)						
Yes	0.6	2.3	7.3	24.5	34.8	30.6	<.001
No	0.5	7.3	16.4	31.4	28.3	16.1	
No* as a % of total	25	53.9	45.7	32.4	23.3	16.5	-
Unsure	-	.04	.08	25.9	33.3	29.6	-

#Category 1=weakest swimmer; Category 6=strongest swimmer. See Table 88, for the definition of each category of swim ability. No*=% of students who rated themselves in each swim ability category and replied 'No' to the option of choosing PE swimming.

*p**=Significant difference - by Mann-Whitney *U*-test; ns=*p*>.05 level.

Students who were born overseas and who mainly spoke a language other than English at home reported a similar level of willingness to participate in PE swimming (Yes=73.1%; Yes=72.3%, respectively) (Table 87). These results were comparable to those respondents who were born in Australia (Yes=71.7%) and those who spoke English at home (Yes=71.4%).

Table 87: Optional PE Swimming Classes – Comparisons for Ethnicity

Student response	Year 8/9					
	Place of Birth		Australia & Overseas	Language at Home		English & Non-English
	Australia	Overseas		English	Non-English	
	Percentage (%)		<i>p</i> *	Percentage (%)		<i>p</i> #
Yes	71.2	73.1	ns	71.4	72.3	ns
No	27.0	24.5		26.8	25.4	
Unsure	1.8	2.4	-	1.8	2.3	-

*p** and *p*#=Significant difference – by Cross-tabulation for Yes/No comparison – Pearson Chi Squared Asymp. Sig. (2-sided); ns=*p*>.05 level.

Swimming Abilities

The mean rank for Year 8 students was significantly lower ($p < .001$) than that reported for Year 6, 7 and 9 students (Table 88). Whilst some fluctuations occurred across categories and year groups, it appeared that students' perceptions of their own swimming abilities were the same for the school year levels 6, 7 and 9. Males in Year 8/9 presented with a higher mean rank ($p = .009$) than reported by females (Table 89). Students (Yr 8/9), who, at best could swim 10 metres or less represented 14.1% of the population. Twenty-six percent of students at best could swim 25/50 metres of freestyle, perform 15 metres of alternate strokes and execute a dive entry. Approximately 60% of the Year 8/9 students could swim continuously for at least 200 metres. Of the Year 8/9 student cohort, 27.4% claimed that they could swim 400 metres continuously and swim 25 metres of butterfly.

Table 88: Students' Perceptions of Their Own Swimming Ability – Yr 6 - 9

Swim Ability Category		Yr 6	Yr 7	Yr 8	Yr 9
		MR 1025.06	MR 1113.02	MR 963.92	MR 1086.47
		ns	ns	p<.001	ns
#	Description	Mean %			
1	You normally cannot swim in the water without being supported.	0.4	0.3	0.4	0.7
2	At best you can glide or float on your front and back. Kick and recover to standing in waist deep water.	3.4	1.7	5.2	1.8
3	At best you can swim 10 metres freestyle. Swim 10 metres of backstroke. Swim 10 metres of survival/life-saving backstroke.	12.6	7.7	9.9	10.2
4	At best you can swim 25-50 metres of freestyle. Swim 15 metres of breaststroke with the correct kick. Swim 15 metres in at least 2 other strokes (survival strokes are fine). Dive entry.	27.1	25.2	28.8	23.2
5	At best you can swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes. With your head in the water.	24.4	31.5	33.3	32.1
6	Can swim at least 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes. 25 metres of butterfly.	32.1	33.6	22.7	32.1

MR=Mean rank. Yr 6, 7, 8, 9 comparisons - Kruskal Wallis Test: ns= p>.05 level.

Table 89: Students' Perceptions of Their Own Swimming Ability – Yr 8/9 Gender Comparison

Swim Ability Category		Yr 8/9 Male	Yr 8/9 Female
		MR 765.79	MR 709.86
		p=.009	
#	Description	Mean %	
1	You normally cannot swim in the water without being supported.	0.5	0.6
2	At best you can glide or float on your front and back. Kick and recover to standing in waist deep water.	3.8	3.8
3	At best you can swim 10 metres freestyle. Swim 10 metres of backstroke. Swim 10 metres of survival/life-saving backstroke.	9.0	11.0
4	At best you can swim 25-50 metres of freestyle. Swim 15 metres of breaststroke with the correct kick. Swim 15 metres in at least 2 other strokes (survival strokes are fine). Dive entry.	24.8	28.3
5	At best you can swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes. With your head in the water.	32.5	32.8
6	Can swim at least 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes. 25 metres of butterfly.	29.4	23.5

MR=Mean rank. Yr 8/9 male and Yr 8/9 female comparisons - Kruskal Wallis Test: ns=p>.05 level.

Parent Swimming Abilities

As shown in Tables 90 and 91, students perceived their fathers to be better/stronger swimmers than their mothers. Students whose parents were born overseas reported their parents as weaker swimmers when compared with the students whose parents were born in Australia.

Table 90: Year 8/9 Students' Perceptions of Parent Swimming Ability - Father

Swim Ability	Father	Father born in Australia	Father born Overseas
	Percentage (%)		
Strong	37.3	42.7	30.0
Good	38.2	39.6	38.0
Weak	3.9	2.3	5.8
Non	3.1	1.6	5.2
Don't know	17.7	13.7	20.9

Table 91: Year 8/9 Students' Perceptions of Parent Swimming Ability - Mother

Swim Ability	Mother	Mother born in Australia	Mother born Overseas
	Percentage (%)		
Strong	17.3	19.9	12.9
Good	41.3	45.4	36.0
Weak	12.3	9.2	16.7
Non	9.3	6.3	14.1
Don't know	19.9	19.1	20.2

Issues Identified

Uniform

Of 1482 Year 8/9 students who responded, half (50.7%) confirmed that they did not mind having to wear bathers in PE. However, 52.3% reported that they were not keen on wearing racing style bathers, while 20.3% indicated that they don't mind (Table 92). Year 8 students were less concerned with wearing bathers in PE ($p < .001$) and, more specifically, racing style bathers ($p = .012$), when compared with Year 9 students. As shown in Table 93, the wearing of bathers ($p = .003$), and especially racing style bathers, ($p < .001$) proved to be more of an issue for the males than females. In particular, 63.5% of boys at Independent schools confirmed that they were not keen to wear racing style bathers (Table 94). This compared with 55.3% of the Government school males, 50.1% of Government school females and 39.1% of Independent school females who did mind having to wear racing style bathers. Independent school students were significantly ($p = .016$) stronger in dislike for having to wear bathers in PE.

The wearing of a shirt in PE swimming was generally not popular with Year 8/9 students (Disagree/strongly disagree=53.3%) but, it was favoured by 22.2% of the students sampled. Furthermore, Independent school students' rejection of wearing a shirt in PE swimming (Agree/strongly agree=15.9%) was significantly ($p<.001$) stronger than that reported for Government school students (Agree/strongly agree=25.0%).

A summary of the student responses to the individual issues questions (%) is presented in Appendix Z.

Table 92: Uniform Issues in PE Swimming – Yr 8 - 9

Uniform Issues	Yr 8		Yr 9		Yr 8&9 p^*	Yr 8/9	
	M	SD	M	SD		M	SD
1.1 <i>Don't like bathers in PE</i>	2.45	1.29	2.70	1.33	$<.001$	2.56	1.31
1.2 <i>Don't mind racing bathers</i>	2.50	1.30	2.33	1.25	.012	2.43	1.28
1.3 <i>Like to wear a shirt</i>	2.49	1.31	2.49	1.28	ns	2.49	1.30

p^* =Significant difference - by Mann-Whitney *U*-test; ns= $p>.05$ level.

Table 93: Uniform Issues in PE Swimming – Yr 8/9 Gender Comparison

Uniform Issues	Yr 8/9				Yr 8/9 M&F
	Male		Female		<i>p</i> [*]
	M	SD	M	SD	
1.1 <i>Don't like bathers in PE</i>	2.63	1.31	2.45	1.30	.003
1.2 <i>Don't mind racing bathers</i>	2.29	1.28	2.59	1.27	<.001
1.3 <i>Like to wear a shirt</i>	2.50	1.32	2.48	1.27	ns

p^* =Significant difference - by Mann-Whitney *U*-test; ns= $p>.05$ level.

Table 94: Uniform Issues in PE Swimming – Yr 8/9 School Sector Comparison

Uniform Issues	Yr 8/9				Yr 8/9 G&I <i>p</i> [*]
	Government M	SD	Independent M	SD	
1.1 <i>Don't like bathers in PE</i>	2.50	1.30	2.69	1.33	.016
1.2 <i>Don't mind racing bathers</i>	2.40	1.26	2.51	1.32	ns
1.3 <i>Like to wear a shirt</i>	2.59	1.32	2.29	1.27	<.001

p^{*} =Significant difference - by Mann-Whitney *U*-test; ns=*p*>.05 level.

Environmental

The effect of the sun did not appear to register as a major issue with the majority of students (Table 95). Only 23.5% of the Year 8/9 males and 19.9% of the females chose to agree or strongly agree to the statement that 'they are concerned with swimming outdoors in the sun' and 46.9% confirmed that they disagree/strongly disagree with the suggestion (Table 96). Whilst over 29% of students confirmed that 'the pool water temperature is too cold' (Agree/strongly agree=29.3%), 40.9% chose to disagree/strongly disagree with the statement. However, Year 9 students reported a higher percentage (*p*=.003) who chose to disagree/strongly disagree with the suggestion that 'the pool is too cold', than Year 8 students. A minority of the Year 8/9 students (Agree/strongly agree=22.1%) suggested that 'the pool was too crowded in PE swimming lessons', while nearly half did not regard this as an issue (49.5%). However, Year 9 students recorded a higher percentage (*p*=.009) who chose to agree/strongly agree with the 'too cold' suggestion, when compared with Year 8 students. Female students in Year 8/9 were more likely (*p*=.003) to reject the suggestion that the pool was too hot. Independent school students were stronger in their rejection of concerns for the sun (*p*=.001) and for the pool being too hot (*p*=.034), when compared with Government school students (*p*=.034) (Table 97).

Table 95: Environmental Issues in PE Swimming – Yr 8 - 9

Environmental Issues	Yr 8		Yr 9		Yr 8&9 <i>p</i> *	Yr 8/9	
	M	SD	M	SD		M	SD
2.1 <i>Sun</i>	2.64	1.21	2.60	1.18	<i>ns</i>	2.62	1.20
2.2 <i>Too cold</i>	2.76	1.29	2.95	1.25	.003	2.83	1.28
2.3 <i>Too hot</i>	2.02	1.05	2.05	1.04	<i>ns</i>	2.03	1.04
2.4 <i>Too crowded</i>	2.52	1.20	2.68	1.17	.009	2.59	1.19

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*=*p*>.05 level.

Table 96: Environmental Issues in PE Swimming – Yr 8/9 Gender Comparison

Environmental Issues	Yr 8/9				Yr 8/9 M&F <i>p</i> [*]
	M	SD	M	SD	
2.1 <i>Sun</i>	2.66	1.21	2.56	1.18	<i>ns</i>
2.2 <i>Too cold</i>	2.85	1.30	2.80	1.24	<i>ns</i>
2.3 <i>Too hot</i>	2.13	1.13	1.91	0.91	.003
2.4 <i>Too crowded</i>	2.62	1.20	2.54	1.18	<i>ns</i>

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*=*p*>.05 level.

Table 97: Environmental Issues in PE Swimming – Yr 8/9 School Sector Comparison

Environmental Issues	Yr 8/9				Yr 8/9 G&I <i>p</i> [*]
	Government M SD		Independent M SD		
2.1 <i>Sun</i>	2.69	1.21	2.47	1.17	.001
2.2 <i>Too cold</i>	2.87	1.27	2.77	1.28	<i>ns</i>
2.3 <i>Too hot</i>	2.08	1.08	1.93	0.96	.034
2.4 <i>Too crowded</i>	2.61	1.20	2.54	1.18	<i>ns</i>

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*=*p*>.05 level.

Personal Feelings and Relationships

Less than 16% of students in Year 8/9 were nervous (Agree/strongly agree to being nervous=15.4%) or embarrassed in PE swimming (Agree/strongly agree to being embarrassed=12.0%) (Table 98). However, getting changed was a concern for 24.6% of the students. While 16.8% of Year 8/9 students, 'agree/strongly agree to concerns about being teased in PE swimming, 58.2% declared that this was not an issue for them. A relatively small percentage (12.7%) of the Year 8/9 students chose to agree/strongly agree that only slim students enjoyed PE swimming. When compared with Year 9 students, Year 8 students were stronger in their rejection for being nervous ($p=.022$), embarrassed ($p=.020$) and for the concept that only slim people enjoy PE swimming ($p=.014$).

As shown in Table 99, females reported to be more nervous in PE swimming than males ($p=.048$). Independent school and Government school female students reported higher levels of nervousness (18.5% and 17.0% of students agree/strongly agree, respectively) when compared with Government school males (14.4%) and Independent school males (15.4%) (Table 100). Furthermore, males at Independent schools (64.3% disagree/strongly disagree) reported to be less concerned with being teased in PE swimming when compared to other groups (Range $M=55.9-60.9\%$ Disagree/strongly disagree). Students at Independent schools and the Year 8/9 females were stronger ($p=.012$ and $p<.001$, respectively) in their rejection of the statement that 'only the slim enjoy PE swimming.' The strongest source of disagreement with the suggestion that only slim students enjoy PE swimming came for the Independent school females (78.5%), when compared with Government school females (65.3%) and males (57.6%), and Independent school males (59.1%). Same-sex PE swimming classes were favoured ($p<.001$) more by females (Agree/strongly agree=32.8%) than males (Agree/strongly agree=12.4%). The strongest opponents to same-sex PE classes were the Independent school males with 62.3% who chose to disagree/strongly disagree with the statement and 9.6% who wanted single-gender PE swimming classes.

Table 98: Personal Feelings and Relationship Issues in PE Swimming – Yr 8 - 9

Feelings and Relationships Issues	Yr 8		Yr 9		Yr 8&9 <i>p</i> *	Yr 8/9	
	M	SD	M	SD		M	SD
3.1 <i>Changing is a concern</i>	2.70	1.23	2.74	1.23	<i>ns</i>	2.71	1.22
3.2 <i>Nervous</i>	2.21	1.16	2.34	1.16	.022	2.26	1.16
3.3 <i>Teased</i>	2.32	1.24	2.30	1.19	<i>ns</i>	2.31	1.22
3.4 <i>Same sex classes</i>	2.57	1.30	2.58	1.33	<i>ns</i>	2.58	1.32
3.5 <i>Only slim people enjoy</i>	2.13	1.18	2.27	1.19	.014	2.19	1.18
3.6 <i>Embarrassing</i>	2.01	1.13	2.16	1.22	.020	2.07	1.17

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*=*p*>.05 level.

Table 99: Personal Feelings and Relationship Issues in PE Swimming – Yr 8/9**Gender Comparison**

Feelings and Relationships Issues	Yr 8/9				Yr 8/9 M&F
	Male M	SD	Female M	SD	p*
3.1 <i>Changing is a concern</i>	2.67	1.19	2.75	1.26	ns
3.2 <i>Nervous</i>	2.21	1.15	2.33	1.17	.048
3.3 <i>Teased</i>	2.29	1.20	2.32	1.23	ns
3.4 <i>Same sex classes</i>	2.27	1.20	2.94	1.36	<.001
3.5 <i>Only slim people enjoy</i>	2.30	1.21	2.04	1.14	<.001
3.6 <i>Embarrassing</i>	2.06	1.17	2.08	1.17	ns

*p**=Significant difference - by Mann-Whitney *U*-test; *ns*=*p*>.05 level.

Table 100: Personal Feelings and Relationship Issues in PE Swimming – Yr 8/9**School Sector Comparison**

Feelings and Relationships Issues	Yr 8/9				Yr 8/9 G&I <i>p</i> [*]
	Government M	SD	Independent M	SD	
3.1 <i>Changing is a concern</i>	2.75	1.21	2.64	1.24	<i>ns</i>
3.2 <i>Nervous</i>	2.29	1.17	2.20	1.15	<i>ns</i>
3.3 <i>Teased</i>	2.35	1.22	2.22	1.20	<i>ns</i>
3.4 <i>Same sex classes</i>	2.62	1.31	2.49	1.33	<i>ns</i>
3.5 <i>Only slim people enjoy</i>	2.24	1.20	2.07	1.14	.012
3.6 <i>Embarrassing</i>	2.12	1.21	1.96	1.07	<i>ns</i>

p^{*}=Significant difference - by Mann-Whitney *U*-test; *ns*=*p*>.05 level.

Best/Worst Thing About PE Swimming – Year 8/9

Enjoying a ‘fun’ experience was considered the best part of school swimming (Table 101). Moreover, when ‘learning in general,’ ‘learning/improving in swimming’ and ‘learning to save/rescue people’ were combined they ranked as the most positive aspects of swimming. The concept of ‘cooling off and being refreshed’ ranked on its own as the second highest positive aspect of swimming. However, when combined with ‘getting wet/being in water’ it was also a major issue. The worst aspect of PE swimming was the sensation of being ‘cold’ (Table 103) ‘Nothing’ as a worst aspect of PE swimming was consistently recorded in students responses and ranked second (Year 8/9). Swimming laps and the activities offered rated highly as a worst aspect of PE swimming. Independent school students rated uniform issues higher as a negative aspect than the Government school students (Table 104).

Table 101: Best Thing About PE Swimming – Yr 8/9

Description	Year 8/9: n=2055	
	Rank	%
Fun	1	13.8
Cooling off/refreshing	2	10.5
Swimming	3	6.9
Learning improving – swimming	4	6.8
Getting wet/being in water	5	6.1
Games e.g., water polo	6	5.5
Learning new things	7	4.8
Don't have to do work (academic)/getting out of class	8	4.6
Being with friends/mixing with other students	9	4.5
The activities offered	10	4.0
Nothing	10	4.0
Free time allocated to the programme	12	3.4
No response	13	3.2
Physical/health improvement/benefit – exercise	14	3.1
Learning to save people/rescue/life-saving	15	2.8

Note: No student responded with more than 3 separately coded comments.

Table 102: Best Thing About PE Swimming – Year 8/9 School Sector and Gender Comparison of the Top 6 Ranked Issues

Description	Government				Independent			
	Male: n=773		Female n=670		Male n=289		Female n=363	
	Rank	%	Rank	%	Rank	%	Rank	%
Fun	1	11.5	1	15.4	2	10.4	1	16.0
Cooling off/refreshing	2	8.8	2	11.2	3	9.7	2	12.1
Learning improving – swimming	5	5.8	4	7.2	4	8.3	4	6.6
Swimming	3	7.2	5	6.3	6	5.9	3	7.2
Games e.g., water polo	6	5.3			4	8.3		
Don't have to do work (academic)/getting out of class					1	10.7		
Learning new things			3	8.1				
Getting wet/being in water	4	7.1	6	6.0				
Being with friends/mixing with other students							5	6.3
The activities offered							6	5.5
Nothing	6	5.3						

Table 103: Worst Thing About PE Swimming – Yr 8/9

Description	Year 8/9: n=1785	
	Rank	%
Cold – water temperature/I get cold	1	12.5
Laps and long distance swims	2	9.1
Nothing	3	8.0
No response	4	5.5
The activities offered	4	5.5
Changing/change rooms	6	4.9
Issues with uniform	7	3.5
Teaching technique/style/relationship	8	3.4
The swimming venue	9	3.0
Boring	10	2.8
Being wet – and issue related to – e.g., wet hair, make-up, being salty/chlorine/sandy	11	2.7
Skills/technique – specific	12	2.5
Swimming – doing it	12	2.5
Weather	14	2.4
Lack of time allocated to the programme	14	2.4

Note: No student responded with more than 3 separately coded comments.

Table 104: Worst Thing About PE Swimming Year 8/9 School Sector and Gender Comparison of the Top 6 Ranked Issues

Description	Government				Independent			
	Male n=633		Female n=556		Male n=256		Female n=317	
	Rank	%	Rank	%	Rank	%	Rank	%
Cold – water temperature/I get cold	1	11.5	1	15.3	1	11.3	1	13.2
Nothing	2	11.1	2	8.1	6	5.1	6	5.4
Laps and long distance swims	2	11.1	3	7.6	2	9.8	4	7.3
No response			5	6.5				
The activities offered	5	3.6			3	8.6	2	11.0
Changing/change rooms			4	6.8			5	6.6
Teaching technique/style/relationship	4	3.8						
Skills/technique – specific	6	3.3						
Boring	6	3.3						
Issues with uniform					5	5.9	3	8.5
The swimming venue			6	5.0				
Lack of time allocated to the programme					4	7.4		

Swimming Definitions

Swim Capacity Related Definitions – Year 8/9

Students reported that the ability to swim at least 25-50 metres of freestyle, 15 metres of breaststroke, and survival strokes and perform a dive entry were important determinants of that which defines a safe swimmer (Table 105). In defining a good swimmer, the ability to swim 200 metres, including 50 metres of freestyle was highlighted (31.3%). According to the students, weak swimmers were those who were unable to swim. When asked what it would take, at minimum, to save someone in a backyard pool, 39.7% identified a swimmer who at best can swim 10 metres (Table 106). The highest percentage of students (40.7%) reported that the ability to swim at least 25-50 metres of freestyle (Category 4) was a safe swimmer, and that such a swimmer had the ability to save another swimmer in a 50 metre pool. To have the potential to save another swimmer in the ocean/surf, a majority of students (54.1%) believed the ability to swim continuously for 400 metres was essential. This was in excess of the criteria that adopted to define a good swimmer.

Table 105: Swim Capacity Related Definitions – Yr 8/9

Swim Ability Category		Swim definitions Mean %		
#	Description	Weak	Safe	Good
1	They normally cannot swim in the water without being supported.	38.3	5.6	4.2
2	At best they can glide or float on your front and back. Kick and recover to standing in waist deep water.	28.7	11.0	3.6
3	At best they can swim 10 metres freestyle. Swim 10 metres of backstroke. Swim 10 metres of survival/life-saving backstroke.	20.3	24.6	10.4
4	At best they can swim 25-50 metres of freestyle. Swim 15 metres of breaststroke with the correct kick. Swim 15 metres in at least 2 other strokes (survival strokes are fine). Dive entry.	5.2	32.0	24.9
5	At best they can swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes. With your head in the water.	2.9	16.5	31.3
6	Can swim at least 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes. 25 metres of butterfly.	4.8	10.4	25.8

Table 106: Save Capacity Related Definitions – Yr 8/9

Swim Ability Category		Potential to save definitions Mean %		
#	Description	B/yard pool	50m pool	Ocean/surf
1	They normally cannot swim in the water without being supported.	7.0	3.3	4.9
2	At best they can glide or float on your front and back. Kick and recover to standing in waist deep water.	8.4	4.5	4.1
3	At best they can swim 10 metres freestyle. Swim 10 metres of backstroke. Swim 10 metres of survival/life-saving backstroke.	39.7	9.7	4.1
4	At best they can swim 25-50 metres of freestyle. Swim 15 metres of breaststroke with the correct kick. Swim 15 metres in at least 2 other strokes (survival strokes are fine). Dive entry.	28.8	40.7	7.8
5	At best they can swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes. With your head in the water.	9.7	33.0	25.1
6	Can swim at least 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes. 25 metres of butterfly.	6.6	8.9	54.1

Interm Swimming

Students in Year 6-9: Participants in Interm Swimming Programme (ISP)

Interm swimming participants (n=1551) generally reported the lessons as fun and believed that they improve more in ISP lessons than when undertaking PE swimming lessons (Table 107). In contrast, students generally preferred their PE teacher and the secondary school swimming activities. Year 8/9 students were surveyed to make comparisons between ISP and PE swimming activities, because students in Year 6/7 may not have experienced PE comparatives. The students who had participated in ISP classes at some time rated themselves as stronger swimmers when compared with those who had not. A total of 63.1% of ISP experienced students placed themselves within swimming categories 5/6 (can swim at least 200m with a minimum of 50m freestyle), which compared with 50.7% of the students who had not participated in the ISP.

Furthermore, the number of students who could not swim beyond 10 metres (Category 1/2/3) was higher in the non-ISP student population (21.3%) when compared with those who had undertaken ISP classes (11.4%).

A sub-set of Year 6/7 students, the student group who had undertaken ISP classes during 2002, believed that it was fun (Agree/strongly agree=65.7%) and that they had improved (Agree/strongly agree=66.8%). A mean response of 3.66 confirmed that they wanted to do ISP classes (Agree/strongly agree=63%). Over a quarter (26.6%) of the Year 6/7 students chose to disagree and/or strongly disagree that they would recommend their friends to do ISP classes, while 40.8% agreed and/or strongly agreed.

Table 107: Participants in Interm Swimming – Yr 6 - 9

Interm Swimmers		Percentages (%)				
Year 6/9: n=1551	Mean	SA	A	N	D	SD
I wanted to do Interm classes	3.54	20.8	35.2	27.9	9.0	7.1
It was fun doing Interm classes	3.55	20.7	38.6	22.5	11.2	7.0
I would tell my friends to do Interm classes	3.03	12.3	22.6	34.2	17.4	13.5
My swimming improved during Interm classes	3.80	31.8	37.1	16.7	8.3	6.1
Year 8/9: n=1034	Mean	SA	A	N	D	SD
I learned more in Interm classes than PE swimming	3.44	23.3	26.1	30.0	12.1	8.4
I prefer Interm classes more than my PE swimming classes	2.86	13.8	14.3	33.7	20.2	18.0
I prefer my Interm swim teacher more than my PE teacher	2.61	9.3	9.9	36.1	21.5	23.2

SA=Strongly Agree; A=Agree; N=Neither Agree/Disagree; D=Disagree; SD=Strongly Disagree

Vacswim

Students in Year 6-9: Participants in Vacswim

As shown in Table 108, not only did Vacswim participants (n=911) generally believe that their swimming proficiencies improved as a consequence of undertaking the programme, they suggested that the learning outcome was more positive than that derived from secondary school PE swimming lessons. Year 8/9 student responses were reviewed to make comparisons between Vacswim and PE swimming activities because students in Year 6/7 may not have experienced PE comparisons. Those who had experienced Vacswim classes generally described themselves as stronger swimmers

than the sample who had not (n=1005). A total of 74.2% of Vacswim experienced students placed themselves within the prescribed swimming Categories 5/6 (can swim at least 200m with a minimum of 50m freestyle), which compared with 48.0% of the students who had not participated in the Vacswim programme. Further to this, the number of students who could not swim beyond 10 metres (Category 1/2/3) was higher in the non-Vacswim student population (20.1%) when compared with those who had undertaken Vacswim classes (6.8%).

Table 108: Participants in Vacswim Swimming – Yr 6 - 9

Vacswim Swimmers		Percentages (%)				
Year 6/9: n=911	Mean	SA	A	N	D	SD
I wanted to do Vacswim classes	3.30	17.6	32.2	25.0	13.2	12.1
It was fun doing Vacswim classes	3.37	17.2	34.0	26.8	12.2	9.8
I would tell my friends to do Vacswim classes	2.88	10.0	20.9	33.1	19.4	16.6
My swimming improved during Vacswim classes	3.98	35.8	40.8	13.6	5.2	4.5
My parents made me do Vacswim classes	3.13	21.0	23.0	22.1	15.3	18.5
Year 8/9: n=634	Mean	SA	A	N	D	SD
I learned more in Vacswim classes than PE swimming	3.64	30.2	28.4	24.8	8.8	7.7
I prefer Vacswim classes more than my PE swimming classes	3.02	17.2	18.0	31.1	17.5	16.2
I prefer my Vacswim swim teacher more than my PE teacher	2.77	10.8	11.6	39.5	20.1	18.1

SA=Strongly Agree; A=Agree; N=Neither Agree/Disagree; D=Disagree; SD=Strongly Disagree

CHAPTER EIGHT

DISCUSSION

Introduction

The goal of this study was to provide a detailed and expansive 'snap-shot' of the current status of aquatic programmes and activities in Western Australian secondary schools. Whilst utilising the empirical/analytic and interpretive research paradigms, the researcher triangulated TiC, teacher and student questionnaire responses, observation and interview data; identifying common happenings, issues, perceptions and experiences to develop an understanding of current practice. Having sampled a relatively large number of students, the following discussion was undertaken with an awareness of both statistical and practical significance. However, owing to the relatively large volume of quantitative and qualitative data collected it was not possible to discuss all of the results. Similarly, non-significant comparisons amongst groups were not generally discussed. Furthermore, it was through the 'lenses' that define the conceptual framework; differentiated classroom (Tomlinson, 1999, 2000, 2001), PCK (Shulman, 1986, 1987) and curriculum dimensions (Choi, 1992), that aquatic activities in schools were reviewed. Before answering each research question, the researcher explored the complexities that define school aquatic programmes and activities, and built on the data gathered to advance pedagogies and curricula that frame best practice. Seven focus areas were inductively generated from the data and served to define HPE swimming, the associated issues that impact on the programmes and differentiation. These were:

1. Adolescents, Physical Activity and HPE
2. Personnel and Infrastructure of HPE Aquatic Programmes and Activities
3. Teaching HPE Aquatic Activities and Teachers' Pedagogical Content Knowledge
4. HPE Aquatic Programmes and the Content Taught
5. Student and Teacher Perceptions of HPE Aquatic Programmes and Activities
6. The Impact of HPE Aquatic Programmes and Activities
7. Teaching through Differentiation in HPE Aquatic Activities

Adolescents, Physical Activity and HPE

To better understand stakeholder attitudes to and perceptions of HPE aquatic programmes and activities, it was important to first gain an insight into their perceptions of physical activity and HPE. These data served as a baseline through which related comparisons were made.

Students' Perceptions of Physical Activity

Consistent with a previous review of Australian junior secondary school adolescents (Booth et al., 1997), nearly 80% of the Yr 8/9 cohort liked physical activity. About 70% participated in as much physical activity as they could which confirmed that a significant majority viewed being active, positively. Given the physical and emotional benefits that can be gained through physical activity (Biddle & Chatzisantris, 1999; Siedentop & Tannehill, 2000; Taggart & Sharp, 1997; Zubrick et al., 1995) and the importance of establishing positive attitudes during the adolescent years (Anderssen & Wold, 1992; Rowland, 1990), it was pleasing to report that less than one in ten Year 8/9 students disliked physical activity. However, in the transition from primary to secondary school there was a decline in adolescents' positive perceptions of physical activity, with a further significant deterioration from Year 8 to Year 9 ($p=.001$). Whilst recognising that this transition phase can be difficult (Brettschneider, 1989; Kirk et al., 1996; Taggart & Sharp, 1997), others (Booth et al., 1997) have detailed little difference in boys' and girls' activity levels through the junior secondary years. Interestingly, with no apparent difference in the 'like for physical activity' between those in Year 8 and Year 9, there was a 12% decline ($p<.001$) in those declaring 'to do as much physical activity as they can.' With teachers often providing the most important source of physical activity and sporting motivation (Biddle & Goudas, 1996), it was of particular concern that many of the students may have first encountered an HPE specialist teacher in Year 8. Such differences may also be linked to the social influence of peers (Brown et al., 1989) and parents (Taggart & Sharp, 1997) or personal factors such as ability rating, a lack of physical activity pleasure (Australian Sports Commission, 1996), self perception (Embrey & Drummond, 1996) or time constraints (Embrey & Drummond, 1996; Taggart & Sharp, 1997).

While the Year 8/9 boys in this study were stronger in their like of physical activity than the girls ($p=.029$) as might have been expected (Booth et al., 1997; Hagger

et al., 1997), there were no other significant gender differences relating to physical activity participation. It was noteworthy that, while there were some gender specific concerns were noted during the case study HPE swimming observations, with bathers and issues related to tampon use, the females enjoyed PE swimming more than the males ($p=.007$), they equally rejected the concept of being embarrassed and were slightly stronger (3.1%) in their choice for PE swimming if it were optional. Whilst the greater dislike for activity may be explained by young adolescent girls being particularly susceptible to the influence of personal appearance and perceived competence (James, 2000; Tappe et al., 1989), these data do not support the suggestion that such issues impact negatively on actual activity participation levels for girls, when compared with that of boys.

Independent school students were more positive ($p=.002$) than Government school students in their perceived activity levels. Whilst the income status of the parents was not expressly reported, it could be speculated that such trends are consistent with a link between socio-economic status, health and physical activity patterns (Booth et al., 1997; Kirk et al., 1996; Taggart & Sharp, 1997).

Students' Attitudes Toward HPE

With PE having been reported by some to be irrelevant, boring, failing to engage and unresponsive to the post-modern adolescent (Hunter, 2000; Rink, 1992; Tinning & Fitzclarence, 1992) it could be viewed as surprising that the students (Yr 8/9), when asked about PE were generally very positive. In addition, a positive student response to the students' perceptions of the usefulness of PE appeared to contradict the above literature. This poor depiction by others, also belies the fact that less than 12% of the Year 8/9 cohort disliked PE and, commensurate with other findings (Booth et al., 1997; Carlson & Hastie, 1997; Rice, 1988; Thompson, 1994; Williams & Nelson, 1983), more than 71% reported that they enjoyed the PE activities and found them to be fun, an important finding that should not be understated (Biddle & Chatzisantris, 1999).

Consistent with the age-related trend reported for 'liking physical activity,' primary school students appeared more positive in their attitude to PE and its 'usefulness' than was the secondary school cohort. Similarly, the Year 8 students were significantly more positive in their attitude to PE and its 'usefulness' when compared with the Year 9 students, and for each of the ten construct statements. Whilst concerning, a 7.7% decreased 'like' for HPE was not unexpected (Taggart & Sharp,

1997) and consistent with a 9.5% (approximate) difference previously reported for students in Year 8 and Year 10 (Booth et al., 1997). However, further concern was raised with a 7.9% decrease in the number of Year 9 students who rejected the statement 'I don't learn much in PE.' Whilst some are tempted to blame the students (Kirk, 1995) and to see this trend as their problem (Graham, 1995; McCaughtry & Rovegno, 2003), these data strengthen the need to further develop HPE strategies and activities that will meet the needs of the post-modern youth (Corbin, 2002; Hunter, 2000; Taggart, 2003; Tinning & Fitzclarence, 1992).

Males were stronger ($p=.017$) in their belief that PE was fun, unlike previous gender differences (Booth et al., 1997), whereas Year 8/9 girls and boys in this study equally liked PE. Similarly, while males perceived PE to be more important ($p=.004$) to their future than the females, there were no other significant gender related differences for student perception of the usefulness of PE. It was difficult to determine why gender differences of student perceptions relating to PE differed from those found by Booth et al. (1997). However, it is possible that, being relatively early in the school year (Term 1), students may not have encountered apparent negative PE experiences (Portman, 1995) or consolidated their interpretation of these events.

In contrast to the data reported for activity levels, Government school students were more positive in responding to statements relating to PE enjoyment ($p=.003$), liking for PE ($p=.038$) and finding PE activities interesting ($p=.001$), when compared with Independent school students. No previous literature was found on this issue, however it is possible that the Independent school students who are attending high fee paying schools potentially hold expectations of teaching and programme quality above that of their Government school counterparts.

With a national focus on increasing lifelong association with physical activity for Australians (Australian Sports Commission, 1996), schools (US Department of Health and Human Resources, 1997) and, more specifically, PE (Corbin, 2002) are currently seen to have a significant role to play in developing the physical activity culture and reversing the sedentary lifestyle trends. Strategies that serve to increase the enjoyment, perceived usefulness and participation in HPE and physical activity, thereby potentially facilitating healthier active lifestyles, are powerful tools worthy of further focus. Health and Physical Education seems to be well placed to meet these desired outcomes.

Personnel and Infrastructure of HPE Aquatic Programmes and Activities

To better understand and contextualise HPE aquatic programmes and activities, the staff/student ratios, allocated unit time and more specifically the time allocated to in-water activity, along with the resources used in planning, teaching and assessing swimming were the focus of this section.

Class Size

Class sizes ranged from 12 to 37 students with usually one teacher allocated to the class. Staff/student ratios were reported by the educators surveyed to be the greatest weakness and the most important issue impacting on HPE swimming. The median class size of 25 students was well in excess of the 1:12 ratio recommended for swimming pool based HPE classes (EDWA, 1996), and a ratio enjoyed in the Interm Swimming Programme (ISP) for primary school students. Karrie, whose class had 21 students, was convinced that this was too many students and it impacted negatively on student outcomes, in particular for the higher ability students. Ernie and one of his students (Terry) agreed when they identified that approximately 15 students per teacher was a more appropriate number. Support for smaller staff/student ratios, was evidenced when Annika's class comprising 24 girls was team-taught with an assistant teacher. During these lessons the two staff functioned to maximise participation, activity and learning experiences.

Case study observations suggest that HPE swimming teacher/student ratios exceeding 1:20 were difficult to teach. Indeed, the existing average class size has the potential to impact significantly on the outcomes of HPE swimming. Based on the concerns expressed by the teachers of HPE swimming and reinforced by the difficult challenge to move students along the educational continuum during the case study lessons, it was apparent that staff/student ratios more commensurate with the EDWA guidelines of 1:12 could maximise the opportunities for student learning. Further research to clarify the maximum number of secondary school students within a range of contextualised HPE aquatic activities is needed.

Time Allocated

The time allocated to a HPE swimming unit per year varied (300-1800 minutes) and averaged 780 minutes (13 hours) in 11 lessons (Range=5-30). Schools with a pool offered twice as many HPE swimming lessons when compared schools that did not have

a pool. Moreover, schools that possessed a pool offered nearly double the in-water swimming time of those schools that did not possess a pool, with much of the time difference accounted for being in transit. While Government schools allocated an additional 3 hours of HPE swimming time (192.3 minutes) than Independent schools, this was consistent with more of the Government Schools sampled possessing a pool. With an average of 8 ½ hours of in-water activity, and those accessing a public pool providing half the time of the schools with a pool, it was understandable that Year 8/9 teachers have identified 'time' as a major issue of concern and ranked it highly (3rd) as a weakness of the programme. Comparatively, the Department of Education Interim (ISP) and holiday school swim programmes (Vacswim) were allocated 6 hours (approximately) of in-water time. However, with 10-12 students per class and these being streamed for ability, the conditions were far more conducive to teaching and learning. Moreover, Vacswim was presented in 35 minute lessons, whilst HPE Year 8/9 classes averaged 45 minutes in the water, which may further impact on the students becoming cold, the student-rated worst aspect of HPE swimming. Nevertheless, HPE swimming was taught during Term 1, 2002 to only 39% of metropolitan Year 8/9 Government school and 56% of Independent school students with some receiving as few as five HPE swimming lessons per year (300 minutes). Hence, programmes and policies that encourage more schools to prioritise the necessary time allocation for the implementation and continuity of school aquatic activities appear worthy of further consideration.

Existing staff/student ratios and the limited time allocated to HPE swimming appeared to impact negatively on the programmes offered and the potential student outcomes. This was particularly so for those schools that did not possess a pool. It is worth considering whether increased time or fewer students per class would have a more significant impact. Although speculative, on the basis of the case study evidence and educator rankings strongly supporting a need for reduced staff/student ratios, this invites further study. Additional time, particularly which sees students swimming into the final weeks of Term 1 would maximise the likelihood of students feeling cold or being in cold conditions. The Year 8 and 9 experiences at PBGS certainly reinforced this concern, with potential student outcomes impacted on by cold and breezy conditions.

Facilities and Resources

Sixteen percent of HPE swimming was presented in 1x50 metres or an equivalent space (2x25 metres). This space allocation was described as overcrowded, impacted negatively on the programme and commensurate with the needs of swimming laps. While half of the pool-based Year 8/9 classes were presented in the equivalent lane space of 2x50 metres, such allocations, particularly in the middle of the pool are not ideal for a differentiated aquatic programme catering for the needs of all of the students, and for those undertaking stroke technique evaluation and correction, survival and life-saving related activities. The need for half of the pool or a space equivalent beyond 3x25 metres while teaching/learning life-saving activities was noted during the case study observations.

Nearly all of the Year 8/9 classes presented at a public pool were limited to 2x50 metres or less, with a quarter of these in 1x50 metre lane. In addition, public pool access was restricted with pool administrators lacking concern for school booking needs. Ultimately, this may further inhibit the opportunity for adolescents to acquire important aquatic proficiencies through HPE. Difficulties in schools accessing public swimming pools appears to have increased over recent years and was believed (G. Shaw, personal correspondence, June 5, 2001) to correlate with an increase in the tendering of pool management to private bodies, where profit was a primary motivator. Such speculation was built on the premise that relatively short bursts of HPE school use do not match the potential profit margin of regular single or health/fitness group users.

The ocean was described as a very challenging teaching venue. It impacted on the content taught, restricted the pedagogical options and was less favoured by the students. Public venues were also a problem with students unsettled at the beach, lacking in concentration and concerned for 'being seen.'

Despite half of the sampled teachers accessing a school pool, limited space/lane allocation appeared to be impacting on the quality of the HPE aquatic experience. This was particularly so for those who teach in an allocation equivalent to 1x50 metre lane, to a class consisting of a relatively large numbers (e.g., more than 25 students), or endeavouring to teach life-saving activities. When using non-school water space, a decreased area and half the swimming time available raises concerns that the HPE aquatic programmes and the outcomes attained are potentially inadequate. Moreover, they appear lower for those who accessed public swimming facilities.

Teaching HPE Aquatic Activities and Teachers' Pedagogical Content Knowledge

There is a positive correlation between teachers' content knowledge and, more specifically, pedagogical content knowledge (PCK), and teaching success as measured by the outcomes related to student performance (Dill, 1990). To fulfil the study objective, it was imperative that an evaluation of teacher qualifications and perceived PCK be undertaken and triangulated with observations. Further to this, it was important to discuss effective teaching strategies and identify the resources which were most frequently accessed by practitioners in the field.

Qualifications and Teachers/Teaching Skills

Considering 14% of the teachers and 18% of the TiC did not possess any current form of swim teaching related certification, it was concerning that only 3 teachers reported being inappropriately qualified. Karrie suggested that some experienced teachers don't see the point of re-accreditation. In contrast, the teachers rated their swimming qualifications as the 2nd most important issue associated with HPE swimming (1st staff/student ratios) with most declaring this as a 'very important issue.' However, such accreditation programmes were not seen to provide the major source of PCK for the teaching of HPE swimming, this being teaching experience. Further concern is heightened with the teachers who were surveyed ranking undergraduate training and professional development relatively low as contributors to HPE swimming PCK. In addition, Ernie highlighted the need to help teachers approach curriculum planning in a student-centred way, underpinned by the Curriculum Framework. Operating in a more litigious world with large class sizes of varying ability levels, readiness and interest; and given that swimming had lost the fun element for many (Hardy, 1989), it was expected that the issues of certification and annual re-accreditation have acted to discourage aquatics in the secondary school HPE curriculum. This trend may have contributed to relatively low levels of HPE swimming in schools (Beale et al., 2002).

Teachers identified knowledge related to the technical aspects of swimming as the most important teaching skill to possess. This would allow them to analyse, correct and improve student swimming skills. Water safety, rescue/life-saving and resuscitation procedures ranked 2nd and these rankings are consistent with the most frequent content taught. Moreover, Annika, like Parker (1995), believed that it was not just skill, but also

attitudes, dedication and enthusiasm of the staff contributed to the success of HPE swimming programmes. However, of the skills/attitudes listed above, none directly guide teachers in overcoming the major issues of large heterogeneous classes, lack of time and inadequate/limited space. Concern for HPE teachers' inadequate swimming PCK was reinforced through Annika's suggestion that there was a huge range in the teachers' standards and qualifications.

On the basis of the responses in this study, HPE teachers would benefit from additional support (e.g., financial and time allocation), access to swim teaching accreditation and professional development programmes. Moreover, new swim teaching accreditation programmes specifically designed for HPE teachers operating in closed and open water, addressing knowledge of swimming skills, aquatic safety/rescue/resuscitation procedures and pedagogical professional development would address some of the identified concerns. Whilst evaluating the content and process of undergraduate HPE aquatic training programmes was beyond the scope of this thesis, teachers are suggesting through a self-declared lack of swimming PCK, that there is capacity to further develop the relevance of such programmes to the secondary school teaching experience.

Pedagogical Content Knowledge (PCK)

The majority of teachers 'feel comfortable' with teaching HPE swimming but, comfort levels would improve for some with additional experience, training/knowledge, smaller class sizes and changes to the venue. While nearly all of the teachers believed that they were 'appropriately qualified' and 'enjoyed' teaching HPE swimming, less believed that they were 'suitably skilled' to advance students of all ability levels. A need for additional training relative to the high level swimmers was identified. The majority of teachers were not pedagogically prepared or able within the existing HPE swimming context to meet the needs of all. In addition, they were unable to advance the majority of students on the swimming ability continuum. These relatively poor outcomes appear juxtaposed with teachers 'enjoying' the experience and 'feeling comfortable' with teaching HPE swimming. This raised questions relative to the HPE swimming goals and expectations of the teachers. Teachers' objectives and the desired outcomes may be set relative to their PCK, at a low level. Moreover, the complexity and challenges of the swim teaching environment may have, for some teachers, also limited their aspirations. The classes observed provided further insight. An inability to advance

those of a high level was typified in three of the four case study classes. Whilst difficult to confirm if these outcomes were related to Karrie and Ernie being under-skilled for PCK (Marks, 1990), the researcher believes this not to be the case, attributing factors such as relatively large class numbers, students presenting as heterogeneous for ability, limited time, space and student maturity/readiness as impacting significantly on the teaching/learning experience.

Teaching experience appeared to interact with one's confidence to deliver an HPE swimming unit, with nearly half of the self-declared 'under-skilled' teachers having less than 5 years of HPE teaching experience. Consistent with this, Annika who possessed extensive undergraduate training and private teaching/coaching experience and was in her fifth year of teaching, expressed a personal reservation for teaching HPE swimming. On the other hand, Karrie and Ernie were confident of their PCK and ability to meaningfully represent the skills to their students. Commensurate with the importance of 'experience,' Annika and Karrie identified teaching experience as the number one source for developing their HPE swimming PCK. Moreover, the Year 8/9 teachers ranked teaching experience as the number one source of knowing 'what' and 'how' to teach Year 8/9 HPE swimming.

While Karrie reinforced the value of collaborating with knowledgeable colleagues as a strong source of PCK, 'other teachers' was ranked 2nd by the teachers surveyed and was seen as important in determining how to teach HPE swimming. Books, professional development and the Surf Life-saving Association (SLSA) ranked lowest for informing teachings of what and how to teach HPE swimming. It was difficult to determine if these resources contained content deemed inappropriate, or it could be speculated that the teachers did not choose to access these resources through lack of time. Furthermore, with it deemed necessary for teachers of HPE swimming that possessed a RLSSA Bronze Medallion to attend a full-day annual re-accreditation course (RLSSA, personal correspondence, December 16, 2003), additional training may be seen by teachers as problematic. This may also have contributed to relatively low levels of HPE swimming in schools (Beale et al., 2002).

In transforming their knowledge of swimming into PCK, Karrie and Ernie used authentic cues and related it to something meaningful. Analogies and comparisons with known concepts, land-based demonstrations, student in-water demonstrations and avoiding long-winded discussion were common features of the approach displayed by

the teachers observed and were reflective of the effective teaching practices (Dill, 1990; Doutis, 1997).

The best way to teach HPE aquatic activities.

A teacher-directed approach was ranked the number one instructional format (best way) to teach Year 8 HPE swimming (Table 25), and was similarly ranked number one by more of the Year 9 teachers (38.9%). Consistent with the questionnaire, respondents predominantly used a teacher-directed approach, and Karrie, Annika and Ernie used the practice style most frequently. The preponderance for this approach was not unexpected as it was seen to facilitate the desirable quality of high levels of motor-on-task behaviour (Grant et al., 1990) and safety. However, such methods were criticised by some for diminished learning and merely keeping students busy, happy and good (Placek, 1983), student passivity and boring PE, and pedagogically questioned (Taggart, 1992; Tinning & Fitzclarence, 1992). Nevertheless, it also could be as Placek (1983) herself speculated, that teachers do view learning as important; and busy, happy and good student behaviours which may be seen as a means to an end, are best facilitated by a teacher-centred approach. In fact, given the TiC's genuine concern for legal liability (3rd rank issue of concern), a key ingredient for a litigious free environment could well be this style of teaching.

In the initial stages of the unit, the functionality of a structured teacher-centred approach was recognised. Teachers were establishing themselves and confirming expectations. In addition, initial diagnostic evaluation was used by the teachers at this time to determine class format. This was in contrast to the teachers ranking a student-centred approach highly. Whilst recognising the importance of its use early in the unit, it appeared that teachers commonly employed a teacher-centred pedagogy to negate the issues of concern, such as large heterogeneous classes, time and space. Such thoughts were echoed by the teachers who did not use the best teaching methods, with the majority identifying factors relating to staff/student ratios as impacting on the pedagogy employed.

Case study interviews and observations confirmed that pool space, student numbers, the students' aquatic proficiencies, interest and readiness levels impacted on the unit content and lesson format deemed most appropriate. The beach also impacted on the pedagogy employed as it required a teacher-centred approach, negated small group opportunities and limited student choice. The significant impact of existing

student abilities and interest/readiness levels on the programme offered were highlighted in the literature (Byra & Jenkins, 2000; Chen, 1996; Dill, 1990; Duda, 1996; Graham, 1995), and were often seen in the swimming classes observed. Karrie responded to a weaker group of swimmers and prepared lessons that did not cater for the needs of the best swimmers. Ernie was unable to ensure continuous quality student engagement and his attention was focused on effective management. Case study observations confirmed previous work (Hardy 1991b), identifying that one-on-one teacher assistance was important for the least able swimmers, while teacher directed drill-work and a paired format better suited the middle ability swimmers. As previously identified (Mustain, 1990; Hardy 1991b) when given large class numbers, teachers may direct class content and pedagogy to the fictitious middle ability swimmer. This is perhaps another reason why a teacher-centred approach was most commonly employed. Case study observations, particularly at PBGS, confirmed that stronger swimmers responded to a less direct teaching approach including reciprocal and inclusion methods. However, this was dependent on student readiness, maturity and compliance levels.

These sentiments reinforce Rink's (2001) work: "There may be no best way to teach (*HPE*), but there may be a best way to teach particular content to particular learners" (pp. 123-124). Moreover, this work further evidences the difficulty of teaching (Dill, 1990) and the long held view that the PE environment is complex (Yerg, 1983; Rink, 1997, 2001). It suggests that the contemporary HPE aquatic classroom is perhaps the most multifarious and challenging of them all.

Resources used in planning, teaching and assessing HPE aquatic programmes and activities.

Student outcome statements (SOS) and the RLSSA Manual (RLSSM) were the most frequently used resources in the implementation and assessment of the Year 8/9 HPE swimming unit. Consistent with this, Annika and Ernie implemented the RLSSA Bronze Medallion using the RLSSM to structure content, and SOS to inform the formal reporting of student achievements (Appendix U and X). Karrie also had access to a Swimming Unit Plan (Appendix S). However, she confirmed that the lesson content and pedagogy employed were in response to the student's swimming abilities, pool space and lane allocation rather than any particular text or resource. The RLSSM is content-based and does not inform the teacher of pedagogical strategies to deal with large heterogeneous classes of mixed interest and readiness levels. Teachers acquire strategies

through experience and this was the most important source of HPE swim teaching knowledge. Moreover, resources such as the RLSSM do not identify the likely time and space requirements to implement the suggested content in a school context.

Given the available curriculum framework, content and assessment documentation (Curriculum Council, 1998; EDWA, n.d., a,b,c; FME, 2000; RLSSA, n.d.) it appeared that some teachers are not choosing/able to utilise this as the major source to design programmes. Outcomes-based curriculum materials and programmes that enhance continuity from K-10, and can be implemented within the existing structural limitations, are a challenge for systems and educators. Furthermore, it is concerning that no matter what level of PCK that teachers possess, or their ability to represent and formulate the subject matter to make it comprehensible (Shulman, 1986), it could well be somewhat immaterial if they are unable to interact with all of the students as a consequence of large numbers, and are overcome by the identified issues that define this complex working environment.

HPE Aquatic Programmes and the Content Taught

An analysis of the goals/outcomes relative to the activities undertaken and monitoring/assessment procedures serves to define contemporary HPE aquatic programmes and activities. Furthermore, this process will generate greater understanding of the impact of the programme offered and the defined issues of concern.

Goals and Outcomes

To 'develop student confidence' and a 'safer water participant' were identified as the most important Year 8/9 HPE goals/outcomes. This was surprising given that 40% of Intern Primary school swimmers can swim 300 metres (G. Shaw, personal communication, June 5, 2001) and that nearly 60% of the secondary students were defined as good swimmers who could swim 200 metres. Unexpectedly, both the TiC's and the teachers saw 'developing student confidence' as the most important goal/outcome for both Year 8 and Year 9 HPE swimming. A lack of content variation and development (e.g., confidence activities), be it through choice or as a consequence of the delimitations of staff/student ratios, space, time and varied swimming ability levels, will only serve to disenfranchise students (Hunter, 2000; Taggart & Sharp, 1997; Tinning & Fitzclarence, 1992).

While confidence activities were reported by teachers to be the most important content to teach in Year 8 HPE swimming, Year 9 teachers reported survival skills to be the most important. Further to this, the educators goals/outcomes and the content defined as that most important to be covered, appeared incongruent with the most frequent activity undertaken, that being stroke technique analysis and correction. The HPE swimming lessons were less favoured by the weaker swimmers and more than half of those who could not swim freestyle beyond 50 metres said 'No' if HPE swimming was optional. This suggested that contemporary programmes do not meet student needs, particularly the least proficient. These data reinforce that school swimming can extinguish a students interest (Glyptis, 1982), particularly if the activities and standards are seen as unreachable (Kleinman, 1997). Whilst a link between low ability and a HPE reticence has been confirmed (Portman, 1995), these data are alarming, particularly given that weaker swimmers are generally not inclined to undertake private lessons (Hardy, 1991b; RLSSA, 2001). Therefore their exposure to swimming will be through an 'unattractive' HPE intervention.

It was not surprising to see 'improving race times' and 'improving fitness' consistently ranked lowest of the nominated goals/outcomes of HPE swimming. However, a relatively low ranking for 'developing rescue skills,' particularly for Year 9 students was unexpected. The Year 8/9 cohort had stated that learning how to save people in water was important for the significant majority and, with more than half of them defined as good swimmers, it belies this low ranking. Whilst speculative, perhaps the delimiting issues as identified by the teachers impacted on the ranking of their goals – seeing the inclusion of rescue related content as pedagogically problematic. Alternatively, such activities may not fit the predominant teacher-centred pedagogy, or teachers may not see the student population as ready to undertake rescue related activities. Support for this latter notion was evidenced by the students in Years 6 to Year 9 reporting no change in their swimming abilities, apparently unable to maintain HPE improvements on an annual basis. Moreover, a quarter of the teachers surveyed confirmed that they were unable to teach what they defined as important content, citing a lack of student readiness as being a factor.

Activities Undertaken

The Year 8/9 HPE swimming content was defined by 'stroke technique analysis and correction,' with nearly all of the schools confirming that such activities constituted

nearly half of the unit time. Concern must be expressed for the similarity of the curriculum offered at both Year 8 and Year 9 and that the content focus was juxtaposed with the most important goal/outcome of the educators – to ‘develop student confidence.’ Furthermore, only half of the teachers appeared able or willing to deliver activities specific to this goal, merely constituting 11% of the activities offered. However, when developing confidence was combined with the second ranked goal/outcome, that being a ‘safer water participant;’ indeed these outcomes appeared more commensurate with the second most frequent activity focus, ‘life-saving, survival/safety and water awareness.’ Further support for this was evidenced by the teachers confirming that ‘survival strokes, water entries and treading water’ were the most frequently undertaken activity during the defined ‘life-saving, survival/safety and water awareness activities.’ Interestingly, the teachers ranked the course content the greatest strength of HPE Year 8/9 swimming, despite it not reflecting their most important goals/outcomes and appearing not to reflect student progression. Moreover, given that just simply exposing students to swimming ranked 2nd, it may be that teachers see little strength in the existing programme.

In only 11 programmes was a formalised survival/rescue programme identified which lead to potential certification. This was perhaps reflective of the concern expressed that not all of the activities deemed necessary for certification were easily implemented, or even possible, with a large heterogeneous class in 11 HPE lessons using 2x50m lanes or less. None of Ernie’s students were able to complete the Bronze Star Award requirements; and, even with the assistance of a qualified RLSSA examiner and a high level of student motivation/cooperation, only 11 of Annika’s 24 students attained a Bronze Star pass. Hence, the case studies also support this view. With the difficulties of booking needs and lane allocation, such accreditation programmes would be even more difficult when delivered within the constraints of a public aquatic facility. Despite a dearth of Year 8/9 HPE programmes offering formal certification, and the problematic nature of their delivery, such activities are worthy of further consideration. This is particularly so for the majority of students who appeared to be beyond the immediate need for confidence development and stroke analysis and correction. However, as Ernie confirmed, for this to happen successfully in the HPE context, much would need to be done with administrative organisations (e.g., RLSSA, SLSA and Department of Education). They would have to streamline or make the programmes seamless, provide interim awards, allow for school-based and community-based joint

undertakings, and to map the awards against the 'outcomes' and 'levels' as defined by the Curriculum Framework (Curriculum Council, 1998). This would be demanding work but, without it HPE swimming is potentially at risk of becoming the new millennium gymnastics dinosaur.

While Year level comparisons revealed very little difference in the amount of 'stroke technique analysis and correction' undertaken, Independent schools taught less in Year 9 than Government schools. Year 9 Independent school students were the only group exposed to a majority of 'life-saving, survival/safety and water awareness activities.' Further analysis of the school sectors revealed that Independent school HPE programmes focused more of their time on carnival preparation and Government schools more on fitness/training. Moreover, whilst seen as having little importance to all stakeholders, preparation for carnivals was undertaken more frequently in the schools surveyed than activities specific to developing confidence, the latter being the number one ranked goal/objective.

Curriculum and pedagogies which increase the opportunity for all students to progressively develop aquatic skills, knowledge and understanding within a secondary school class whilst problematic, must be developed. The issues identified by the teachers as weaknesses of the programme; namely, staff/student ratios, space, time and varied student abilities, impacted on the programme offered, must be addressed if the effectiveness of the secondary school aquatic intervention is to be maximised and the needs of students are to be met.

Monitoring/Assessing Student Outcomes

To determine student HPE aquatic outcomes, 'technique/endurance through observation and evaluation' was the most frequent procedure used at the beginning, during and at the end of a unit. Such methods appeared consistent with evaluating the mastery of stroke performance and technique. This assessment strategy was undertaken more frequently at the beginning and during the unit, than at the end. Diagnostic and ongoing assessment, rather than end-of-unit tests, whilst reflective of an 'outcomes approach,' may also have been employed to reduce the time allocated to student evaluation. Annika attempted to assess small groups with a teacher-centred approach but found it very time consuming and in response used, as did Karrie and Ernie, ongoing formal assessment in conjunction with instruction and the opportunity to immediately repeat inappropriately performed tasks. Further support for the desire to

minimise the time allocated to assessment was evidenced by the teachers' use of time-trials, practical tests and general observation as the next most frequent assessment methods. In addition, the case study teachers used informal/formal peer assessment to expedite the assessment process with varying degrees of success. Such methods were considered better suited to the stronger swimmers at PBGS, and the more mature students and females at ANHS. Perhaps these limitations, amongst others, account for the relative low use of peer and self-assessment by teachers. While the teachers described 15 different methods for monitoring/assessing student performance or learning outcomes; Department of Education levels, Curriculum Framework levels and student outcome statements were infrequently used. This further suggested a need for progress maps which streamline and these underpinning guidelines.

Student and Teacher Perceptions of HPE Aquatic Programmes and Activities

Through an analysis of student and teacher perceptions of HPE aquatic programmes and activities, the following discussion will shed light on the relative importance that stakeholders place on HPE swimming programme/unit.

HPE Aquatic Programmes and Activities

Students believed that teachers were positive about swimming with most judging that their teachers thought swimming was important, that they were interested and care for student improvement in PE swimming. Reinforcing that PE swimming affords the opportunity to save life (Barter, 1992) the TiC's ranked swimming as the most important HPE unit offered. This was consistent with the pilot study (Whipp & Taggart, 2003b) and the case study teachers.

The students (Yr 8/9) generally agreed with the educators' sentiments. However, the students were less positive about PE swimming than PE in general. Although a majority of the students enjoyed PE swimming (55.1%), less than half wanted to do more PE swimming activities that year (2002). As previously seen for adolescent Australians, swimming was popular (Booth et al., 1997). However, it was noted that students reported not to participate in PE swimming classes as consistently as other PE lessons. With the Year 8/9 cohort reporting the swim-specific issues of 'being cold' as the worst aspect of HPE swimming, concerns expressed for wearing racing-style bathers and getting changed, it was possible that these issues account for some non-participation in HPE swimming. In addition, these student concerns might impact on student

concentration and motivation, the maximum length of an effective lesson and the number of weeks available to undertake HPE swimming outdoors. Any pedagogy or administrative function (e.g., not timetabling HPE swimming lessons in the early morning) that serves to minimise the impact of these issues and the availability of a quality HPE aquatic programmes and activities are worthy of consideration.

While the complexities of relationship and personal issues do not appear to distress the majority of the students, it is worth noting that a quarter of the students were concerned with undressing/dressing, 17% to being teased and 15% to being nervous in class. All of these factors could impact on the outcomes and could contribute to lower levels of participation in HPE swimming when compared with non-aquatic HPE activities.

Previously, some girls have reported to feel naked, stared at and talked about during HPE co-educational swimming (James, 2000). In support of these gender specific findings, self-conscious girls swimming in a public environment, issues related to bathers and concerns related to tampon use were all evidenced during the case study observations. Despite these being gender specific concerns, the females enjoyed PE swimming more than the males ($p=.007$). Males and females equally rejected the concept of being embarrassed and females were slightly stronger (3.1%) in their choice for PE swimming, although this difference was not statistically significant. Furthermore, females were significantly stronger in their confirmation of the importance of learning to be a good swimmer ($p<.001$), learning how to save people in water ($p<.001$) and acquiring the skills/knowledge to be a safe swimmer ($p<.001$), than males. Females viewed swimming and their teachers' attitudes to HPE swimming ($p<.001$) more positively than the males. However, significantly ($p<.001$) more females than males confirmed that they would benefit more from same-sex classes, which suggested that the issues discussed do impact on a considerable proportion of females. To maximise the outcomes of HPE swimming, teachers should consider and address the complexity of gender related concerns and structure classes with some thought given to single gender lessons. The girls viewed swimming competencies as important, yet they were under-represented in the higher swimming categories and ability to save others. With girls generally possessing a positive attitude to HPE swimming and the content related to safety, survival and rescue, there was no apparent reason for their lower competencies, when compared to the males.

Year 8 students were significantly more positive in their attitude to PE swimming ($p<.001$), for declaring the importance of swimming ($p<.001$) and for their choice of PE swimming ($p<.001$) than were the Year 9 students. Amongst other factors, these trends may be attributable to PE programmes lacking progression, impact and not meeting the needs of all of the students involved (Carlson, 1995; Hunter, 2000; Kirk, 1995). Such thoughts were supported by the Year 8 students holding a significantly more positive perception of their teacher's attitude to PE swimming ($p<.001$). In addition, the Year 9 students expressed more concern for personal issues such as wearing bathers in PE ($p<.001$), specifically racing-style bathers ($p=.012$), being nervous ($p=.022$) and for being embarrassed ($p=.020$) during HPE swimming. As students mature, these issues appear to grow in importance. Consideration for the optional use of racing style bathers in HPE swimming lessons, particularly for boys, appears worthy.

Not only must teachers deliver lesson content specific to the needs of each Year level, but they must also account for the complex gender and maturation issues which are in a state of flux during the junior secondary years. Course content, the structure of the lessons and the pedagogy employed must develop to reflect the transitional needs of students from one year to the next. Such principles were exemplified in the PBGS HPE programme, which offered pool and open water opportunities. The Year 8 students undertook a unit with content focused on stroke technique analysis/correction, water safety, and survival. The Year 9 students engaged in a life-saving unit framed by the RLSSA Bronze Star Award, and this culminated in a Year 10 unit focusing on the RLSSA Bronze Medallion. Unlike Year 8, teaching strategies used in Year 9 at PBGS included the inclusion teaching style. This was employed independently of direct teacher supervision, reflecting pedagogy more commensurate with the development of student maturity and a need for independence.

Sector comparisons revealed that Year 8/9 Independent school students were more positive about the concept of learning aquatic skills when compared with Government school students. However, in response to experiencing the HPE swimming programme, Government school students were significantly more positive in their attitude to PE swimming ($p=.048$) and reported that their teachers encouraged them to swim more ($p<.001$). It was noted that Independent school students were not always more negative in their evaluation of others, with no such sector differences apparent for

perceived parental support for HPE swimming. Given that Independent school students were exposed to more carnival preparation activities, it might be expected that Independent school students found PE swimming to be significantly less interesting ($p=.002$) and were less motivated ($p=.006$) 'to do' more swimming during the year. These data further support the need for HPE aquatic programmes and activities that are differentiated, and build on prior learning, to focus on student needs rather than a school sport focus.

The Impact of HPE Aquatic Programmes and Activities

To define the aquatic proficiencies of adolescent Western Australians, self-declared student swimming abilities were cross-referenced with those described by educators. The impact of the HPE aquatic intervention was discussed and the perceived outcomes reported. While currently unable to confirm that the swimming abilities of Western Australia's youth are in decline, this study will serve as a benchmark from which such an assessment could be made in the future.

The Swimming Ability Continuum

While the students (Yr 8/9) confirmed that their swimming outcomes were positive with a mean response of 3.31 (Construct 5), it is concerning that this was the lowest mean of those recorded for the 10 construct areas. Consistent with the student perceptions, teachers' believed that more than half of the students made little or no progress. Consistent with these data, Annika stated that she wouldn't be relying on what happens at school to teach her children to swim. She believed that it was not sufficient to get their skills to a safe level. Less than half of the students reported being more confident, better equipped to save another and had improved at swimming. The confirmation of a general lack of swimming progress during the secondary school years was consistent with previous work (Hardy, 1991a; Langley & Silva, 1986; Page, 1974 [as cited in Hardy, 1991a]; Pearn & Nixon, 1979; Whipp & Taggart 2003b). The majority of teachers believed that they did not consistently cater for all of the students in the class. When asked what would need to happen for them to respond in the affirmative, they reported smaller staff/student ratios and/or assistance in catering for varied ability levels, these being the two of the top three rated issues for educators.

As with their reported perceptions of physical activity and HPE, Year 8 students were more positive ($p=.020$) in their perception of the outcomes attained in response to participating in HPE swimming than the Year 9 students. When compared with the Year 9 students, more Year 8's believed they were stronger ($p=.029$) more confident swimmers ($p=.009$) and had improved ($p=.041$). However, Year 8's did not report higher abilities than were reported by the Year 9 students. Moreover, the mean rank for Year 8 students was significantly lower ($p<.001$) than that reported for Years 6, 7 and 9 students. It would appear that any improvements attained during the annual HPE unit are not sustained. Whilst 40% of Year 8/9 students report improved aquatic proficiencies, on an annual learning continuum they appeared to 'tread-water.' Some fluctuations were recognised across categories and Year groups, but similar Year 6 - 9 swimming abilities reiterates, that previously thought for general PE (Kirk, 1995), there was a lack of sustained improvement along the educational continuum across years.

With a transition to outcomes-based education in WA secondary schools, it is anticipated that the level of accountability in HPE will attract more focus. The Department of Education and Training (WA) administered Interm (ISP) primary school and vacation (Vacswim) swimming programmes were seen to impact more positively on student outcomes than secondary school HPE swimming (Whipp & Taggart, 2003a). This could be expected because students engaged in the Interm and Vacswim swimming programme students typically spend 10x35/40 minute sessions with a qualified instructor, in small ($n=10-12$) matched ability groups. A strong achievement orientation is shared by teachers and students. Primary school students enjoy, arguably some of their best HPE when engaged in these programmes.

While gender differences did not present for the construct describing student perceptions of the outcomes from PE swimming, Government school students were more positive ($p<.001$) when compared with Year 8/9 Independent school students. Students at Independent schools reported lower levels of improvement ($p<.001$), confidence ($p<.001$) and learning ($p<.001$) when compared with students at Government schools. This may in-part be attributable to less time (3 hrs) being devoted to HPE swimming at Independent schools and, as previously discussed, more of this time allocated to carnival preparation. Indeed, a lack of time was ranked 3rd as the greatest weakness of the HPE programme by all of the teachers surveyed. Time was confirmed by the teachers in the case study observations as a significant constraint. Moreover, the

case study schools accessed their own pool and unlike those who didn't, they enjoyed on average of double the in-water swimming time. Thus, students who are required to access a public swimming venue are disadvantaged. Engaging students in appropriate progressions for prolonged periods of time is characteristic of effective teaching (Rink, 1992, 1996; Rink et al., 1992). However, given that being 'cold' was the worst aspect of HPE swimming, and case study observations confirmed that allocating extra time to each lesson, or adding lessons to the unit and continue swimming in the final weeks of Term 1 was problematic, if not detrimental. Any pedagogy or administrative function (e.g., not timetabling HPE swimming lessons in the early morning) that serves to minimise impact of the 'cold' and potentially increase the time available for quality HPE swimming is worthy of consideration. In line with such thoughts, the use of a swimming vest, one that is appealing to adolescents and provides both sun protection and body warmth during swim classes, would be a practical asset.

Swimming Abilities, Definitions and Implications

It is of great concern that HPE swimming was presented during Term 1, 2002 to only 39% of metropolitan Year 8/9 Government school and 56% of Independent school students. These data unfortunately support recent suggestions that many secondary school students lack access to important aquatic activities (Beale et al., 2002). A lack of HPE aquatic activities and relatively poor student aquatic competencies contradict the importance placed on these programmes by RLSSA/SLSA, Education Authorities, TiC's, teachers, students and parents.

Teachers reported that nearly half of the Year 8/9 swimmers, at best, can swim 50 metres of freestyle, while 40.1% of the students rated themselves in this category. It was worrying that these swimmers do not meet a competent swimmer definition and swim 300 metres (MSRC-R, 1995). Given that 40% of those who experience HPE swimming are not competent swimmers, only 40% of ISP swimmers achieve the Stage 9 (G. Shaw, personal correspondence, June 5, 2001), 15% of school children do not undertake ISP (EDWA, n.d., c), only 30% of children engage in Vacswim (EDWA, n.d., c), and that relatively few students are exposed to Year 8/9 HPE swimming, it could be speculated that only about half of the Western Australian adolescent population are competent swimmers. Without assistance, and with parents holding minimal standards to define a safe swimming child (RLSSA, 2001); which are commensurate with perceived capacities required to handle the family backyard pool (G. Shaw, personal

correspondence, June 5, 2001) there appears good reason for concern. Hence, if children are left struggling with inefficient and energy-consuming strokes, this could well be the most dangerous stage of their swimming life (Dukes, 1986; Elkington, 1971).

While teachers of Year 8/9 reported there to be an average of 18.4% who could continuously swim 400 metres (including 100 metres of freestyle) and 25 metres of butterfly, more of the students (27.4%) rated themselves in this category. Even when using the student perceptions, given the abilities reported for primary school ISP swimmers (G. Shaw, personal communication, June 5, 2001), it was reasonable to assume that a higher number of students would be able to achieve at this level. This evidence further supports a lack of sustained student progress during the secondary school swimming years.

According to teacher and student perceptions, the majority students (approximately 60%) can swim at least 200 metres. However, students of ethnic origin and females are under-represented in this category. While levels of ethnicity did not impact on the students' willingness to undertake HPE swimming, students who were born overseas or who mainly spoke a language other than English at home, recognised themselves and their parents to be weaker swimmers than those who were born in Australia. The teachers and some of the students in the case study observations also believed that such a relationship existed. On the basis of the evidence presented in this project and after two decades of school swimming experiences and general anecdotal evidence, the researcher was familiar with this commonly held perception. Whilst unable to confirm that ethnic students are over-represented as non-participants, weaker swimmers, as ethnic students generally were, were less willing to undertake HPE swimming and were less likely to swim in their own time (Hardy, 1991a) or to go to private lessons (RLSSA, 2001). This issue is worthy of further investigation. In particular, how the presentation of contemporary HPE aquatic programmes and activities may impact negatively on the swimming aptitude of students of ethnic origin.

To maximise student outcomes, teachers of HPE swimming must, in their planning and pedagogy, respect the needs of a diverse student population. Programme focus, content and teaching strategies must be underpinned by flexibility (Block & Conaster, 2002; Chase, 1998; Graham, 1995; Pellet & Harrison, 1996; Yerg, 1983), in order to meet the needs of all students.

While students defined weak swimmers as 'unable to swim,' educators were generally more demanding and consistent with the literature by setting a 10 metre benchmark (Barrell & Trippe, 1973; Pearn & Nixon, 1979). However, given that student and educator definitions for 'safe' and 'good' swimmers were the same and whilst using the educator 'weak swimmer' definition, a typical Year 8/9 HPE class may consist of weak (14%), safe (28%) and good swimmers (58%). Considering varied student ability alone, this presents the HPE teacher with a difficult and frustrating scenario (Arbogast & Lavay, 1987). However, when also combined with the previously discussed issues of staff/student ratios; inadequate time and pool space; students feeling cold; student related personal, interest/readiness, maturation, gender and cultural dynamics; and, inadequate teaching resources – the complexity of HPE swim teaching was even better understood and appreciated.

The majority of surveyed teachers reported their inability to cater for all of the students in HPE swimming lessons and the challenge facing educators was exemplified during the case study observations. Despite the three case teachers possessing high levels of swim teaching and HPE experience and all committed to a dynamic differentiated approach, and two of the teachers accessing an assistant teacher, the problematic nature of HPE swim teaching was recognised. Moreover, the inability to meet all of the students at their level and to aquatically extend all was much in evidence.

A recent survey conducted by the RLSSA (2001) confirmed that a high proportion of parents (80%) believe that their children should be able to swim 300 metres, which was Stage 9 of the ISP, and be able to save another person (96.5%). School swimming appears to be falling short of community expectation. This strong public conviction coincides with significant student interest in and support for swimming. Government support was evidenced via its funding and administration of the ISP and Vacswim programmes. Hence, there is a strong mandate for HPE aquatic programmes and activities in schools. However, more than half of Western Australia's youth appear to lack these competent aquatic abilities. Moreover, there was a lack of HPE programmes. Undoubtedly, the commitment to secondary school HPE aquatic programmes and activities and the outcomes derived must be reconsidered.

The HPE aquatic programmes under examination delivered content that was the same at both year levels. To maximise student abilities and their HPE aquatic outcomes, programmes should build on prior learning and deliver relevant and graduated aquatic programmes in Year 8, Year 9 and Year 10. Whilst the RLSSA Manual was the most

frequent resource used by teachers, additional support in the form of differentiated HPE aquatic programmes and related outcomes focused/mapped support materials appear essential. They should assist teachers to provide engaging lessons that reflect classes that are heterogeneous for ability. Additional sensitivity must also be given to females and students of ethnic origin. Given the relatively low number of secondary schools offering HPE swimming, Education Authorities should provide support and policies so that schools are well placed to deliver HPE aquatic programmes. This is particularly important for those who are required to access public swimming facilities.

The RLSSA Accompanied Rescue has been aligned to Year 8, the Bronze Star Award with Year 9 and the Bronze Medallion with Year 10 (Catholic Education Office, 2000). On the basis of case study observations (ANHS Year 8 & 9; PBGS Year 9), these were unrealistic minimum HPE exit standards given the existing state of affairs. In fact, with less than half of the Year 9 class at PBGS achieving a Bronze Star pass and no student at ANHS attaining this award at Year 8 or Year 9, these outcomes appear to be unattainable for the majority of students participating in current HPE aquatic programmes. Based on the case study observations, and educator and student questionnaire responses, the researcher considers that minimum exit aquatic proficiencies should not only include a prescribed distance swim, but should also include safety, survival, rescue and resuscitation techniques. The existing Education Department ISP and RLSSA framework provide such activities, but they do not seamlessly align, nor are they easily delivered within the secondary school HPE structure. A lack of implementation of these formalised programmes in most secondary schools adds further support. While listing specific proficiency benchmarks which define minimum secondary school exit competencies was beyond the scope of this study, there is clearly a need for such work.

Health and physical educators and, Year 8/9 students defined a safe swimmer as one able to swim 25-50 metres of freestyle and good swimmers able to perform 200 metres continuously with a minimum of 50 metres of freestyle. However, these interpretations do not meet the definition of a competent swimmer (Stage 9 of the ISP EDWA Swimming Continuum, Level 6 SOS, swim 300 metres continuously with 100 metres of freestyle; EDWA, n.d., b, MSRC-R, 1995). Moreover, the range of definitions specified by the educators alone for safe (can glide/float – swim 400 metres) and good swimmers (swim 10 metres to swimming 400 metres) confirmed a need for further research to clarify this construct. Whilst speculative, it would appear from the data that

the ability to continuously swim 200-to-300 metres (50-100 metres of freestyle) was an important, minimum aquatic benchmark. However, these proposed minimum competencies are more advanced than could be met by the majority of WA parental safe-swimmer definitions (swim up to 50 metres; RLSSA, 2001). This was regarded as commensurate with the needs of handling the family backyard pool (G. Shaw, personal correspondence, June 5, 2001). By defining the minimum aquatic proficiency for students exiting the compulsory HPE years, those who are in need could be given additional instruction, leaving more Western Australian adolescents better placed to safely enjoy an aquatic lifestyle. Moreover, they could be given additional consideration in the development of HPE aquatic programmes and policy which minimise staff/student ratios. For example, a Department of Education and Training Assistant Teacher Programme could allow for additional individual/small group instruction through an extended time frame.

A lack of HPE aquatic activities and relatively poor student aquatic competencies contradicts the importance placed on these programmes by RLSSA/SLSA, Education Authorities, TiC's, teachers, students and parents. A range of appropriately defined minimum competencies would enable adolescents to be better placed to enjoy a safe aquatic lifestyle. In addition, it is hoped that the HPE aquatic intervention would reiterate to future parents the importance of developing such skills in their own children. This may assist in addressing the decline in those engaged in learn to swim programmes (Beale et al., 2002; MSRC-R, 1995).

Teaching through Differentiation in HPE Aquatic Activities

Underpinned by the concept that is 'differentiation,' and contextualised with the contemporary Western Australian HPE aquatic classroom, this section reviews both effective teaching practices and perceived teacher effectiveness.

The HPE Swimming Teacher

When Year 8/9 students were asked to respond to statements confirming perceptions of their teacher's performance in swimming classes, they were positive. The majority of students acclaimed their HPE swim teachers knew a lot about swimming, used easily understood words, were good at improving student swimming and generally to be good swimming teachers. They believed their teachers were effective but, where the students were less complimentary was in their evaluation of the activities provided.

Only 40.8% reported positive activity sentiments, while a quarter of the students confirmed that the activities had not served to improve their swimming. These data were consistent for the majority of teachers, including the case teachers who self-declared an inability to consistently cater for all of the students in the class. Some teachers considered they were insufficiently skilled to advance swimmers of all ability levels. Some educators appear ill-prepared to promote the important prerequisite of maximum involvement for all pupils. Even for those who were experienced, such as Karrie and Ernie, the complex dynamic that defined HPE swimming and the associated pedagogical issues presented significant challenges.

An instructional focus on the middle ability swimmer at the expense of the others has characterised some HPE swimming classes (Hardy, 1991a; Whipp & Taggart, 2003b). The case study teachers were all highly motivated and professed a desire to reject the average student approach (Napper-Owen, 2003) and presented content and pedagogy that was partially differentiated to the range of abilities. Karrie and Ernie modified lesson content based on proficiency, but both conceded a failure to attend to the needs of the high ability swimmers. Somewhat to the contrary, Annika, who enjoyed the support of an assistant teacher, presented the unit commensurate with the needs of the high ability swimmers.

The students (Yr 8/9) ranked 'the activities offered' (Rank 4) and more specifically 'laps and long distance swims' (Rank 2) as a worst aspect of HPE swimming. Familiar content was seen during the ANHS case study observations to impact negatively on student motivation, behaviour and ultimately their outcomes. Further speculation of the importance and impact of the activities offered arose during Year 9 observations at PBGS. Despite high levels of student motivation and interest in achieving a swimming award, there was a perceived lower level of interest in undertaking the content as defined by the RLSSA Bronze Star.

When compared with the Year 9 students, the Year 8's were more positive ($p < .001$) in their perception of their PE swimming teacher. Moreover, nearly 40% of the Year 9 students confirmed that the activities had not helped them to improve their swimming. However, it is important to recognise that more Year 9 students were exposed to formal life-saving programmes than Year 8 students. Therefore, as evidenced during the Year 9 case study observations, they may not report to have improved their swimming but to have improved their life-saving and survival skills. The

majority of Year 8 and Year 9 programmes focused on stroke technique analysis and correction, and no significant differences were reported for improvement in life-saving ability by the Year 8 and Year 9 students. This additional Year 9 dissatisfaction was seen to reinforce the previously expressed concern for a lack of a developmental approach during these school years. Given that the students (Yr 6-9) did not appear to maintain/sustain HPE swimming progress from one year to the next, it may be that teachers see revision rather than activity progression as more appropriate. Certainly the repetitive nature of the activities undertaken during Year 8 and Year 9 HPE swimming would support this notion and, along with staff/student ratios, time and space constraints, might further account for the programmes lack developmental content and the dearth of formal life-saving accreditation activities offered in schools.

Ernie, at ANHS, attempted to deliver the RLSSA Bronze Star content to both Year 8 and Year 9 students. He delivered a programme that was essentially 'the same,' and reflected the repetitive approach. However, it must be noted that Ernie did differentiate for ability levels by setting different tasks for the weak, moderate and high ability swimmers, and allocated some to an assistant teacher for remedial work. Significantly, PBGS 'successfully' provided a progressive programme with the Year 8 students undertaking a unit focused on stroke technique analysis/correction and Year 9 received a life-saving unit framed by the RLSSA Bronze Star Award. Whilst describing the PBGS curriculum as successful, this judgment was made in response to the researcher's contextualised longitudinal/multidimensional observations and teacher/student evaluations; and is relative to the general outcomes portrayed by the educators and students surveyed. The PBGS teachers and students experienced a HPE swimming unit impacted on by the school-pool breakdown, and subsequent loss of lesson time and use of the local beach. Whilst unable to weigh the importance of these issues relative to an uninterrupted unit, PBGS also were unable to extend all of the students, despite Annika enjoying the backing of an assistant teacher. Moreover, the researcher's judgment of 'success' was also made relative to the student outcomes attained during Ernie's classes. Here, the lower levels of student readiness and maturity impacted negatively on his students' achievements, when compared with the compliant and cooperative PBGS students.

While the teachers (Yr 8/9) are confident of their ability to deliver HPE swimming and the students relatively complimentary in rating them as effective teachers, it appeared that the teachers' effectiveness was significantly impacted by the

complex interplay of the students' diverse needs, interests and readiness. Combining mixed ability groupings with large class sizes is not new (Whipp & Taggart 2003b). However, despite teachers valuing and implementing the principles which define good management (Behets, 1997) and differentiated teaching practice (Byra & Jenkins, 2000; Chen, 1996; Duda, 1996; Graham, 1995; Tomlinson, 1999, 2000, 2001), and considerable curricula guidance (Curriculum Council, 1998; EDWA, n.d., a and b; Future Movement Education, 2000), teachers are not pedagogically prepared or able to meet the needs of all within the existing HPE swimming context. Outcomes-based curriculum materials and programmes that enhance continuity from K-10, and can be implemented within the present structural parameters, are a potentially unattainable challenge for authorities and educators. In conjunction with new support materials and teacher professional development, it is essential that amongst many curriculum and pedagogical considerations, the stakeholders implement policies to adjust staff/student ratios so as to optimise teacher effectiveness and positive outcomes for all.

Differentiating for the Needs of All

In the absence of differentiation literature specific to HPE swimming, perhaps a Year 8 student best describes such an approach:

I would first ask people what they are good at and what they enjoy then I would split everyone into groups, not being mean but I would put the more advanced people in one group and the less advanced in another, they would both do the same things but more advanced swimmers would do things harder ... for the last day ask what kind of games you want to play. (Beatrice, Interview, p. 13)

Case study observations exemplified differentiation for HPE aquatic content (e.g., Ernie's three groups based on ability; Annika's allowing students to work on self-declared inefficiencies), process/support (e.g., Karrie's optional use of floatation aids, and least ability swimmers allocated pool space nearest the wall side; Karrie and Annika's use of the peer teaching strategies; Annika allowing students to work on self-declared inefficiencies) and product (e.g., Karrie, Annika and Ernie's peer-evaluation and peer teaching, and ongoing diagnostic student evaluation; Annika's formal assessment strategies mixed with varying degrees of instruction and immediate repeat opportunities).

While the Year 8/9 students responded positively to the statements which characterised a differentiated classroom, it must be noted that this was the second lowest mean of the 10 construct areas. Students' concern for an absence of differentiation was evidenced through less than half confirming that interesting things were taught and that the activities undertaken in HPE swimming were to 'everyone's liking.' Moreover, with less than 60% of students expressing positive confirmation for their teacher's interest in their (student) needs and provision of appropriately levelled activities, there appears to be scope to further differentiate the aquatic classroom.

Attempts were made to accommodate those with differing ability levels. Different activities and small groups according to ability in the one class were the most frequently used class format by teachers. In addition, peer teaching, streaming for ability and the use of floatation aids for non-swimmers were used. All of these differentiation methods were employed during case study observations. Teachers also used ongoing diagnostic student evaluation, provision of student choice, allowing students to work on self-declared inefficiencies, least ability swimmers allocated pool space nearest the wall side, self-evaluation and peer-evaluation.

Case study observations further confirmed that the students' aquatic proficiencies and readiness levels impacted on the lesson format deemed most appropriate and reinforced the need for a differentiated approach. Working across the pool, small group stations, being able to touch the bottom of the pool and one-on-one teacher assistance were identified as important for the least able swimmers to overcome their fears. Teacher directed drill-work and a paired format better suited the middle ability swimmers. The stronger swimmers responded to reciprocal peer teaching/assessing, practice and inclusion methods. However, this was dependent on student readiness, maturity and compliance levels which appeared to interact with gender – appealing more to the girls. Some activities (e.g., distance swim, under-water search pattern, tow rescues) and pedagogy (peer teaching and assessment without direct teacher supervision) that were placed too far above or below the level of the learner's readiness, left students challenged beyond their capacity to work alone. Inappropriately set challenges resulted in students working outside their zone of proximal development and, as might of been expected (Vygotsky, 1978), unproductive.

Individualised or differentiated swimming programmes were seen by the teachers and others (Hardy, 1991b; RLSSA, 2001; Whipp & Taggart, 2003b) as difficult to implement. While the case study teachers believed that it was possible to differentiate

content and process/support in the swimming classroom, differentiating for product was generally unrealistic in the existing context. Any positive discussion of differentiation was guarded by the limitations of space/numbers, time and student readiness. Moreover, any pedagogy built on catering for individual student needs, placed high levels of demand on the teachers. Assistant teachers and the level of student compliance impacted on the difficulties teachers faced when differentiating their teaching.

Based on the identified issues, the majority of secondary school HPE swimming teachers in this study found it difficult to meet the defined educational goals of the Western Australian Curriculum Framework (Curriculum Council, 1998) and others (Csikszentmihalyi et al., 1993; Napper-Owen, 2003; Tomlinson, 1999, 2001) for an intervention that promotes maximum student growth and individual success. The provision of enjoyable, life-skill aquatic activities is a challenge in itself, but to provide them in a manner which matches the learning needs of each individual appeared to be in advance of the current reality. While the level of differentiation currently offered in HPE aquatic programmes and activities may be no worse than that presented in other HPE and school-based curricula, it should not deter HPE educators from addressing this issue (Jewett & Bain, 1985; Manross & Templeton, 1997; Napper-Owen, 2003; Tomlinson, 1999, 2001). If children exit compulsory schooling under-skilled for aquatic proficiency, they may well lack the confidence to enjoy an aquatic lifestyle, and of more concern, be left exposed to high risk. To maximise student HPE aquatic outcomes, the need to further differentiate the contemporary swimming classroom appears desirable. However, to facilitate this challenge, new outcomes-focused curriculum and teaching resources, in conjunction with policy that rectifies concerns for staff/student ratios, space and time are seen as imperative.

There is a need to contextualise HPE programmes for respective Year levels and to challenge all students and maximise motivation. Also, differentiated progression in the form of activities and pedagogy which are reflective of the diverse students' interests and readiness levels are important (Byra & Jenkins, 2000; Manross & Templeton, 1997; Napper-Owen, 2003; Portman, 1995; Rink, 1996, 2001; Siedentop & Tannehill, 2000). Whilst noting that an individualised approach is not easy (Biddle & Chatzisantris, 1999; Pellet & Harrison, 1996; Rink, 1996), if adopted it might be redress the decline in 'like' and 'usefulness' of the programme and increase levels of participation (Williamson, 1996). Based on the data collected in this study, teachers and their students would benefit from HPE aquatic programmes differentiated for content,

process/support and product, and related outcomes focused/mapped support materials. These programmes need to reflect heterogeneous ability levels of students in the one class. Such sentiments reinforce the work of Rink (2001), who stated that there may be no best way to teach (*HPE*), but there may be a best way to teach particular content to particular learners. Ultimately, this would enhance student tendencies to develop physically healthy, active lifestyles (Helion & Fry, 1995), a main objective of contemporary HPE (Curriculum Council, 1998).

Reciprocal/Peer teaching and learning.

The swimming unit lends itself to the use of peer teaching. However, the levels of student readiness, maturity, compliance and ability levels had a significant impact on the outcomes attained. Indeed, peer teaching was described at ANHS as living on the edge and were not always effective. In contrast, peer teaching at PBGS, as previously reported in other classes (Barfield et al., 1998), increased the HPE learning time of those with differing abilities. The teachers at PBGS also stated that it assisted to develop interpersonal skills and self-esteem, as well as reinforcing their movement skills and techniques of these girls. Karrie and Annika were not alone in proclaiming these positive outcomes (Arbogast & Lavay, 1987; Barfield et al., 1998; Champagne & Goldman, 1975; Houston-Wilson et al., 1997; Lieberman, 1995; O'Donnell & King, 1999), providing that it is conducted appropriately (O'Donnell & King, 1999).

While reciprocal peer teaching/assessing methods were ranked relatively low by the teachers surveyed as a best teaching method; Karrie and Annika consistently used them. However, their relative success was seen to be significantly affected by the students' readiness and swimming proficiency. The researcher observed that small sub-groups of Year 8 and Year 9 students did not work well at ANHS when peer assisted by a non-changed student. They struggled with the activities prescribed and informal/formal peer assessment, despite a firm teacher demand for cooperation and compliance. Even when the non-changed students were provided with an observation rubric for assessment purposes, it was beyond the students' levels of readiness and consequently lacked validity and reliability.

Observations also confirmed that the relative success of reciprocal peer teaching/assessment was related to the swimming ability of the leader. As previously found (d'Arripe-Longueville et al., 2002), the more swimming proficient the peer teacher, the more positive the outcomes. On the other hand, the pairing of low ability

swimmers during reciprocal styled activities, as recommended by some (Fleming, 1971), clearly left students challenged beyond their capacities to assist each other. Whilst acknowledging that both the peer teacher and the learner generally benefited at PBGS, and the ANHS girls responded better to such unsupervised work, the relative success of these methods was seen to not only interact with swimming ability, readiness, compliance and maturity, but also gender at the Year 8 and Year 9 level.

Considering even the most competent and organised physical educator cannot directly interact with each student in a class more than one or two times (Block, 1995), peer assisted and reciprocal pedagogies were seen as worthy strategies for the stronger swimmers, mature students and girls. In addition, it may be appropriate to train the high performance swimmers to assist with the teaching of aquatic activities in secondary school HPE classes, a concept that needs further evaluation. By using mature individuals who are taught and systematically trained for what components of a skill to look for, how to give feedback and how to collect ongoing data (Block, 1995; Maheady, 1998), HPE aquatic outcomes might improve. In contrast to teacher-centred pedagogies, which potentially result in high-activity swimming classes (McLeish et al., 1981), formally trained peer-teachers may serve to meet the demands for quality HPE swimming engagement and achievement (Hardy, 1993).

Streaming.

With too many students in aquatic classes possessing a broad range of abilities, streaming might be a legitimate strategy to improve the outcomes (Boaler, 1997; Chambers, 1988; Hastie & Saunders, 1991; Pifer, 1987). While Annika would stream out the girls that can't swim like to stream, she also stated that she was not in favour of streaming students into separate classes for ability. Leanne a weak Year 8 swimmer, was allocated to a remedial sub-group during HPE swimming lessons, and made significant improvements in aquatic proficiency when working with the assistant teacher. However, consistent with the critics of streaming (Hardy, 1989; Harrison, 1997; Tomlinson, 1999), Leanne presented as reticent to leave her friends and preferred to remain in with her class. Leanne's sentiments were reinforced by Karrie, when she confirmed that allowing friends to work together in a non-threatening environment was indicative of the best HPE swimming classroom. While Ernie divided the class into smaller groups based on ability, this challenged his management skills and it was time consuming. This approach was identified as personally fatiguing. Small group stations

that were required to work with minimum direct supervision, challenged the students at ANHS beyond their maturity and readiness.

Consistent with the principles of differentiation, the question of streaming for ability is best answered in the context of each school and specific to the student population. While the number of students at ANHS and PBGS (Annika's Year 9) who attained the Bronze Star Award may have been increased by grouping/selecting students based on ability across a number of classes, the 'overall educational experience and outcomes' may have been quite different in each setting. Having grouped students for ability within the one class, the outcomes attained at ANHS might have been enhanced by levels of student readiness, maturity and compliance commensurate with that observed at PBGS. Alternatively, had Annika segregated groups based on ability within her class, the positive work ethic displayed and social dynamic that permeated her class may have been diminished.

In Summary

The pedagogical principles that define the student-centred differentiated classroom include a variety of approaches to modify content, process/support and product, based on the student's level of readiness and interest – are a challenge. However, to maximise the opportunities for students to learn and to display outcomes, differentiated strategies are worthy of inclusion. These are best undertaken with staff/student ratios that are less than 1:20 if not more commensurate with the EDWA (1996) guidelines of 1:12. With the implementation of outcomes-based education in WA secondary schools, now is an opportune time to develop policy, curriculum support materials and processes that enhance the teaching of aquatic programmes and activities in schools.

CHAPTER NINE

CONCLUSIONS AND RECOMMENDATIONS

Introduction

Having provided a 'snap-shot' of the current status of aquatic programmes and activities in Western Australian secondary schools, the following conclusions and recommendations are made. Answers to the three research questions frame the 'final' conclusions (Glaser & Strauss, 1967). In line with Brause (2000), assertions were based on the findings and this brought closure to the data analysis.

Whilst listening to and observing the TiC's, teachers and students, the researcher asked the following three questions:

- Q1. What goals, activities and outcomes define school Health and Physical Education (HPE) aquatic programmes?
- Q 2. Which issues may account for and influence HPE aquatic programmes and activities?
- Q 3. What is the role of differentiation in HPE aquatic programmes and activities?

Conclusions

Response to the Research Questions

- 1. What goals, activities and outcomes define school Health and Physical Education (HPE) aquatic programmes and activities?*

Health and Physical Education swimming was presented during Term 1, 2002 to 39% of metropolitan Year 8/9 Government school and 56% of Independent school students. Some secondary schools teachers were unable to meet the needs of all of the students in the swimming class. This may be a contributing factor in the increasingly low levels of HPE swimming in schools (Beale et al., 2002).

Goals.

To 'develop student confidence' and a 'safer water participant' were identified as the most important Year 8/9 HPE goal/outcome. Unexpectedly, the TiC's and the teachers saw 'developing student confidence' as the most important goal/outcome for both Year 8 and Year 9 HPE swimming. Whilst it was not surprising to see 'improving race times' and 'improving fitness' consistently ranked lowest of the nominated goals/outcomes of HPE swimming, a relatively low ranking for 'developing rescue skills,' particularly for Year 9 students was a revelation. As confirmed by the Year 8/9 cohort, learning how to save people in water was important for the significant majority, with more than half of them defined as good swimmers, it belied this low ranking. Lack of student progression, unsuitable formalised life-saving programmes, concerns for staff/student ratios, varied swimming abilities, space and time impacted on the goals. The inclusion of rescue related content appeared pedagogically problematic.

While confidence activities were reported by teachers to be the most important content to teach in Year 8 HPE swimming, Year 9 teachers reported survival skills to be the most important. Further to this, the educators goals/outcomes and the content defined as the most important to undertake appeared incongruent with the most frequent activity undertaken, that being stroke technique analysis and correction.

Activities and programmes.

The Year 8 and Year 9 HPE swimming content was defined by 'stroke technique analysis and correction,' with nearly all of the schools reporting such activities for approximately half of the Year 8/9 unit time. The students were not complimentary in their evaluation of the activities provided and concern must be expressed for the similarity of the curriculum offered at both Year levels. With 'stroke technique analysis and correction' juxtaposed with the most important goal/outcome of the educators; to 'develop student confidence,' it was further concerning that only half of the teachers appeared able or willing to deliver activities specific to this goal, merely constituting 11% of the activities offered. Given that the students (Yr 6-9) did not appear to maintain/sustain HPE swimming progress from one year to the next, it may be that teachers saw revision rather than activity progression as more appropriate. Concerns for staff/student ratios, time and space constraints may further account for why the programmes lack sequential development.

There was a dearth of formal life-saving accreditation activities taught in schools. This perhaps reflects the concern for a lack of student progression and that not all of the activities deemed necessary for ISP and RLSSA certification are seamlessly aligned or easily implemented, if at all possible, for a large heterogeneous class in 11 HPE lessons using 2x50 metre lanes. This, without question, was even more difficult when operating within the constraints of a public aquatic facility.

To determine student related HPE swimming performance/outcomes 'technique/endurance through observation and evaluation' was the most frequent procedure used. Such methods appeared consistent with evaluating the mastery of stroke performance and technique. Department of Education levels, Curriculum Framework levels and student outcome statements were infrequently used, confirming the need for streamlining and mapping these underpinning guidelines.

Outcomes.

Whilst evaluating the existing HPE aquatic programmes and activities it is important to realise that more students enjoyed the swimming experience than not, declared it to be important and would choose to do it if it were optional. However, students expressed less positive sentiments toward HPE swimming than general HPE lessons, and confirmed that they did not participate in HPE swimming classes as consistently as other HPE lessons. As a consequence of the HPE swimming programme, less than half of the students (Yr 8/9) were seen to have improved in swimming ability, confidence and life-saving skills, with it being less favoured by the weaker swimmers.

While females reported to enjoy HPE swimming more than the males, gender differences did not present for the construct describing student perceptions of the outcomes from HPE swimming. However, in response to experiencing HPE swimming, Year 8 students and Government school students (Yr 8/9) reported more positive outcomes when compared with Year 9 and Independent school students, respectively. Given that Independent school students are exposed to more carnival preparation activities, that may contribute to Independent school students reporting inferior outcomes, finding HPE swimming to be less interesting and confirming less motivation 'to do' more swimming during the year.

The teachers (Yr 8/9) are confident of their ability to deliver HPE swimming and the students were relatively complimentary in evaluating their teachers' attitudes toward swimming, concern for student improvement, and rated them as generally

knowledgeable and good teachers. However, it appeared as though the teachers' effectiveness and the potential student outcomes are significantly impacted on by the complex interplay of the student's diverse needs, interest and readiness within the limitations of the existing infrastructure. These issues are further discussed in responding to the third research question which focuses on the 'role of differentiation.' Despite teachers valuing the principles which define good management, differentiated teaching practice and curricula guidance, some teachers were not pedagogically prepared or able within the existing HPE aquatic context to meet the needs of all.

In this study, more than 40% of swimmers could not meet the requirements that define a competent swimmer (MSRC-R, 1995) and it was therefore speculated that, at best, only half of the Western Australian adolescent population are competent swimmers. Students of ethnic origin and females were under-represented in the stronger swimming categories. Whilst some fluctuations were recognised across Year 6 to Year 9, on an annual learning continuum they appear to 'tread-water.'

2. Which issues may account for and influence HPE aquatic programmes and activities?

Issues and their influence.

Staff/student ratios were well in excess of the 1:12 ratio as recommended for pool based HPE classes (EDWA, 1996) and were reported to be the most important issue impacting on HPE swimming. Physical education swimming teacher/student ratio's exceeding 1:20 were problematic and, indeed, the existing average class size has the potential to impact negatively on the outcomes of HPE swimming.

There was an average of 8 ½ hours of in-water activity recorded, and those accessing a public pool provided half the time of the schools possessing a pool. Year 8/9 teachers identified 'time' as a major issue of concern and ranked it highly (3rd) as a weakness of their programmes. Of the relative importance of the two issues, staff/student ratios and time, there is a greater need for smaller staff/student ratios than those currently experienced. Moreover, additional time, particularly that which had students swimming in the final weeks of Term 1, would intensify the issues related to student-rated worst aspect of HPE swimming – feeling cold or being in cold conditions.

Case study observations confirmed that activities and pedagogies that were centred too far above or below the level of the learner's readiness left students

challenged beyond their capacity, and had a detrimental impact on the outcomes attained. Based on the identified issues of staff/student ratios, time and student heterogeneity, the majority of teachers found it difficult to promote maximum student growth and individual success. The provision of enjoyable, life-skill aquatic activities is a challenge in itself, but to provide them in a manner which matches the learning needs of each individual appeared to be in advance of the current reality. Children are exiting compulsory schooling under-skilled for aquatic proficiency and, consequently, are potentially exposed to high risk in aquatic environments.

Pool or lane allocations equivalent to 2x25 metres or less impacted negatively on the programme. In addition, when undertaking survival and life-saving activities, particularly with students of different ability levels, the need for additional space of varying depths beyond the equivalent of 3x25 metres was evident. With more than 65% of Year 8/9 classes limited to 2x50 metres or less and nearly 90% of the classes presented at a public pool experiencing this allocation, it was not surprising that the TiC rated 'space restrictions' highly (Rank 2) as impacting negatively on HPE swimming. The ocean was a very challenging teaching venue, one that impacted on the content taught, restricted the pedagogical options, required a more teacher-centred approach, negated small group opportunities, limited student choice, and was less favoured by the students.

Public pool access was restricted and pool administrators lacked concern for school HPE swimming needs. This may further inhibit the opportunity for adolescents to acquire important aquatic proficiencies through HPE. School communities who were required to access a public swimming venue for their HPE lessons were disadvantaged.

Teachers rated their swimming qualifications highly. However, such accreditation programmes were not seen to provide the major source of PCK for the teaching of HPE swimming, this being teaching experience. In addition, teaching experience interacted with one's preparedness to deliver a HPE swimming unit. Of the most important skills needed to teach Year 8/9 HPE swimming, teachers identified knowledge related to the technical aspects of swimming, water safety, rescue/life-saving and resuscitation procedures. However, no matter what level of PCK teachers' possess, or ability to represent the subject matter and make it comprehensible (Shulman, 1986), it may be somewhat immaterial if they are unable to interact with all of the students as a consequence of large numbers and are overcome by the identified issues that defined this complex working environment.

A teacher-centred approach was most commonly employed and was generally ranked as the best instructional format to teach HPE swimming. The emphasis of a teacher-centred approach was not unexpected as it is seen to facilitate the high levels of motor-on-task behaviour (Grant et al., 1990). It might also be seen as a key ingredient for ensuring a litigious free environment. Whilst recognising the importance of its use early in the unit, a teacher-centred pedagogy may also be employed to negate large heterogeneous classes, limited time and restricted space.

Students noted that being cold was the worst aspect of HPE swimming. This issue impacted negatively on student concentration and motivation, the maximum length of an effective lesson and the number of weeks available to undertake HPE aquatic activities outdoors.

The complexities of relationship and personal issues did not appear to distress the majority of the students. However, a quarter of the students were concerned with undressing/dressing, 17% to being teased and 15% to being nervous in class. These are all factors which may impact on the outcomes and could contribute to HPE swimming non-participation rates. Moreover, Year 9 students were more nervous and embarrassed than Year 8 students in HPE swimming, while females were more nervous than males. These issues appeared to impact more significantly for the older students. In general, the wearing of bathers was not an issue for Year 8/9 students. However, the concept of 'racing style' bathers was an issue for the majority, in particular the males. The optional use of racing style bathers in HPE swimming lessons appeared worthy. While mixed-gender classes were favoured by the students, a third of females preferred same-sex classes. Moreover, female specific issues were seen to impact on some of the girls HPE swimming outcomes. To maximise the outcomes of HPE swimming, teachers should consider and address the complexity of gender related concerns and structure classes with thought given to single gender lessons. Not only must teachers deliver lesson content specific to the needs of each Year level, but they need to account for the complex gender and maturation issues which are in a state of flux during the junior secondary years.

In view of the issues of staff/student ratios; inadequate time and pool space; varied swimming abilities; students feeling cold; student related personal, interest/readiness, maturation, gender and cultural dynamics; and, inadequate applicable teaching resources – the complexity of HPE teaching was more defined. With a long held view that the PE environment is complex (Yerg, 1983; Rink, 1997, 2001), these

data supports speculation that the contemporary HPE swimming classroom is the most problematic and challenging of them all.

3. What is the role of differentiation in HPE aquatic programmes and activities?

Teachers are expected to assess the needs of a diverse student group, and respond with a variety of management and instructional strategies to meet the needs of these learners (Hutchinson, 1995). Whilst considering varied student ability in isolation, this alone presents the HPE teacher with a difficult and frustrating scenario (Arbogast & Lavay, 1987). However, when combined with students of differing interest and readiness levels, and delivered amongst a myriad of infrastructure, social and personal issues, discussion of differentiation must be presented through these lenses.

Teachers' fundamental educational belief to differentiate was highlighted by the case study participants. While it was possible to differentiate content and process/support in the aquatic classroom, differentiating for product was generally unrealistic in the existing setting. Differentiated swimming programmes were seen as difficult to implement and any positive discussion of differentiation was guarded by the limitations of space/numbers, time and student readiness. In trying to meet students' needs, teachers most commonly employed different activities and small groups according to ability in the one class, peer teaching, streaming for ability and floatation aids for non-swimmers.

Students' concern for an absence of differentiation was highlighted through less than half confirming that interesting things were taught and that the activities undertaken in HPE swimming were to everyone's liking. Less than 60% of students expressed confirmation for their teacher's interest in their (*student*) needs and provision of appropriately levelled activities. Physical education swimming was less favoured by the weaker swimmers. This suggested that contemporary programmes do not meet student needs fully, particularly for the least proficient. Students' aquatic proficiencies and readiness levels impacted on the lesson format and reinforced the need for a differentiated approach. Working across the pool, small group stations, being able to touch the bottom of the pool and one-on-one teacher assistance were identified as important for the least able swimmers to overcome their fears. Teacher directed drill-work and a paired format better suited the middle ability swimmers. The stronger swimmers responded to reciprocal peer teaching/assessing, practice and inclusion

methods. However, this was dependent on student readiness, maturity and compliance levels which appeared to interact with gender, and was more appealing to the girls.

To maximise student outcomes, teachers of HPE swimming must plan and develop pedagogy that respects the needs of a diverse clientele. Programme focus, content and teaching strategies must be underpinned by flexibility (Block & Conaster, 2002; Chase, 1998; Graham, 1995; Pellet & Harrison, 1996; Yerg, 1983) if they are to meet the needs of all, or even most, of the students. To move all learners along the educational continuum, HPE aquatic programmes and activities differentiated for content, process/support and product appear highly desirable. However, to facilitate this challenge, new outcomes focused curriculum and teaching resources, in conjunction with policies that rectifies concerns for staff/student ratios, space and time are imperative.

Recommendations

Based on the findings, the following recommendations for the teaching of HPE swimming in WA secondary schools are made.

Recommendation 1.

Maximise the HPE swimming teacher/student ratio at 1:20.

Recommendation 2.

All schools should be able to access qualified aquatic assistant teachers. This would reduce the staff/student ratio to the recommended levels, and assist HPE teachers in the delivery of secondary school aquatic programmes and activities.

Recommendation 3.

Increase the number of secondary schools offering HPE aquatic programmes.

Recommendation 4.

Increase the number of Western Australian children who are aquatically competent.

Recommendation 5.

Schools should provide the necessary curriculum time for the effective implementation and continuity of school aquatic activities.

Recommendation 6.

For classes containing a staff/student ratio of 1:20, lane allocation should not be less than 2x50 metre lanes or an equivalent space.

Recommendation 7.

Adequate secondary school access and lane space allocation be provided, particularly the lane nearest the edge, at public swimming facilities.

Recommendation 8.

Walkway access in the form of a movable pontoon in 50 metre pools be provided to enhance teaching effectiveness and the more efficient allocation of pool space.

Recommendation 9.

Design an HPE swim teaching accreditation programme (in closed and open water), addressing knowledge of swimming skills, aquatic safety/rescue/resuscitation procedures and PCK.

Recommendation 10.

Develop outcomes-focused aquatic curricular materials and programmes that progressively advance students on an educational continuum from K-10.

Recommendation 11.

Review the content and structure of student aquatic accreditation activities and map these against existing HPE outcomes. An amalgamation of the RLSSA awards scheme, the curriculum framework and the student outcome statements is needed.

Recommendation 12.

Secondary school HPE aquatic programmes should aim to provide a teaching and learning context where a higher level of accountability exists (e.g., students striving for their next aquatic competency level).

Recommendation 13.

Design differentiated HPE aquatic programmes, pedagogies and related support materials. These should reflect the heterogeneous composition of classes.

Recommendation 14.

Develop HPE aquatic peer-teaching training programmes and related support materials consistent with student-centred pedagogies.

Recommendation 15.

Female students be given additional consideration in the development of HPE aquatic programmes and policy (e.g., same-sex lessons).

Recommendation 16.

Students of ethnic origin be given additional consideration in the development of HPE aquatic programmes and policy.

Recommendation 17.

Minimise the impact of the cold water environment and personal heat loss (e.g., delimit early morning HPE swimming lessons, and select appropriate activities/pedagogy).

Recommendation 18.

Consideration be given to the design and use of a swimming vest, one that is appealing to adolescents, providing both body warmth and sun protection for HPE aquatic activities.

Recommendation 19.

Consideration be given to the optional use of racing style bathers for HPE swimming.

Recommendation 20.

Acquisition of rescue and resuscitation techniques, as well as personal safety and survival skills should be essential outcomes for students exiting the compulsory HPE years.

Recommendation 21.

Students failing to meet the minimum aquatic proficiency should receive additional consideration in the development of HPE aquatic programmes and policy (e.g., assistant teacher programme allowing for individual/small group instruction through an extended time frame).

Recommendations for Further Research

Recommendation 22.

Undertake further research to determine why there is a decline in Western Australian adolescents' perceptions of HPE during the primary/secondary school transition and the junior secondary years.

Recommendation 23.

Undertake further research to develop an understanding of the HPE needs of Western Australian adolescents.

Recommendation 24.

Undertake further research to develop pedagogy and curriculum that will serve to consistently maximise student motivation, engagement, enjoyment, perceived usefulness and participation in HPE and physical activity.

Recommendation 25.

Undertake further research to identify and map the aquatic competencies of Western Australian school children.

Recommendation 26.

Undertake further research to define the minimum aquatic proficiencies for students exiting the compulsory HPE years.

Recommendation 27.

Undertake further research to explore teacher/student ratios within a range of HPE contexts (e.g., students undertaking a variety of formalised accreditation, confidence development and/or stroke technique programmes).

Recommendation 28.

Undertake further research to determine how contemporary HPE aquatic programmes and activities may be presented to accommodate student needs.

Recommendation 29.

Undertake further research to determine how HPE aquatic programmes and activities differentiated for content, process/support and product impact on teacher effectiveness and student learning outcomes (e.g., intervention studies trialing a range of differentiation strategies).

Recommendation 30.

Undertake further research to determine how contemporary HPE aquatic programmes and activities may impact negatively on the outcomes for girls and students of ethnic origin.

Recommendation 31.

Undertake further research to determine the need for and appropriateness of an 'annual, biennial, triennial' HPE teacher swimming re-accreditation process.

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**SWIMMING IN YEAR 8
AT A GLANCE – ISSUES OF CONCERN**

A Study
By
Peter Whipp

Edith Cowan University

A pilot study is being conducted to gain a better understanding of current provisions for and issues associated with aquatic programmes in Perth metropolitan Secondary Schools. Your response to this questionnaire will be valued. Please note that whilst your name and school are required on this questionnaire, all responses will be considered **confidential**. No individual, group or school will be identified in any report arising from this pilot study.

This Questionnaire has been designed for the **'Head of Department - Physical Education'**. Physical Education – will be referred to in this document as PE. Please feel free to contact me (Peter Whipp), at any time should you wish to obtain more information.

Work: ph 93139333, fax 93104726

Home: ph [REDACTED]

Mobile [REDACTED]

Demographic data.

- ❖ Name of person completing the Questionnaire. _____.
- ❖ Years of PE teaching experience. _____ years.
- ❖ Years of teaching swimming. _____ years.
- ❖ Swim teaching qualifications; - include any water-based certification.
Current _____.
Out of date. _____.
- ❖ Years of experience as 'Head of Department'. _____ years.
- ❖ Name of school. _____.

Answer the following questions in the table column provided.

- A.** In column **A.** -: indicate with a tick (✓) which activities are undertaken in the Year 8 PE swimming programme.
- B.** In column **B.** -: record the time (minutes) allocated to these aspects of the Year 8 swimming programme.
- C.** In column **C.** -: list all of the units offered in the total Year 8 PE programme.
- D.** In column **D.** -: record the time (minutes) allocated to the units offered in the Year 8 PE programme.
- E.** In column **E.** -: rank the importance of all of the units undertaken in Year 8 PE, assuming that all experience ideal conditions (no restrictions). ie. If you have 6 units– rank them 1-6, with 1. being the highest ranking.

A.	B.
Swimming activities to be undertaken – 2001	Time allocated (minutes)
Time trials and preparing for carnivals eg. starts, turns	
Stroke technique analysis/correction	
Life-saving activities and safety/water awareness	
Training – fitness	
Free swim/recreation	
Structured games eg. water polo	
Water confidence activities and games	
Any other	

C.	D.	E.
PE programme, all units offered – 2001	Time allocated (minutes)	Rank
Term 1.		
Term 2.		
Term 3.		
Term 4.		

A. In column **A.** of the table below-: list what the department goals/objectives are for the Year 8 swimming programme. ie. What do you hope they will achieve as a consequence of participating.

B. In column **B.** -: rank the importance of each goal/objective in the column provided.

A.	Goal/ objective	B. Rank

A. What facilities are used during the Year 8 Swimming Programme (circle).

- ❖ School pool - Indoor pool
 - Outdoor pool
- ❖ Public pool - Indoor pool
 - Outdoor pool
- ❖ Beach/river

B. Proximity of the facilities. Travel time - one way only. _____ minutes.

C. What lane allocation (space) is used. eg. 3 lanes X 25 meters. _____.

Total number of Year 8 students at the school. _____.

Number of Year 8 students allocated to one class. _____.

Number of staff allocated to one class. _____.

Do you use the “in-term swimming levels as defined by EDWA” in any aspect of your Year 8 PE swimming programme? YES/NO

If you answered ‘YES’, please explain how the levels are used.

Do you use the “Student Outcome Statements (Level 1-8)” in any aspect of your Year 8 PE swimming programme? YES/NO

If you answered ‘YES’, please explain how the statements are used.

Describe any other methods for monitoring or assessing student performance used in the Year 8 swimming programme.

At this point in the academic year 2001, how many of the Year 8 students would be classified under the following (5) ratings? In addition, please define in your words the abilities of a 2. Non-swimmer, 3. Poor/weak swimmer, 4. Moderately skilled/proficient swimmer, 5. Highly skilled/highly proficient swimmer.

1. Non-participants in all/nearly all Year 8 PE swimming classes. _____.
(this includes the injured, sick, no-uniform etc)

The following (4) ratings are for those students who generally participate in Year 8 PE swimming activities.

2. Non-swimmers in Year 8 PE. _____.

Define _____.

3. Poor/weak swimmers in Year 8 PE. _____.

Define _____.

4. Moderately skilled/proficient swimmers in Year 8 PE. _____.

Define _____.

5. Highly skilled/highly proficient swimmers in Year 8 PE. _____.

Define _____.

What are the strengths of the Year 8 swimming programme?

What are the weaknesses of the Year 8 swimming programme?

What issues are of greatest concern to the successful implementation of swimming in PE at any year level.

In column *A.*:- Rank the following issues – with number 1. being allocated to the issue of greatest concern to the successful implementation of swimming in PE at any year level.

In column *B.* -: Rate each of the issues as; - Very Important (**VI**)

- Important (**I**)

- Unimportant (**U**)

- to the successful implementation of swimming in PE at any year level.

A. *B.*

❖ Temperature of the water		
❖ Travel time		
❖ Cost of the programme		
❖ Staff/student ratios		
❖ Issues related to the Ethnicity		
❖ Legal liability		
❖ Varied ability levels in the class		
❖ Other/s _____		
❖ Other/s _____		

What strategies/techniques do you, or members of your department employ, to cater for Year 8 swimming classes that contain students of varied swimming ability levels?

THANK YOU - FOR COMPLETING THIS QUESTIONNAIRE.

SWIMMING IN SCHOOLS PROJECT

STUDENT QUESTIONNAIRE

This is an anonymous questionnaire. **PLEASE DO NOT WRITE YOUR NAME** or any other comments that will make you identifiable.

As part of a research project at Edith Cowan University we are investigating what is happening in Physical Education aquatic activities and children's thoughts and experiences about these activities.

You can help by filling out this questionnaire as honestly as you can. It should take around 20 minutes to finish. All of your answers are anonymous and confidential.

When you see the letters PE – this refers to Physical Education classes that are offered at school.

INSTRUCTIONS

ANSWER EVERY QUESTION (remember PART B and PART C are only for people who have done those classes).

IF YOU CHANGE YOUR MIND ABOUT AN ANSWER DON'T WORRY, JUST CROSS IT OUT AND CIRCLE ANOTHER.

PART A

This is information about you.

PART B

ONLY those students who have done 'Interm' classes answer PART B.

'Interm' swimming classes are provided during school time – but are not taken by your school teacher.

PART C

ONLY those students who have done 'Vacswim' classes answer PART C.

'Vacswim' is the vacation swimming classes that occur during school holidays.

PART D

Asks you about your own swimming ability and your thoughts on swimming.

PART E

This part of the questionnaire has statements about physical activity, PE, swimming and the swimming activities that you do in PE. Think about how well each statement describes what you think or feel. There are no right or wrong answers – your opinion is what is wanted.

WHEN YOU HAVE FINISHED

Please be patient and wait without talking - for everyone to finish. The supervisor will ask for the questionnaires back when everyone has finished.

Please turn to the next page

START HERE:
PART A

1. Name of your school: _____

2. Your school year level? (circle) 6 7 8 9

3. How old are you (in years)? (circle) 9 10 11 12 13 14 15

4. Your gender? (circle) Male Female

5. Please write your home suburb postcode number. _____

For the next questions - Tick (✓) only ONE box.

6. Where were you born?

☐ Australia ☐ In another country - Please specify _____

7. Where was your father born?

☐ Australia ☐ In another country - Please specify _____
☐ Don't know

8. Where was your mother born?

☐ Australia ☐ In another country - Please specify _____
☐ Don't know

9. What is the main language spoken in your home?

☐ English ☐ Other – Please specify other _____

10. Are you an Aboriginal or Torres Strait Islander? (Persons of Aboriginal or Torres Strait Islander descent are those who identify as such and are accepted as such by the community in which they live).

☐ No ☐ Yes – Aboriginal ☐ Yes – Torres Strait Islander

11. Using the levels from "Interm swimming classes" or "Vacswim" or "Royal Life Saving Society"-

Do you know what level swimmer you are – now?

☐ I don't know ☐ Yes – Please write the level _____

12. My PE teacher this term was. (circle) Male Female

13. Have you done 'Interm' swimming classes? 'Interm' swimming classes are provided during school time – but are not taken by your school teacher.

☐ Yes

☐ No

If you answered YES please answer **PART B** (start at Question 14.)

If you answered NO please go to **Question 23**.

PART B

INSTRUCTIONS: ONLY those students who have done 'Interm' classes answer **Part B**.

Select **ONE** category (✓).

14. When did you last do 'Interm' classes?

☐ This year (2002)

☐ Last year (2001)

☐ Year 2000

☐ 1999

☐ 1998 or before

15. Where did you do your 'Interm' classes?

☐ Pool

☐ Beach

Use the number scale described below and circle only one number in response to each statement.

Strongly Agree = 5
Agree = 4
Neither Agree or Disagree = 3
Disagree = 2
Strongly Disagree = 1

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
16. I wanted to do 'Interm' classes.	5	4	3	2	1
17. It was fun doing 'Interm' classes.	5	4	3	2	1
18. I would tell my friends to do 'Interm' classes.	5	4	3	2	1
19. My swimming improved during 'Interm' classes.	5	4	3	2	1
20. I learned more in 'Interm' classes than PE swimming.	5	4	3	2	1
21. I prefer 'Interm' classes more than my PE swimming classes.	5	4	3	2	1
22. I prefer my 'Interm' swim teacher more than my PE teacher.	5	4	3	2	1

3. Have you done 'Vacswim' swimming classes? 'Vacswim' is the vacation swimming classes that occur during school holidays.

☐ Yes

☐ No

If you answered YES please answer **PART C** (start at Question 24.)

If you answered NO please go to **PART D** (start at Question 34.)

PART C

INSTRUCTIONS: ONLY those students who have done 'Vacswim' swimming classes answer **Part C**.

Select **ONE** category (✓).

4. When did you last do 'Vacswim' classes?

☐ This year (2002)

☐ Last year (2001)

☐ Year 2000

☐ 1999

☐ 1998 or before

5. Where did you do your 'Vacswim' classes?

☐ Pool

☐ Beach

Use the number scale described below and circle only one number in response to each statement.

Strongly Agree = 5
Agree = 4
Neither Agree or Disagree = 3
Disagree = 2
Strongly Disagree = 1

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
6. I wanted to do 'Vacswim' classes.	5	4	3	2	1
7. It was fun doing 'Vacswim' classes.	5	4	3	2	1
8. I would tell friends to do 'Vacswim' classes.	5	4	3	2	1
9. My swimming improved during 'Vacswim' classes.	5	4	3	2	1
10. I learned more in 'Vacswim' classes than PE swimming.	5	4	3	2	1
11. I prefer 'Vacswim' classes than my PE swimming classes.	5	4	3	2	1
12. I prefer my 'Vacswim' teacher more than my PE teacher.	5	4	3	2	1
13. My parents made me do 'Vacswim' classes.	5	4	3	2	1

PART D

34. How good at swimming are your parents? Tick (✓) only ONE box for each parent.

Father

- ☐ strong swimmer
☐ good swimmer
☐ weak swimmer
☐ non swimmer
☐ I don't know

Mother

- ☐ strong swimmer
☐ good swimmer
☐ weak swimmer
☐ non swimmer
☐ I don't know

35. Select ONE swimming category (✓) that best describes your current swimming ability.

☐ **Category A.** You normally → cannot swim in the water without being supported.

☐ **Category B.** At best you can → glide or float on your front and back.
→ kick and recover to standing in waist deep water.

☐ **Category C.** At best you can → swim 10 metres freestyle.
→ swim 10 metres of backstroke.
→ swim 10 metres of survival/lifesaving backstroke.

☐ **Category D.** At best you can → swim 25-50 metres of freestyle.
→ swim 15 metres of breaststroke with the correct kick.
→ swim 15 metres in at least 2 other strokes (survival strokes are fine).
→ dive entry.

☐ **Category E.** At best you can → swim 200 metres (including 50 metres freestyle; 50 metres backstroke.
and 100 metres in 3 survival strokes. With your head in the water.

☐ **Category F.** Can swim at least → 400 metres including 100 metres freestyle; 100 metres breaststroke and
200 metres in 2 survival strokes.
→ 25 metres of butterfly.

Look at the Swimming Categories from Question 35 (A – F). Now – from the list below circle ONE that best describes in your mind the minimum for:

	Category	Category	Category	Category	Category	Category
36. a good swimmer	A	B	C	D	E	F
37. a weak swimmer	A	B	C	D	E	F
38. a safe swimmer	A	B	C	D	E	F

Look at the Swimming Categories from Question 35 (A – F). Now - from the list below circle ONE that best describes in your mind the minimum required to save another person in:

	Category	Category	Category	Category	Category	Category
39. a back yard pool	A	B	C	D	E	F
40. a 50 metre pool	A	B	C	D	E	F
41. the ocean/surf	A	B	C	D	E	F

PART E

INSTRUCTIONS: Think about how well each statement describes what you think or feel. There are no right or wrong answers – your opinion is what is wanted.

Use the number scale described below and **circle** only one number in response to each statement.

- Strongly Agree** = **5**
- Agree** = **4**
- Neither Agree or Disagree** = **3**
- Disagree** = **2**
- Strongly Disagree** = **1**

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
42. I enjoy the activities we do in school PE.	5	4	3	2	1
43. I did not enjoy this terms school PE swimming activities.	5	4	3	2	1
44. PE is not important to me.	5	4	3	2	1
45. It is not important to me to be a good swimmer.	5	4	3	2	1
46. My swimming improved in PE this term.	5	4	3	2	1
47. My parent/s are interested in the PE swimming activities I do at school.	5	4	3	2	1
48. This term I participated in most/all of the school PE swimming classes.	5	4	3	2	1
49. My PE teacher does not enjoy teaching PE swimming activities.	5	4	3	2	1
50. My PE teacher teaches interesting things in swimming.	5	4	3	2	1
51. My PE teacher is a good swimming teacher.	5	4	3	2	1
52. PE is fun.	5	4	3	2	1
53. The swimming activities in PE this term were fun.	5	4	3	2	1
54. It is important for me to be good at PE.	5	4	3	2	1
55. It is important to me to be good at 'freestyle'.	5	4	3	2	1
56. This term, because of the swimming activities in PE my ability to save another person improved.	5	4	3	2	1
57. My parent/s don't care if I am a good swimmer.	5	4	3	2	1
58. I don't like doing physical activity.	5	4	3	2	1

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
9. My PE swimming teacher thinks that swimming is important.	5	4	3	2	1
9. My PE teacher is not interested in what I want to learn in swimming lessons.	5	4	3	2	1
9. My PE teacher uses words to explain swimming activities that are easy for me to understand.	5	4	3	2	1
12. I do not like doing PE.	5	4	3	2	1
13. I would like to do more PE swimming activities this year.	5	4	3	2	1
14. I expect to make use of what I learn in PE.	5	4	3	2	1
15. It is important to me to be good at swim races.	5	4	3	2	1
16. As a result of doing swimming in PE this term I am a more confident swimmer.	5	4	3	2	1
17. My parent/s encourage me to do my best in PE swimming.	5	4	3	2	1
18. I participate in as much physical activity as I can.	5	4	3	2	1
19. My PE teacher makes me feel like I would like to swim more.	5	4	3	2	1
20. My PE teacher sets activities that are good for my swimming ability level (not too hard or too easy).	5	4	3	2	1
21. My PE teacher is good at explaining how I can do better at swimming activities.	5	4	3	2	1
22. In PE I try to do as well as I can.	5	4	3	2	1
23. In PE swimming I try to do as well as I can.	5	4	3	2	1
24. I don't learn much in PE.	5	4	3	2	1
25. It is important to me to learn how to save people in water.	5	4	3	2	1
26. This term, I did not become a stronger swimmer.	5	4	3	2	1
27. My parent/s encourage me to be a better swimmer.	5	4	3	2	1
28. I do a lot of swimming activities.	5	4	3	2	1
29. My PE teacher does not care if we improve in PE swimming.	5	4	3	2	1
30. My PE teacher gives me good coaching in PE swimming.	5	4	3	2	1

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
81. My PE teacher knows a lot about swimming activities.	5	4	3	2	1
82. The activities we do in PE are interesting.	5	4	3	2	1
83. The activities we did in PE swimming this term were interesting.	5	4	3	2	1
84. The activities we do in PE are important to my future.	5	4	3	2	1
85. It is important to learn how to be a safe swimmer.	5	4	3	2	1
86. I learnt a lot about swimming in PE this term.	5	4	3	2	1
87. My parent/s would be unhappy if I avoided PE swimming.	5	4	3	2	1
88. I participate in most/all of my PE classes.	5	4	3	2	1
89. My PE teacher is interested in teaching swimming activities.	5	4	3	2	1
90. We do things in PE swimming that everyone likes.	5	4	3	2	1
91. The activities that my PE swimming teacher has given me this term have not helped me to be a better swimmer.	5	4	3	2	1
92. I don't like having to wear bathers in PE.	5	4	3	2	1
93. I don't mind wearing only 'racing style' bathers in PE.	5	4	3	2	1
94. I feel concerned with swimming outdoors in the sun in PE.	5	4	3	2	1
95. I feel concerned with having to dress/undress in the change room.	5	4	3	2	1
96. I am nervous in PE swimming classes.	5	4	3	2	1
97. I feel concerned with being teased in PE swimming.	5	4	3	2	1
98. In PE swimming classes the water temperature is too cold.	5	4	3	2	1
99. In PE swimming classes the water temperature is too hot.	5	4	3	2	1
100. In PE swimming classes the pool is too crowded.	5	4	3	2	1
101. I would prefer PE swimming classes to be of the same sex.	5	4	3	2	1
102. I like to wear a shirt in PE swimming classes.	5	4	3	2	1
103. Only slim people enjoy PE swimming classes.	5	4	3	2	1
104. PE swimming is embarrassing for me.	5	4	3	2	1

15. What is the **best** thing about PE swimming?

16. What is the **worst** thing about PE swimming?

17. If the current PE swimming classes were **optional**, would you choose to participate? **Select ONE category (✓)**.

☐ Yes

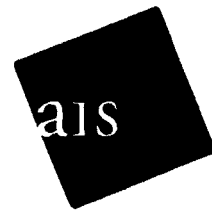
☐ No

YOU HAVE FINISHED

Please be patient and wait without talking - for everyone to finish.

The supervisor will ask for the questionnaires back when everyone has finished.

THANK YOU VERY MUCH FOR YOUR TIME AND EFFORT



18 March, 2002

Ms

Senior High School
Road
WA

Dear Ms

I seek your approval and assistance for the involvement of your school in a research project to investigate the teaching of swimming in schools. The research is approved by the Director-General and is being undertaken by Edith Cowan University, and is supported through joint funding from the Department of Education and the Association of Independent Schools Western Australia.

The Edith Cowan University ethics approval process requires your permission before your school can be involved and I have enclosed the Statement of Disclosure and Informed Consent, and Information and Procedures documents. These documents include detail of research procedures, confidentiality of records, possible benefits of the research and consent forms.

A copy of the Teacher in Charge of Physical Education Questionnaire, Statements of Disclosure and Parents' Permission letter are enclosed in a separate envelope. Peter Whipp (Project Officer) will telephone you within a few days to answer any questions that you may have about the project, and to request approval to conduct the questionnaire in your school. Should you approve, please forward this package to the Teacher in Charge of Physical Education.

As a participating school you will receive a copy of the results of the study, which could be used to inform the delivery of Health and Physical Education learning and teaching programs within your school.

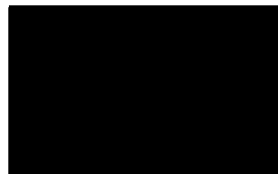
A requirement for school participation is that students in Years 8 and 9 have undertaken a health and physical education swimming unit during Term 1 2002.

Thank you in anticipation of your support.

Yours sincerely,



Andrew Taggart
Associate Professor
Project Director
email: a.taggart@ecu.edu.au



Peter Whipp
Project Officer
Ph: 9370 6802 or 0438 196136
email: p.whipp@ecu.edu.au

SWIMMING IN SCHOOLS PROJECT

Information and Procedures document

This is an ECU Industry Collaborative Research Project and is supported through joint funding from the Department of Education and the Association of Independent Schools.

The study aims to investigate and determine the current status of secondary school physical education aquatic programmes. Other purposes are to:

- i) determine what is happening in school aquatic programmes for the Year levels 8 & 9;
- ii) listen to the thoughts and feelings of the teachers and the students engaged in these programmes;
- iii) determine the outcomes of existing programmes, and the factors which have influenced these programmes; and
- iv) suggest practical aquatic curricula and teaching/instructional features of the aquatic physical education classroom.

As a consequence of undertaking this research it is hoped that the findings and recommendations will lead to enhancement of the learning experiences in Health and Physical Education.

Confidentiality of participants will be safeguarded. **Any information provided would not be made public in any form that could reveal identity to an outside party.** All participants will be free to withdraw their consent at any time during the study with no prejudice to them.

The major procedures for the gathering of information include a:

- i) 'Teacher in Charge of PE' questionnaire, to be completed prior to, and made available for collection – by the ECU Research Assistant at the time of the school visit;
 - ii) 'Student' questionnaire completed by an intact Year 8 PE class (not a class currently taught by the Teacher in Charge of PE); and
 - iii) 'PE Teacher' questionnaire to be completed by the 'PE Teacher' of the surveyed Year 8 class.
- NB. Both the 'Student' and 'PE Teacher' questionnaires will be delivered and completed at a pre-arranged time with facilitation provided by an ECU Research Assistant. It is anticipated that the questionnaires will take 20 minutes to complete.

Further information on the project can be obtained from Peter Whipp (Project Officer/PhD student) of the School of Education, Edith Cowan University (Mt Lawley campus) on telephone number 9370 6802 or on mobile 0438 196136.

SWIMMING IN SCHOOLS PROJECT

Statement of Disclosure and Informed Consent form – School Principal

This statement has been prepared in accordance with the regulations and the suggestions of the Edith Cowan University Committee for the Conduct of Ethical Research as set out in the application to undertake research involving Human Subjects – March 2000.

1. The proposed research topic is "Teaching swimming in schools: Issues beyond drowning."
2. Participants will not be involved in any activity requiring discomfort or hazardous experiences. The major tools for gathering of data will be through the administration of a questionnaire to teachers (in 50 schools) and students (2000).
 - i) *Teacher Questionnaire:*
 - (a) Teacher in Charge of Physical Education (approximately 20-30 minutes to complete)

Participants will be given a questionnaire to complete in which their opinions on issues related to school physical education swimming classes will be obtained. While the teacher is required to identify the school name, the information will be kept strictly confidential and the teacher will not be identified in any publication. The questionnaire consists of question items on teachers' background (demographic) information, views on swimming in schools, curriculum content knowledge and skill, pedagogical strategies, and the existing school physical education aquatic curriculum, outcomes, issues of concern and perceived student swimming abilities.
 - (b) Teacher of Year 8 or 9 Physical Education (approximately 20 minutes to complete)

One teacher in each school will be given a questionnaire to complete in which their opinions on issues related to school physical education swimming classes will be obtained. While the teacher is required to identify the school name, the information will be kept strictly confidential and the teacher will not be identified in any publication. The questionnaire consists of question items on teachers' background (demographic) information, views on swimming in schools, curriculum content knowledge and skill, pedagogical strategies, and the existing school physical education aquatic curriculum, outcomes, issues of concern and perceived student swimming abilities.
 - ii) *Student Questionnaire:* (approximately 20 minutes to complete)

Participants will be given a questionnaire to complete in which their opinions on issues related to school physical education swimming classes will be obtained. While the student is required to identify the school name, the information will be kept strictly confidential and the student will not be identified in any publication. The questionnaire consists of question items on students' background (demographic) information, views on swimming in schools, issues of concern and self-perceived swimming abilities.
3. The potential benefits of this study will be to:
 - the teachers of physical education;* by providing them with a knowledge and better understanding of the perceived teacher and student needs and concerns thereby assisting teachers to provide programmes and teaching strategies that will improve student outcomes in school swimming classes,
 - the students of physical education in the following ways;* by allowing students to express their level of concern for aspects associated with school swimming, and by allowing students to reflect on the level of success of the existing programmes – new innovative programmes may be created to address some of these problems and enhance the students learning experience,
 - humanity generally;* by closely scrutinising the existing school swimming programmes and by listening to the teachers and students involved it is hoped to identify best practice in an activity area that has the potential to save lives.
4. Potential project participants will not be treated, or suffer, in a prejudiced manner if they decide not to participate.
5. The researcher is willing to answer any questions that participants may have regarding the procedures employed in the Swimming in Schools project.

Questions should be directed to Peter Whipp (Project Officer/PhD Student) of the School of Education, Edith Cowan University (Mt Lawley campus) on telephone number 9370 6802 or [REDACTED]. If you have any concerns about the project or would like to talk to an independent person, you may contact Associate Professor Andrew Taggart on telephone number 9370 6806.

A SIGNED AGREEMENT TO TAKE PART IN THE RESEARCH FROM THE PARTICIPANT IN THE FOLLOWING TERMS STATES THAT:

I (the School Principal's name) _____ of

(the school's name) _____ have read the information of the Statement of Disclosure and have been informed about all aspects of the above research study, and all the questions I have asked have been answered to my satisfaction. I agree to participate in this activity, realising that I may withdraw at any time.

I agree that the research data gathered for this study may be published if I, the school, and any members of the school staff or student population are not identifiable.

Signed: _____
(The School Principal)

Date: _____

Signed: _____
(Project Officer)

Date: _____

INSTRUCTIONS

Please use the return pre-paid and addressed envelope to enclose and mail this completed and signed Statement of Disclosure and Informed Consent document.

70 min

SINGLE SEX

SWIMMING IN SCHOOLS: ISSUES BEYOND DROWNING

Case Study Observation Guide Sheet

Date/time of visit: 11.5.23 Visit number: 2

Class observed: YR 9

Unit week/lesson number: 1/2

Lesson topic/focus:

Outcomes:

Number of students: 29

Non-participants: - reasons: 2 No gear 3 Notes

Individual observed: 1 (H) 2 (M) 3 (L) - ability rating:

Jess

LESSON SUMMARY

Time	Action/Context	Pedagogy	Activity/Context	Focus/Outcome	Differentiation	Notes
	Teacher	Teacher	Student	Student Related	For 1, 2, 3	General

ACTION/CONTEXT - TEACHER

OBSERVERS NOTES - CONSIDER

Positioning of teacher

Action of teacher - Giving instruction, assessing students (formal, informal), observing, providing feedback

Management Instruction
observing - with informal ODA predominated

PEDAGOGY - TEACHER

OBSERVERS NOTES - CONSIDER

Mosston and Ashworth pedagogical styles employed by teacher

① - but used 3 groups attempting to move between each at times

ACTIVITY/CONTEXT - STUDENT

OBSERVERS NOTES - CONSIDER

Content - description of the activity undertaken

Groupings - Individual, Pairs, Small Groups, Whole Groups

Informal Instruction for management of course
Life Saving + Rescue activities - 7m 32
Activity

FOCUS/OUTCOME - CLASS FOCUS - students did

OBSERVERS NOTES - CONSIDER

Content - description of the activity undertaken

Information for course structure - grading revision - focus for the future 15.53
Rescue + Survival activities 7m 32 sec
Fun + Confidence activities 35m 35 sec

DIFFERENTIATION

OBSERVERS NOTES - CONSIDER

Teacher Differentiating by: Content, Process, Product

According to Student; Readiness, Interest, Learning Profile

Student Centred/Input

Ongoing Diagnostic Assessment

Group appeared to engage in activities with interest + enthusiasm
3 Group - differentiated by ability for Rescue + Survival activities - the activities for Group C + stage 8 (Head Toe) was too difficult to maintain interest

NOTES

Issues, Relationships, Quotes

Student #1 - Easy tasks - no new skills learn +

① still establishing class control/position. Students started to show signs of inappropriate talking, not following instructions - losing interest.

② still met goals of introducing them to folder/group system + confirming grading.

Frees 10:53

Admin = 15:53

W6 Confidence = 24:02

G112 Survival = 7:32

G123 Lifesaving = 7:32

PRE-LESSON TEACHER COMMENTS – Anything that I need to know about today's lesson? (Identify problems- variables impacting on the lesson)

Familiarisation with how the grading programme works
Still need to highlight pots which are at risk

POST-LESSON TEACHER COMMENTS – How was it? (Identify issues and how they were accounted for). Any comment on - i) Task Content. ii) Organisation. iii) Progression Decisions. Account for - i) Why they made the decisions made.

Got through it.
You can see they are pretty boisterous.
Just easing them into the program - the files are a new concept - Brought on by 3-5% slipping through the net - Level 1 or 2 and just held back in the corner or didn't bring their gear. It's an attempt to get to everyone. We get a lot of less kids.

1 boy - is ADHD + they are playing with his medication + he has a few other problems as I agreed with his mum they he would just help out where he could + not swim.

POST-LESSON STUDENT COMMENTS (For only student 1-or-2-or-3) – How was it? Did you enjoy it? Did you improve? Did you learn anything new? Was it difficult? Did you get individual instruction?

Good fun.
Got my SRC - knew how to do the tough stuff.
Games - new + fun
Early skills work.
No diff for skill - get no individual stuff.
Good way to cool down + fun.

CURRICULUM AND LESSON OUTCOMES

Fun + Confidence were the outcomes
B/S kick for some.

1 Bay - individualised skills practice 1:1 with ①
→ for 2 minutes.

Lesson did allow for informal ODA to assist with
groping ~~confirmations~~

OBSERVERS NOTES - CONSIDER

Textual - the written form

Perceptual - what exists in the teachers mind

Operational - actual as seen by the observer

Post lesson - as seen by the teacher

Post lesson - as seen by the student

→ basically this is what
NB: teacher described. Although the
SG tasks were all ① style + not really
developing independence.
Saw it as observer + teacher
cool-off. fun. - student didn't mention
the admin phase.

RESEARCHERS NOTES

The files are new + only the top group appeared
interested. The others really struggled. It will be
hard work for ERNIE if he can't trust the top group
to work independently.
1/2 the group took up the thing.

Last 5 minutes - students changed - supervised
by another ①. While ERNIE worked/talked to
ADHA bay.

2 lanes - at times - more suited to lops
than diff programme meeting all needs

CASE STUDY - LESSON SUMMARY DOCUMENT

1 of 3

Jess

ME	ACTION/CONTEXT	PEDAGOGY	ACTIVITY/CONTEXT	FOCUS/OUTCOME	DIFFERENTIATION	NOTES
	Teacher	Teacher	Student	Related to Student	For Student 1-or-2-or-3	General
	Positioning Action- Instruction-management(MI) -technique(MT) Assessing-formal(AF) Observing(O) Feedback-group(FG) -individual(FI)	Mosston & Ashworth 1(C), 2(P), 3(R), 4(SC), 5(I), 6(GD), 7(CD), 8(DP), 9(IP), 10(LI), 11(ST)	Content- Activity description Groupings- Individual(I) Pairs(P) Small Group(SG) Whole Group(WG)	Content- Stroke-correction(SC), Fitness(F), Lifesaving(L), Survival(S), Fun(Fun), Competition-related(C), Confidence(Con), Safety(SA) -Assessment(A)	Teacher Differentiation by: Content(C)-Respectful Task Process(P)-Sense Making Opportunities Product(PR)-Show Learning According to - Student; Readiness(R)/Interest(I)/Learning Profile(LP) Student Centred - Input(SC) Ongoing Diagnostic Assessment(ODA)	Issues Relationships Quotes Hot 30°C
3	(MI) Sunscreen/Shifts Get wet for 5/10	(C)	WG minutes - to get a bit of steam	Information Intro to lesson	None	Warning that its hot & sunburn
39	(MI) (C) (FG)	(C)	3 Groups (WG) Up walk 5m FLS 20m Back FLS 25m Up walk 5m BA/S 20m Back BA/S 25m Up walk 5m BR/S 20m Back BR/S 25m	W/UP Fun con	(A) Stages 124 (B) 8-11 (C) 1 & 8	May find the bit/s to hard! No lane ropes in pool. Very hard
12	(C) S Group Feedback and group B-SG Instruction for kids - invited bris	(C)	Small G based on ability (A) (B) (C)	Gr(A) (L) 25m chin toe/hand toe (B) FLS 25m then (C) Lifesaving backstroke Head toe 15m	(1) Easy task but couldn't complete without lane ropes collisions (2) R.P (3) I high & motivated (RT)	Heels to bum - for Life saving backstroke
	Summary of Above		Group(A) 10m each - alternate chin + hand toe (B) Working on L.S Backstroke (C) Head toe - alternate 15m	(L) + (S) (S) (L)	(1) completed as required	

Teacher: [REDACTED]

Age: 7/2

Year Level: 9

2 of 3

CASE STUDY - LESSON SUMMARY DOCUMENT

ME	ACTION/CONTEXT Teacher	PEDAGOGY Teacher	ACTIVITY/CONTEXT Student	FOCUS/OUTCOME Related to Student	DIFFERENTIATION For Student 1-or-2-or-3	NOTES General
	Positioning Action- Instruction-management(MI) -technique(MT) Assessing-formal(AF) Observing(O) Feedback-group(FG) -individual(FI)	Mosston & Ashworth 1(C), 2(P), 3(R), 4(SC), 5(I), 6(GD), 7(CD), 8(DP), 9(IP), 10(LI), 11(ST)	Content- Activity description Groupings- Individual(I) Pairs(P) Small Group(SG) Whole Group(WG)	Content- Stroke-correction(SC), Fitness(F), Lifesaving(L), Survival(S), Fun(Fun), Competition-related(C), Confidence(Con), Safety(SA) -Assessment(A)	Teacher Differentiation by; Content(C)-Respectful Task Process(P)-Sense Making Opportunities Product(PR)-Show Learning According to - Student; Readiness(R)/Interest(I)/Learning Profile(LP) Student Centred - Input(SC) Ongoing Diagnostic Assessment(ODA)	Issues Relationships Quotes
57	MI ○	①	3 Groups based on ability (WG)	Fun Con	① Easy task not a learning task ① - high	Basically being active - hands free + allowing ODA
			Partner swim 10m Front BRIS arms Partner F/S kick > hold feet		① Easy ① high ① - ODA - informal	
6	MI ○	①	SG x 3 ability groups Line swim everyone in group holds foot of one in front 25m	Fun Con	① high ① easy ① ODA - informal	
10	MI Demos - using 2 students ↓	①	① - Front lying ① F/S kick - Hands on shoulders + try to push your opponent	Fun Con	Group 1 waiting ① I - OK Easy not learning task	
58	2ND Demo using 2 students - emphasizing how good I was		② BRIS kick competition	Fun Con Score SC for BRIS kick		
59	MI ○	①	① - Push partner under his players and hand on head	Fun Con	① Fun laughter ② high challenged Most appeared comfortable	Could be uncomfortable for non-swimmers

CASE STUDY - LESSON SUMMARY DOCUMENT

3 of 3

ME	ACTION/CONTEXT	PEDAGOGY	ACTIVITY/CONTEXT	FOCUS/OUTCOME	DIFFERENTIATION	NOTES
	Teacher	Teacher	Student	Related to Student	For Student 1-or-2-or-3	General
	Positioning Action- Instruction-management(MI) -technique(MT) Assessing-formal(AF) Observing(O) Feedback-group(FG) -individual(FI)	Mosston & Ashworth 1(C), 2(P), 3(R), 4(SC), 5(I), 6(GD), 7(CD), 8(DP), 9(IP), 10(LI), 11(ST)	Content- Activity description Groupings- Individual(I) Pairs(P) Small Group(SG) Whole Group(WG)	Content- Stroke-correction(SC), Fitness(F), Lifesaving(L), Survival(S), Fun(Fun), Competition-related(C), Confidence(Con), Safety(SA) -Assessment(A)	Teacher Differentiation by: Content(C)-Respectful Task Process(P)-Sense Making Opportunities Product(PR)-Show Learning According to - Student; Readiness(R)/Interest(I)/L-ling Profile(LP) Student Centred - Input(SC) Ongoing Diagnostic Assessment(ODA)	Issues Relationships Quotes
MI	MI	①	Group B+C embrace Group A Game - challenge - like British Bulldogs ① try to swim past the group B+C & get to other end	Fun Con	① - Interest - High having fun Group - Fun P.R.T	It's about having fun + being entertained with (con) activities
MI	MI	②	② - swapped over with B+C trying to swim over/under group A + get to other end	Challenging	Not diff.	Nothing learning - only skill emphasis is on BR/S kick for group + group ② inverted kick.
MI	MI	①	Determining stages to be attained through this course Files with group names based on ability	Administration for future terms		① said too much noise
① - 'You group will work from the file each lesson. For example in the file it has your ① - 'Next week - you will find what stage you going for and what you have to achieve'						warmup for each lesson
FI	FI	①	Students now familiar with the stage requirements by reading the file	Administration	① has remained high with ① + Motivated 2/3 Group - Not high ①	NB: some students struggle for concentration - tired picking
Management - 10k + Grading recordings with ①		①	Divide off into 3m board	Fun Con Free time	Optional ① - diving + having fun	NB: During diving another ① supervised K.R. worked 1 on 1 with student for swimming backstroke + side stroke for 2 minutes -

Summary of Teaching Pedagogy – as defined by Mosston & Ashworth.

Mosston, M., & Ashworth, S. (1994). *Teaching physical education* (4th ed.). New York: Macmillan.

SUMMARY OF TEACHING PEDAGOGY

Mosston, M., & Ashworth, S. (1994). *Teaching physical education* (4th ed.). New York: Macmillan.

Definitions:

Pre-impact – prior to face to face teacher/student interaction.

Impact – during the lesson.

Post-impact – evaluation that will inform subsequent action.

(1) THE COMMAND STYLE (A)

Teacher makes all the decisions – learner follows. (p. 17)

All the decisions about location, posture, starting time, pace and rhythm, stopping time, duration, and interval are made by the teacher. (p. 18)

The subject matter is fixed. (p. 24)

Individual differences are not invited, replication of the selected subject matter is sought. (p. 24)

Through replication the group can uniformly perform the task. (p. 24)

(2) THE PRACTICE STYLE (B)

Teacher makes the pre-impact and post-impact decisions. (p. 32).

Presenting the task and the parameters (expectations for the episode), students perform the task and the teacher provides feedback. (p. 33).

Teacher sets the parameters for the impact phase but the student has the opportunity to make decisions within – posture (not necessarily p. 45), location, order of tasks, starting time per task, pace and rhythm, stopping time per task, interval, attire and appearance (not necessarily p. 45), initiating questions and clarification. (p. 32).

Post-impact the teacher observes the performance and offers individual and private feedback. (p. 32).

Designed for individual and private practice (p. 45).

(3) RECIPROCAL STYLE (C)

Immediate peer feedback provided. (p. 65).

Working in pairs – one doer, one observer. (p. 66).

Teacher does pre-impact, doer does impact, observer post-impact feedback. (p. 66).

If teacher provides feedback it is to the observer – not the doer. (p. 66).

(4) SELF CHECK STYLE (D)

Use criteria as a basis for feedback to oneself – self-check. (p. 103).

Post-impact decisions are made for oneself. (p. 103).

Pre-impact and impact – the teacher explains task, role of learner for self-assessment, presents task, explains logistics and parameters and sends students to begin task.

Students add new self-checking style. (p. 105).

Use of criterion sheet for self-check. (p. 105).

(5) INCLUSION STYLE (E)

Teacher makes all the pre-impact decisions – the learner makes the decisions in the impact set, including the decisions about the entry point into the subject matter by selecting the level of task performance. Post impact the learner makes assessment decisions about their performance and decides in which of the available levels to continue. (p. 118).

A range of levels or degree of difficulty must be available. (p. 120).

Creates for learners to experience the relationship between aspiration and reality. (p. 121).

(6) GUIDED DISCOVERY STYLE (F)

Teacher makes all the pre-impact decisions p. 172 – objective, target of the episode, design of the sequence of questions that will guide the learner to the discovery of the target. (p. 172).

Develop sequential discovery skills that logically lead to the discovery of the concept. (p. 172).

The post-impact the teacher verifies the learner's response to each question. (p. 173).

(7) THE CONVERGENT DISCOVERY STYLE (G)

The learner is engaged in reasoning, using the rules of logic, critical thinking, and trial and error in order to discover the one correct response to a question or the one solution to a problem. (p. 193).

The learner proceeds through the discovery process without any guiding clues from the teacher. (p. 193).

The student also determines the verification of the appropriateness of the solution. (p. 193).

The learner now must ask themselves the questions in attempt to discover the answer. (p. 195).

After the verification process – the teacher may participate – by asking questions – in verifying the solution. (p. 195).

(8) THE DIVERGENT PRODUCTION STYLE (H)

Within certain parameters the learner makes the decisions about the specific tasks in the chosen subject matter. (p. 200).

Pre-impact set – teacher sets general subject matter eg. golf, specific focus eg. putting, a decision about the design of the specific problem or series of problems that will elicit multiple and divergent solutions. (p. 202).

In the impact set the learner makes the decisions about the specifics of the subject matter.

Post-impact - the learner can see verification then there is no need for any other input (p. 203).

(9) THE INDIVIDUAL PROGRAM – LEARNER'S DESIGN (I)

The teacher designates the general subject matter (eg. golf) – the learner discovers and designs the questions or the problems within the subject matter area and seeks the solutions. (p. 234).

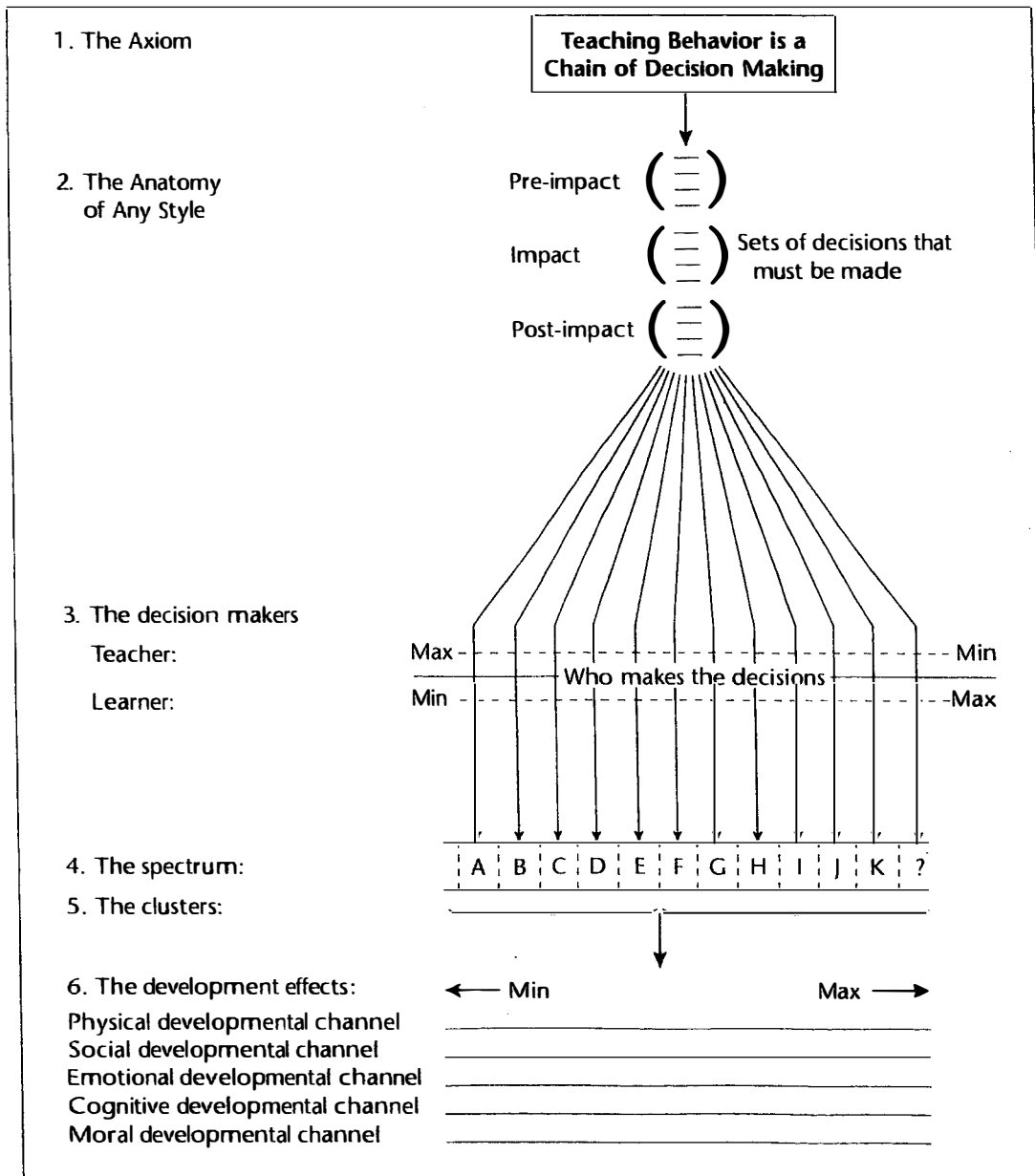
Learner develops a program for themselves based on cognitive and physical capacities in a particular topic. (p. 235).

(10) LEARNER-INITIATED STYLE (J)

Learner comes to the teacher and states a willingness to conduct a series of episodes, designing problems and seeking solutions. Learner takes maximum responsibility for initiating and conducting the teaching-learning experience. (p. 239).

(11) THE SELF-TEACHING STYLE (K)

Does not exist in the class-room, but it does exist when the individual is engaged in teaching him or herself. (p. 244).



The structure of the Spectrum

TEACHING SWIMMING IN SCHOOLS: ISSUES BEYOND DROWNING TEACHER INTERVIEW

Guide to Interview Questions

Demographic data

Teacher name:

Gender:

School:

Age:

Position:

Teaching experience:

Interview 1. - Life history

- Personal history

Reconstruct early experiences as a family member

- Personal history as a learner

School experiences – general, PE, swimming specific

Swimming experiences – general, school, PE

As a swimmer - How would you describe yourself?

How did you become interested in teaching and specifically PE?

Undergraduate history - general, PE, swimming specific

Professional development - PE, swimming specific

Non-school working experience – general, swimming

- Teaching history

Can you reflect on your teaching experiences?

Teaching influences – career, style, beliefs

How would you – as a teacher, describe yourself?

- Educational philosophy - your

Educational direction

Educational beliefs

Educational focus

Current school PE curriculum focus

Beliefs, feeling or attitudes about physical education in the school

Reflection on the teaching of swimming during the time observed prior to this interview

Modified version of the Informal interviews: Rovegno 1995

Asked to discuss, teachers -

- Task content
- Organisation
- Progression decisions
- Differentiation

Asked to explain -

- Why they made the decisions they made
- Asked them to comment on what they would do differently given the opportunity.

1. subject matter knowledge and experience
teachers asked to describe, in detail, their professional background and specific experiences germane to the subject areas in physical education and sport. (From

- Background in PE
- Personal history as a learner

TEACHING SWIMMING IN SCHOOLS: ISSUES BEYOND DROWNING

TEACHER INTERVIEW

Guide to Interview Questions

Interview 2. - Teaching experiences

- Swimming in PE

Importance of swimming in schools

Thoughts on and for the reasons for inclusion in the programme

Beliefs, feeling or attitudes about physical education swimming teaching

What is the most important content for your students – stroke correction, lifesaving, water awareness, games etc?

- Swimming teaching in the school

Current focus of the school aquatic programme

Outcomes of the swimming programme

Summary of content in present aquatic programme

What assessment structure is in place for aquatic activities?

Style of reporting in physical education

- The programme – and its delivery

What have been your personal involvement/input into the aquatic programme?

Is what you do – totally reflective of the documented programme/course outline?

How do you decide what to teach (content) in swimming classes?

How do you decide how to teach it?

Teaching style that you employ – swimming specific

Teaching styles/Pedagogies employed to teach swimming

What has been the strongest source of your understanding of teaching swimming (content and pedagogy)?

What guides you in transforming your knowledge of swimming into content and instructions that students can understand?

Moving students along the educational continuum in swimming?

- Personal feelings on teaching swimming

Comfort level in teaching swimming

Personal issues in teaching swimming in PE

How would you – as a teacher of PE swimming, describe yourself?

- Teaching resources – textual

What resources do you use to assist in preparing or determining the lesson content or teaching strategy? Eg. RLSSA, SLSSA, DoE, Curriculum Framework – outcomes

- The students

How they thought children learned – in swimming

What do you see as their experience – relative to learning, outcomes, enjoyment?

Can you describe the students who are non-participants in the categories of;

Not strong swimmers – weak swimmers

Are avoiders of activity in general
Are seekers of activity, but don't like swimming
Cultural issues

- Issues – factors that influence the decisions

What factors limit or inhibit impact on the programme contents – or the manner in which it is delivered?

Your thoughts on single gender – co-ed classes (positives, necessity)

Differentiation in teaching – do you do any? How do you see it fitting in?

Reflection on the teaching of swimming during the time observed post past interview and prior to this interview

Modified version of the Informal interviews:

Asked to discuss, teachers -

- Task content
- Organisation
- Progression decisions
- Differentiation

Asked to explain -

- Why they made the decisions they made
- Asked them to comment on what they would do differently given the opportunity.
- How he thought children learned
- His task content
- Organisations
- Progressions
- Factors that influenced his decisions

TEACHING SWIMMING IN SCHOOLS: ISSUES BEYOND DROWNING

TEACHER INTERVIEW

Guide to Interview Questions

Interview 3. - Reflection on the meaning

- Students – a learning experience

Can you reflect on the PE swimming unit and - what you perceive was “the students learning experience”?

Is PE swimming in this school and your PE class meeting the needs of the students – what are these needs?

Do you – or if you chose to collaborate with the students – what would they say are their needs, readiness, interest, learning profile?

How would you define the requirements of a safe swimmer – at the year level taught?

Given the best case scenario, what would you define as a minimum exit competency?

- Meaning making reflections

We have spoken of your teaching philosophy – is what you do in teaching PE swimming reflective of this?

Are you forced to modify and overcome specific issues, limitations school, student, department, facility, rules or the existing curricula?

- The future – and change

SPECIFIC

Given a chance to reflect - What would you change to improve the current status of swimming in physical education? How could swimming in this school be improved? What would you choose to do differently next year?

GENERAL

Given what you have reconstructed in these interviews, where do you see swimming in schools going in the future

Is swimming in schools at risk?

Use of differentiation in the swimming programme – including thoughts on peer teaching, ability level streaming, teaching to the individual needs – where students are at.

Professional development focus for the future.

Curriculum Framework thoughts and Student Outcome Statement understanding

Reflection on the teaching of swimming during the time observed post past interview and prior to this interview

Modified version of the Informal interviews:

Asked to discuss, teachers -

- Task content
- Organisation
- Progression decisions
- Differentiation

Asked to explain -

- Why they made the decisions they made
- Asked them to comment on what they would do differently given the opportunity.

a retrospective interview.

- His opinion of the school curriculum
- And what, if anything, he would do differently if he taught a similar unit.

TEACHING SWIMMING IN SCHOOLS: ISSUES BEYOND DROWNING
Focus Group Interview – Students in Year 8-9

Focus Group Prompts

Status of the group

What is your swimming background?

How much do each of you swim? In-school and outside of school?

Do you like swimming – in general?

What must you be able to do to be considered a good swimmer?

What is more important – being able swimming a long way, swim fast, swim the four competition strokes, life-saving skills?

How do each of you rate your own swimming ability?

Do you have the skills to save another person who is in trouble in the; back-yard pool, public 50 m pool, surf?

Do you think being a good swimmer is important?

Influences

Who encourages/discourages you the most to swim?

Who is the most influential when it comes to deciding how important swimming is - peers, parents, teachers, others

How good are our parents at swimming?

Do you think anyone or anything has had an impact on your like/dislike of swimming?

Does cultural background or ethnicity have any impact on your like/dislike of swimming? Does see this having an influence on others.

School swimming

What did you do in your school PE swimming this year?

How much do you enjoy the school PE swimming programme?

What makes it enjoyable – What are the best things?

What are the worst things about school PE swimming? ISSUES

What could be done to make it better?

What could be done to make it more fun?

Has your swimming improved as a result of doing school swimming this year? In what ways?

What other things did you learn while doing school PE swimming?

Are your teachers good at teaching swimming? Do they help you to learn new things and improve your swimming?

Is the swimming unit – what you wanted to do?

Are your individual needs met by the unit?

Are your needs met by enough individual instruction in class?

Give the PE swimming unit a score out of 10 – as to what it did for you.

Swimming as a life-skill

Do you see swimming as a good way to keep fit and healthy?

Do you currently – or in the future will you use regular swimming as a way to keep fit and healthy?

What would prevent you from swimming on a regular basis in the future?

Appendices G and H not included in this version of the thesis

TEACHER**Teacher in Charge of Physical Education**

This is an anonymous questionnaire. Please DO NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE. By completing the questionnaire you are consenting to take part in this research. As such you should first read the enclosed Statement of Disclosure carefully as it explains fully the intention of this project. Please respond to each question.

Demographic data

1. Name of school: _____

2. Your gender ☐ Male ☐ Female

3. Years of PE teaching experience.

☐ 1 – 4 years ☐ 5 – 10 years ☐ 11 – 15 years ☐ 16 – 20 years ☐ 21+ years

4. Years of experience teaching swimming in a school (any school – total).

☐ 1 – 4 years ☐ 5 – 10 years ☐ 11 – 15 years ☐ 16 – 20 years ☐ 21+ years

5. In the year 2002 - did you teach PE swimming to ☐ Year 8 ☐ Year 9

6. Swimming related qualifications: - include any 'current' and 'out of date' certification.

Current - Qualifications**Out of date - Qualifications**

7. Years as 'Teacher in Charge of PE'. _____ years.

The programme

8. Numbers relative to Year 8 and Year 9:

Year 8

Year 9

- a) Number of Year 8 and 9 students at the school. _____
- b) Number of students allocated to one PE class. _____
- c) Number of staff allocated to one PE class. _____

9. How **much time** (in minutes) is **allocated** on the timetable for the PE swimming unit.

Year 8 (Total time for one lesson) _____ minutes X (Number of lessons in the unit) _____ = _____ minutes

Year 9 (Total time for one lesson) _____ minutes X (Number of lessons in the unit) _____ = _____ minutes

10. Of the lesson how much **time** is **allocated** to:

Year 8

Year 9

- a) Bus time - there and back - total (in minutes). _____
- b) Change time - total (in minutes). _____
- c) Swimming time - total (in minutes). _____

11. What lane allocation (**space**) is used for a Year 8 and Year 9 class? eg. 3 lanes x 25 meters.

Year 8 _____

Year 9 _____

12. Is the **lane/space** allocation **appropriate** for all of the students in a Year 8 and Year 9 class?

Year 8 ☐ Yes ☐ No ►Please specify: _____

Year 9 ☐ Yes ☐ No ►Please specify: _____

13. Is the pool **depth** **appropriate** for all of the students in Year 8 and Year 9?

Year 8 ☐ Yes ☐ No ►Please specify: _____

Year 9 ☐ Yes ☐ No ►Please specify: _____

14. Are there any other aspects of the **pool** that **restrict** the Year 8 and Year 9 swimming unit?

Year 8 ☐ Yes ☐ No

Year 9 ☐ Yes ☐ No

If YES – what are these aspects- and how do they restrict a unit of PE swimming.

15. a) What **facilities** are used during the **Year 8** and **Year 9** PE swimming units. Tick (✓).

Year 8

List of term 1, 2, 3, 4

	Term			
	1	2	3	4
School indoor pool				
School outdoor pool				
Public indoor pool				
Public outdoor pool				
Beach/River				

Year 9

List of term 1, 2, 3, 4

	Term			
	1	2	3	4
School indoor pool				
School outdoor pool				
Public indoor pool				
Public outdoor pool				
Beach/River				

b) If a public pool is used – please answer the following question.

Is your school given adequate consideration for your booking needs by the Public Pool Management?

☐ Yes

☐ No

If **NO** – please identify where your concerns lie.

16. Does your **PE Department** have an **input** into the class groupings/make-up of the Year 8/9 PE swimming classes.

☐ Yes

☐ No

If **YES** – please identify they how they are grouped. eg. streamed for ability, gender split, etc.

The Physical Education swimming unit

17. Answer the following questions in the table below.

In column **A.** -: record the time (minutes) allocated to these aspects of the **Year 8 PE swimming unit** (2002). Refer to Question 9 to confirm total time allocated.

In column **B.** -: record the time (minutes) allocated to these aspects of the **Year 9 PE swimming unit** (2002). Refer to Question 9 to confirm total time allocated.

<i>Activities</i>	<i>A. – Year 8</i>	<i>B. – Year 9</i>
Swimming activities	Time allocated (minutes)	Time allocated (minutes)
Preparing for carnivals eg. time trials, starts, turns		
Stroke technique analysis/correction F/S, BR/S, BA/S, FLY		
Life-saving activities and survival/safety/water awareness		
Specific training/fitness programme		
Free swim/recreation		
Structured games eg. water polo		
Water confidence activities and games		
Any other. Specify: _____		
TOTAL TIME – ALLOCATED FOR SWIMMING IN PE		

18. If you included “**Life-saving and survival/safety/water awareness**” in the **Year 8 PE swimming unit** – list specifically the programme and/or activities that are done.

Year 8 ► **Programme (eg. awards)** _____

____ Survival strokes	____ Clothing swim	____ Treading water
____ Towing skills	____ Water entries	____ Search activities
____ Reach/throw skills	____ EAR/CPR	____ Other; list below

19. If you included “**Life-saving and survival/safety/water awareness**” in the **Year 9 PE swimming unit** – list specifically the programme and/or activities that are done.

Year 9 ► **Programme (eg. awards)** _____

____ Survival strokes	____ Clothing swim	____ Treading water
____ Towing skills	____ Water entries	____ Search activities
____ Reach/throw skills	____ EAR/CPR	____ Other; list below

20. Are any **activities done out of the pool** as a part of the **Year 8** and **Year 9** PE swimming unit?
eg. Resuscitation. Do not include Swim Squad training, Outdoor Education classes etc.

☐ Yes ☐ No

If **YES**: What is done? Where are they done?

Year 8 PE swimming unit.

Year 9 PE swimming unit.

21. What **resources** are used in the Planning, Teaching or Assessing of the **Year 8** and **Year 9** PE swimming unit? Eg. RLSS, SLSA, Student Outcomes Statements, Interm swimming levels, Vacswim levels, videos, books etc.

Year 8 PE swimming unit.

Planning_____

Teaching_____

Assessing_____

Year 9 PE swimming unit.

Planning_____

Teaching_____

Assessing_____

22. **Rank** the goals/outcomes listed below that **best** represent what you believe students achieve as a consequence of participating in the **Year 8** and **Year 9** PE swimming unit.
Of those chosen – **rank them in order of importance**. One (1) is the most important to the unit. Leave options blank that do not apply to the unit offered.

Year 8 PE swimming unit.

___ Develop confidence

___ Develop rescue skills

___ Improve race times

___ Develop stroke proficiency

___ Develop survival skills

___ Safer water participant

___ Have fun

___ Improve fitness

___ Other; list below

Year 9 PE swimming unit.

___ Develop confidence

___ Develop rescue skills

___ Improve race times

___ Develop stroke proficiency

___ Develop survival skills

___ Safer water participant

___ Have fun

___ Improve fitness

___ Other; list below

Perceptions – PE swimming

23. In section **A. Rank** the following **issues** – with **number one (1)** being allocated to the issue of greatest concern to the successful implementation of **swimming in PE** at the **Year 8/9** level.

In section **B. Rate (✓)** each of the issues as **either: - Very Important, Important, or Unimportant** - to the successful implementation of **swimming in PE** at the **Year 8/9** level.

	A.	B.		
	<u>Rank</u>	<u>Rate</u>		
	#	Very Important	Important	Unimportant
❖ Temperature of the water				
❖ Travel time				
❖ Cost of the programme				
❖ Staff/student ratios				
❖ Issues related to the Ethnicity				
❖ Legal liability				
❖ Varied ability levels in the one class				
❖ Pool space				
❖ Staff qualifications				
❖ Other/s _____				

24. At this point of the year (2002), how many of the **Year 8** and **Year 9** students (estimate percentages), would be **classified** within each of the following (6) categories?

Identify the most correct and add percentages (not numbers).

Category F. Can swim at least → 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes.
→ 25 metres of butterfly.

Year 8 _____ % **Year 9** _____ %

Category E. At best they can → swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes - with your head in the water.

Year 8 _____ % **Year 9** _____ %

Category D. At best they can → swim 25-50 metres of freestyle.
→ swim 15 metres of breaststroke with the correct kick.
→ swim 15 metres in at least 2 other strokes (survival strokes are fine).
→ dive entry.

Year 8 _____ % **Year 9** _____ %

Category C. At best they can → swim 10 metres freestyle.
→ swim 10 metres of backstroke.
→ swim 10 metres of survival/lifesaving backstroke.

Year 8 _____ % **Year 9** _____ %

Category B. At best they can → glide or float on their front and back.
→ kick and recover to standing in waist deep water.

Year 8 _____ % **Year 9** _____ %

Category A. They normally → cannot swim in the water without being supported.

Year 8 _____ % **Year 9** _____ %

25. Look at the Categories from Question 24 (**F – A**). From the list above record **ONE** that best describes in your mind the minimum for:

	Year 8	Year 9
i) a good swimmer	_____	_____
ii) a weak swimmer	_____	_____
iii) a safe swimmer	_____	_____

26. Look at the Categories from Question 24 (**F – A**). From the list above record **ONE** that best describes in your mind the minimum required to save another person in:

	Year 8	Year 9
i) a back yard pool	_____	_____
ii) a 50 metre pool	_____	_____
iii) the ocean/surf	_____	_____

Physical Education

27. a) Create a list of the units offered in the annual Year 8 and the Year 9 PE programme.

Rank each unit – with **number one (1)** being allocated to unit of greatest importance.

Year 8 - 1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

Year 9 - 1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

YOU HAVE FINISHED

THANK YOU VERY MUCH FOR YOUR TIME AND EFFORT

INSTRUCTIONS

Having completed the ‘Teacher in Charge’ questionnaire, place it in the envelope provided.

Please make it available at the school’s main reception for collection by the ECU Research

Assistance who will be visiting your school in the near future to administer a questionnaire to

an intact PE class (as pre-determined) and a questionnaire to their PE class teacher (not a

class currently taught by the Teacher in Charge of PE).

SWIMMING IN SCHOOLS PROJECT

TEACHER

Teacher of Year 8 Physical Education

This is an anonymous questionnaire. Please DO NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE. By completing the questionnaire you are consenting to take part in this research. As such you should first read the enclosed Statement of Disclosure carefully as it explains fully the intention of this project. Please respond to each question.

Demographic data

1. Name of school: _____

2. Your gender ☐ Male ☐ Female

3. Years of PE teaching experience.

☐ 1 – 4 years ☐ 5 – 10 years ☐ 11 – 15 years ☐ 16 – 20 years ☐ 21+ years

4. Years of experience teaching swimming in a school (any school – total).

☐ 1 – 4 years ☐ 5 – 10 years ☐ 11 – 15 years ☐ 16 – 20 years ☐ 21+ years

5. Swimming related qualifications: - include any 'current' and 'out of date' certification.

Current - Qualifications**Out of date - Qualifications**

The following questions relate to when you teach swimming in the Year 8 PE programme.

Perceptions

6. a) Do you feel that you are **appropriately qualified**? ☐Yes ☐No

b) If you answered **NO** - What would need to **happen/change** for you to respond with a **YES** to this question?

7. a) Do you feel that you are **suitably skilled** to advance students of all ability levels? ☐Yes ☐No

b) If you answered **NO** - What would need to **happen/change** for you to respond with a **YES** to this question?

8. a) Do you feel **comfortable** in teaching the class? ☐Yes ☐No

b) If you answered **NO** - What would need to **happen/change** for you to respond with a **YES** to this question?

9. a) Do you **enjoy** teaching PE swimming to Year 8? ☐Yes ☐No

b) If you answered **NO** - What would need to **happen/change** for you to respond with a **YES** to this question?

10. a) Do you believe that you provide a Year 8 PE swimming unit ☐Yes ☐No
that **consistently caters for all** of the students in your class?

b) If you answered **NO** - What would need to **happen/change** for you to respond with
a **YES** to this question?

11. What do you believe are the most **important skills** (rank with **number one (1)** being the most
important) a teacher should possess if they are to successfully teach a **unit of swimming** to a
Year 8 PE class?

1. _____
2. _____
3. _____
4. _____

12. What has been the **strongest source** of your understanding of **what** (content) to teach students
in a Year 8 PE swimming unit? Rank with **number one (1)** being the most important. Leave
options that do not apply.

Source of understanding of what to teach in the Year 8 PE swimming unit.

___ Undergraduate training	___ SLSA training	___ PD training
___ Books	___ Teaching experience	___ Other teachers
___ RLSS training	___ Austswim training	___ Other; list below

13. In your mind **what** (content) is the **most important** to teach students in a Year 8 PE swimming
unit? Rank with **number one (1)** being the most important. Leave options that do not apply.

Most important content to teach in the Year 8 PE swimming unit.

___ Confidence activities	___ Fun activities	___ Stroke proficiency (F/S, BR/S, BA/S, FLY)
___ Rescue skills	___ Survival skills	___ Fitness training
___ Race techniques	___ Safety activities	___ Other; list below

14. Of that listed in Question 13 (as the most important content), **did you** ☐Yes ☐No **teach this content** in your Year 8 PE swimming unit this term (2002).

If you answered **NO** - What **prevented** you from teaching this most important content?

15. What has been the **strongest source** of your understanding of **how** (strategies) to teach students in Year 8 PE swimming classes? Rank with **number one (1)** being the most important. Leave options that do not apply.

Source of understanding of how to teach in the Year 8 PE swimming unit.

- | | | |
|----------------------------|-------------------------|-----------------------|
| ___ Undergraduate training | ___ SLSA training | ___ PD training |
| ___ Books | ___ Teaching experience | ___ Other teachers |
| ___ RLSS training | ___ Austswim training | ___ Other; list below |
| <hr/> | | |

16. In your mind **how** (strategies) is the **best way** to teach students in Year 8 PE swimming classes? Rank with **number one (1)** being the most important. Leave options that do not apply.

The best way to teach students in the Year 8 PE swimming unit.

- | | | |
|---------------------|------------------------|--------------------------|
| ___ Games | ___ Student centred | ___ Challenge activities |
| ___ Peer teaching | ___ Technique drills | ___ Discovery learning |
| ___ Teacher centred | ___ Groups at stations | ___ Other; list below |
| <hr/> | | |

17. Of that listed in Question 16 (as the best way to teach), **did you** ☐Yes ☐No **use these strategies** in your Year 8 PE swimming unit this term (2002).

If you answered **NO** - What prevented you from teaching the best way?

18. What percentage of the students in **your class** do you perceive **enjoyed** Year 8 PE swimming? (**Circle**)

- | | | | | | |
|-------------------------------------|-------------------|------------|------------|------------|-------------|
| Year 8 – Girls (% who enjoy) | (A) less than 20% | (B) 20-39% | (C) 40-59% | (D) 60-79% | (E) 80-100% |
| Year 8 – Boys (% who enjoy) | (A) less than 20% | (B) 20-39% | (C) 40-59% | (D) 60-79% | (E) 80-100% |

19. What percentage of the students in **your class** do you perceive **improved** their aquatic proficiencies after completing the **Year 8 PE swimming unit** this term (2002)?

Guide % - (2/25 = 8%) (3/25 = 12%) (5/25 = 20%) (7/25 = 28%) (10/25 = 40%) (12/25 = 48%) (14/25 = 56%) (17/25 = 68%) (21/25 = 84%)

Guide % - (2/30 = 7%) (3/30 = 10%) (5/30 = 17%) (7/30 = 23%) (10/30 = 33%) (12/30 = 40%) (14/30 = 46%) (17/30 = 57%) (21/30 = 70%)

Year 8 – Girls

_____ % who improved a lot

_____ % who improved moderately

_____ % who improved a little

_____ % didn't improve much

Year 8 – Boys

_____ % who improved a lot

_____ % who improved moderately

_____ % who improved a little

_____ % didn't improve much

20. What percentage of the students in **your class** would have the swimming knowledge/skills and proficiency to **save another person** – in situation **a), b) and c)**?

a) In a backyard pool -

Year 8 – Girls _____ % who could save another person – in a backyard pool

Year 8 – Boys _____ % who could save another person – in a backyard pool

b) In a 50 metre pool -

Year 8 – Girls _____ % who could save another person – in a 50 metre pool

Year 8 – Boys _____ % who could save another person – in a 50 metre pool

c) In the ocean/surf -

Year 8 – Girls _____ % who could save another person – in the ocean/surf

Year 8 – Boys _____ % who could save another person – in the ocean/surf

21. **For Year 8 -**

a) What are the **strengths** of the Year 8 PE swimming unit?

b) What are the **weaknesses** of the Year 8 PE swimming unit?

22. Describe any methods for **monitoring or assessing** student performance/learning outcomes that you used at the start, during, and end of the Year 8 PE swimming unit.

Start _____

During _____

End _____

23. **Rank** the **goals/outcomes** listed below that **best** represent what you believe students achieve as a consequence of participating in **your Year 8 PE swimming class**. Of those chosen – **rank them in order of importance**. One (1) is the most important to the unit. Leave options blank that do not apply to the unit offered.

Year 8 PE swimming unit.

____ Develop confidence	____ Develop stroke proficiency	____ Have fun
____ Develop rescue skills	____ Develop survival skills	____ Improve fitness
____ Improve race times	____ Safer water participant	____ Other; list below

24. What strategies/techniques do you employ, to cater for students of **varied swimming ability levels** in **your** Year 8 PE swimming class?

25. Was the **swimming ability level** of the students in **your** Year 8 PE swimming class (2002) similar to that of the **other** Year 8 classes in the school (2002)?

☐ Yes ☐ No

If **NO** – please identify how your group differed.

26. How many students were in your Year 8 PE swimming class (2002)? _____

27. At this point of the year (2002), how many of the Year 8 students in your swimming class would be classified within each of the following (6) categories? Use numbers.

Category F. *Can swim at least* → 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes.
→ 25 metres of butterfly.

Year 8 _____

Category E. *At best they can* → swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes - with your head in the water.

Year 8 _____

Category D. *At best they can* → swim 25-50 metres of freestyle.
→ swim 15 metres of breaststroke with the correct kick.
→ swim 15 metres in at least 2 other strokes (survival strokes are fine).
→ dive entry.

Year 8 _____

Category C. *At best they can* → swim 10 metres freestyle.
→ swim 10 metres of backstroke.
→ swim 10 metres of survival/lifesaving backstroke.

Year 8 _____

Category B. *At best they can* → glide or float on their front and back.
→ kick and recover to standing in waist deep water.

Year 8 _____

Category A. *They normally* → cannot swim in the water without being supported.

Year 8 _____

28. Look at the Categories from Question 27 (F – A). From the list above record ONE that best describes in your mind the minimum for:

Year 8

- i) a good swimmer _____
ii) a weak swimmer _____
iii) a safe swimmer _____

29. Look at the Categories from Question 27 (F – A). From the list above record ONE that best describes in your mind the minimum required to save another person in:

Year 8

- i) a back yard pool _____
ii) a 50 metre pool _____
iii) the ocean/surf _____

30. In section **A. Rank** the following **issues** – with **number one (1)** being allocated to the issue of greatest concern to the successful implementation of **swimming in PE at the Year 8 level**.
- In section **B. Rate (✓)** each of the issues as **either: - Very Important, Important, or Unimportant** - to the successful implementation of **swimming in PE at the Year 8 level**.

	<u>A.</u>	<u>B.</u>		
	<u>Rank</u>	<u>Rate</u>		
	#	Very Important	Important	Unimportant
❖ Temperature of the water				
❖ Travel time				
❖ Cost of the programme				
❖ Staff/student ratios				
❖ Issues related to the Ethnicity				
❖ Legal liability				
❖ Varied ability levels in the one class				
❖ Pool space				
❖ Staff qualifications				
❖ Other/s _____				

YOU HAVE FINISHED

THANK YOU VERY MUCH FOR YOUR TIME AND EFFORT

SWIMMING IN SCHOOLS PROJECT

TEACHER

Teacher of Year 9 Physical Education

This is an anonymous questionnaire. Please DO NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE. By completing the questionnaire you are consenting to take part in this research. As such you should first read the enclosed Statement of Disclosure carefully as it explains fully the intention of this project. Please respond to each question.

Demographic data

1. Name of school: _____

2. Your gender ☐ Male ☐ Female

3. Years of PE teaching experience.

☐ 1 – 4 years ☐ 5 – 10 years ☐ 11 – 15 years ☐ 16 – 20 years ☐ 21+ years

4. Years of experience teaching swimming in a school (any school – total).

☐ 1 – 4 years ☐ 5 – 10 years ☐ 11 – 15 years ☐ 16 – 20 years ☐ 21+ years

5. Swimming related qualifications: - include any 'current' and 'out of date' certification.

Current - Qualifications**Out of date - Qualifications**

The following questions relate to when you teach swimming in the Year 9 PE programme.

Perceptions

6. a) Do you feel that you are **appropriately qualified**? ☐Yes ☐No

b) If you answered **NO** - What would need to **happen/change** for you to respond with a **YES** to this question?

7. a) Do you feel that you are **suitably skilled** to advance students of all ability levels? ☐Yes ☐No

b) If you answered **NO** - What would need to **happen/change** for you to respond with a **YES** to this question?

8. a) Do you feel **comfortable** in teaching the class? ☐Yes ☐No

b) If you answered **NO** - What would need to **happen/change** for you to respond with a **YES** to this question?

9. a) Do you **enjoy** teaching PE swimming to Year 9? ☐Yes ☐No

b) If you answered **NO** - What would need to **happen/change** for you to respond with a **YES** to this question?

10. a) Do you believe that you provide a Year 9 PE swimming unit ☐Yes ☐No
that **consistently caters for all** of the students in your class?

b) If you answered **NO** - What would need to **happen/change** for you to respond with
a **YES** to this question?

11. What do you believe are the most **important skills** (rank with **number one (1)** being the most
important) a teacher should possess if they are to successfully teach a **unit of swimming** to a
Year 9 PE class?

1. _____
2. _____
3. _____
4. _____

12. What has been the **strongest source** of your understanding of **what** (content) to teach students
in a Year 9 PE swimming unit? Rank with **number one (1)** being the most important. Leave
options that do not apply.

Source of understanding of what to teach in the Year 9 PE swimming unit.

___ Undergraduate training	___ SLSA training	___ PD training
___ Books	___ Teaching experience	___ Other teachers
___ RLSS training	___ Austswim training	___ Other; list below

13. In your mind **what** (content) is the **most important** to teach students in a Year 9 PE swimming
unit? Rank with **number one (1)** being the most important. Leave options that do not apply.

Most important content to teach in the Year 9 PE swimming unit.

___ Confidence activities	___ Fun activities	___ Stroke proficiency (F/S, BR/S, BA/S, FLY)
___ Rescue skills	___ Survival skills	___ Fitness training
___ Race techniques	___ Safety activities	___ Other; list below

14. Of that listed in Question 13 (as the most important content), **did you** ☐ Yes ☐ No
teach this content in your Year 9 PE swimming unit this term (2002).

If you answered **NO** - What **prevented** you from teaching this most important content?

15. What has been the **strongest source** of your understanding of **how** (strategies) to teach students in Year 9 PE swimming classes? Rank with **number one** (1) being the most important. Leave options that do not apply.

Source of understanding of how to teach in the Year 9 PE swimming unit.

___ Undergraduate training	___ SLSA training	___ PD training
___ Books	___ Teaching experience	___ Other teachers
___ RLSS training	___ Austswim training	___ Other; list below

16. In your mind **how** (strategies) is the **best way** to teach students in Year 9 PE swimming classes?
Rank with **number one** (1) being the most important. Leave options that do not apply.

The best way to teach students in the Year 9 PE swimming unit.

___ Games	___ Student centred	___ Challenge activities
___ Peer teaching	___ Technique drills	___ Discovery learning
___ Teacher centred	___ Groups at stations	___ Other; list below

17. Of that listed in Question 16 (as the best way to teach), **did you** ☐ Yes ☐ No
use these strategies in your **Year 9 PE swimming unit** this term (2002).

If you answered **NO** - What prevented you from teaching the best way?

18. What percentage of the students in **your class** do you perceive **enjoyed** Year 9 PE swimming? (**Circle**)

Year 9 – **Girls** (% who enjoy) (A) less than 20% (B) 20-39% (C) 40-59% (D) 60-79% (E) 80-100%

Year 9 – **Boys** (% who enjoy) (A) less than 20% (B) 20-39% (C) 40-59% (D) 60-79% (E) 80-100%

19. What percentage of the students in **your class** do you perceive **improved** their aquatic proficiencies after completing the **Year 9 PE swimming unit** this term (2002)?

Guide % - (2/25 = 8%) (3/25 = 12%) (5/25 = 20%) (7/25 = 28%) (10/25 = 40%) (12/25 = 48%) (14/25 = 56%) (17/25 = 68%) (21/25 = 84%)

Guide % - (2/30 = 7%) (3/30 = 10%) (5/30 = 17%) (7/30 = 23%) (10/30 = 33%) (12/30 = 40%) (14/30 = 46%) (17/30 = 57%) (21/30 = 70%)

Year 9 – Girls

_____ % who improved a lot
 _____ % who improved moderately
 _____ % who improved a little
 _____ % didn't improve much

Year 9 – Boys

_____ % who improved a lot
 _____ % who improved moderately
 _____ % who improved a little
 _____ % didn't improve much

20. What percentage of the students in **your class** would have the swimming knowledge/skills and proficiency to **save another person** – in situation **a), b) and c)**?

a) In a backyard pool -

Year 9 – Girls _____ % who could save another person – in a backyard pool

Year 9 – Boys _____ % who could save another person – in a backyard pool

b) In a 50 metre pool -

Year 9 – Girls _____ % who could save another person – in a 50 metre pool

Year 9 – Boys _____ % who could save another person – in a 50 metre pool

c) In the ocean/surf -

Year 9 – Girls _____ % who could save another person – in the ocean/surf

Year 9 – Boys _____ % who could save another person – in the ocean/surf

21. For Year 9 -

a) What are the **strengths** of the Year 9 PE swimming unit?

b) What are the **weaknesses** of the Year 9 PE swimming unit?

22. Describe any methods for **monitoring or assessing** student performance/learning outcomes that you used at the start, during, and end of the Year 9 PE swimming unit.

Start _____

During _____

End _____

23. **Rank** the **goals/outcomes** listed below that **best** represent what you believe students achieve as a consequence of participating in **your Year 9 PE swimming class**. Of those chosen – **rank them in order of importance**. One (1) is the most important to the unit. Leave options blank that do not apply to the unit offered.

Year 9 swimming unit.

___ Develop confidence	___ Develop stroke proficiency	___ Have fun
___ Develop rescue skills	___ Develop survival skills	___ Improve fitness
___ Improve race times	___ Safer water participant	___ Other; list below

24. What strategies/techniques do you employ, to cater for students of **varied swimming ability levels** in **your Year 9 PE swimming class**?

25. Was the **swimming ability level** of the students in **your Year 9 PE swimming class (2002)** similar to that of the **other Year 9 classes** in the school (2002)?

☐ Yes ☐ No

If **NO** – please identify how your group differed.

26. How many students were in your Year 9 PE swimming class (2002)? _____

27. At this point of the year (2002), how many of the Year 9 students in your swimming class would be **classified** within each of the following (6) categories? Use numbers.

Category F. *Can swim at least* → 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes.
→ 25 metres of butterfly.

Year 9 _____

Category E. *At best they can* → swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes - with your head in the water.

Year 9 _____

Category D. *At best they can* → swim 25-50 metres of freestyle.
→ swim 15 metres of breaststroke with the correct kick.
→ swim 15 metres in at least 2 other strokes (survival strokes are fine).
→ dive entry.

Year 9 _____

Category C. *At best they can* → swim 10 metres freestyle.
→ swim 10 metres of backstroke.
→ swim 10 metres of survival/lifesaving backstroke.

Year 9 _____

Category B. *At best they can* → glide or float on their front and back.
→ kick and recover to standing in waist deep water.

Year 9 _____

Category A. *They normally* → cannot swim in the water without being supported.

Year 9 _____

28. Look at the Categories from Question 27 (F – A). From the list above record **ONE** that best describes in your mind **the minimum** for:

Year 9

- i) a good swimmer _____
- ii) a weak swimmer _____
- iii) a safe swimmer _____

29. Look at the Categories from Question 27 (F – A). From the list above record **ONE** that best describes in your mind **the minimum required** to **save another person** in:

Year 9

- i) a back yard pool _____
- ii) a 50 metre pool _____
- iii) the ocean/surf _____

30. In section **A. Rank** the following **issues** – with **number one (1)** being allocated to the issue of greatest concern to the successful implementation of **swimming in PE at the Year 9 level**.

In section **B. Rate (✓)** each of the issues as **either: - Very Important, Important, or Unimportant** - to the successful implementation of **swimming in PE at the Year 9 level**.

	<u>A.</u>	<u>B.</u>		
	<u>Rank</u>	<u>Rate</u>		
	#	Very Important	Important	Unimportant
❖ Temperature of the water				
❖ Travel time				
❖ Cost of the programme				
❖ Staff/student ratios				
❖ Issues related to the Ethnicity				
❖ Legal liability				
❖ Varied ability levels in the one class				
❖ Pool space				
❖ Staff qualifications				
❖ Other/s _____				

YOU HAVE FINISHED

THANK YOU VERY MUCH FOR YOUR TIME AND EFFORT

SWIMMING IN SCHOOLS PROJECT

STUDENT QUESTIONNAIRE

This is an anonymous questionnaire. **PLEASE DO NOT WRITE YOUR NAME** or any other comments that will make you identifiable.

As part of a research project at Edith Cowan University we are investigating what is happening in Physical Education aquatic activities and children's thoughts and experiences about these activities.

You can help by filling out this questionnaire as honestly as you can. It should take around 20 minutes to finish. All of your answers are anonymous and confidential.

When you see the letters PE – this refers to Physical Education classes that are offered at school.

INSTRUCTIONS

ANSWER EVERY QUESTION (remember PART B and PART C are only for people who have done those classes).

IF YOU CHANGE YOUR MIND ABOUT AN ANSWER DON'T WORRY, JUST CROSS IT OUT AND CIRCLE ANOTHER.

PART A

This is information about you.

PART B

ONLY those students who have done 'Interm' classes answer PART B.

'Interm' swimming classes are provided during school time – but are not taken by your school teacher.

PART C

ONLY those students who have done 'Vacswim' classes answer PART C.

'Vacswim' is the vacation swimming classes that occur during school holidays.

PART D

Asks you about your own swimming ability and your thoughts on swimming.

PART E

This part of the questionnaire has statements about physical activity, PE, swimming and the school swimming lessons that you do. Think about how well each statement describes what you think or feel. There are no right or wrong answers – your opinion is what is wanted.

WHEN YOU HAVE FINISHED

Please be patient and wait without talking - for everyone to finish. The supervisor will ask for the questionnaires back when everyone has finished.

START HERE:

PART A

1. Name of your school: _____

2. Your school year level? (circle) 6 7

3. How old are you (in years)? (circle) 8 9 10 11 12 13

4. Your gender? (circle) Male Female

5. Please write your home suburb postcode number. _____

For the next questions - Tick (✓) only ONE box.

6. Where were you born?

☐ Australia ☐ In another country - Please specify _____

7. Where was your father born?

☐ Australia ☐ In another country - Please specify _____

☐ Don't know

8. Where was your mother born?

☐ Australia ☐ In another country - Please specify _____

☐ Don't know

9. What is the main language spoken in your home?

☐ English ☐ Other – Please specify other _____

10. Are you an Aboriginal or Torres Strait Islander? (Persons of Aboriginal or Torres Strait Islander descent are those who identify as such and are accepted as such by the community in which they live).

☐ No ☐ Yes – Aboriginal ☐ Yes – Torres Strait Islander

11. Using the levels from “Interm swimming classes” or “Vacswim” or “Royal Life Saving Society”-

Do you know what level swimmer you are – now?

☐ I don't know ☐ Yes – Please write the level _____

12. My school swim teacher this term was. (circle) Male Female

13. Have you done ‘Interm’ swimming classes? ‘Interm’ swimming classes are provided during school time – but are not taken by your school teacher.

☐ Yes ☐ No

If you answered YES please answer **PART B** (start at Question 14.)
If you answered NO please go to **Question 23**.

PART B

INSTRUCTIONS: ONLY those students who have done ‘Interm’ classes answer **Part B**.

Select **ONE** category (✓).

14. When did you last do ‘Interm’ classes? ☐ This year (2002)
 ☐ Last year (2001)
 ☐ Year 2000
 ☐ 1999
 ☐ 1998 or before

15. Where did you do your ‘Interm’ classes? ☐ Pool
 ☐ Beach

Use the number scale described below and circle only one number in response to each statement.

Strongly Agree = 5
Agree = 4
Neither Agree or Disagree = 3
Disagree = 2
Strongly Disagree = 1

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
16. I wanted to do ‘Interm’ classes.	5	4	3	2	1
17. It was fun doing ‘Interm’ classes.	5	4	3	2	1
18. I would tell my friends to do ‘Interm’ classes.	5	4	3	2	1
19. My swimming improved during ‘Interm’ classes.	5	4	3	2	1
20. I learned a lot in ‘Interm’ swimming classes.	5	4	3	2	1
21. I like my ‘Interm’ classes more than my school PE classes.	5	4	3	2	1
22. I prefer my ‘Interm’ swim teacher more than my PE teacher.	5	4	3	2	1

23. Have you done ‘Vacswim’ swimming classes? ‘Vacswim’ is the vacation swimming classes that occur during school holidays.

☐Yes ☐No

If you answered YES please answer **PART C** (start at Question 24.)
 If you answered NO please go to **PART D** (start at Question 34.)

PART C

INSTRUCTIONS: ONLY those students who have done ‘Vacswim’ swimming classes answer **Part C**.

Select **ONE** category (✓).

24. When did you last do ‘Vacswim’ classes?

☐ This year (2002)
☐ Last year (2001)
☐ Year 2000
☐ 1999
☐ 1998 or before
25. Where did you do your ‘Vacswim’ classes?

☐ Pool
☐ Beach

Use the number scale described below and circle only one number in response to each statement.

Strongly Agree = 5
 Agree = 4
 Neither Agree or Disagree = 3
 Disagree = 2
 Strongly Disagree = 1

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
26. I wanted to do ‘Vacswim’ classes.	5	4	3	2	1
27. It was fun doing ‘Vacswim’ classes.	5	4	3	2	1
28. I would tell my friends to do ‘Vacswim’ classes.	5	4	3	2	1
29. My swimming improved during ‘Vacswim’ classes.	5	4	3	2	1
30. I learned more in ‘Vacswim’ classes than school swimming classes.	5	4	3	2	1
31. I prefer ‘Vacswim’ classes more than my school swimming classes.	5	4	3	2	1
32. I prefer my ‘Vacswim’ teacher more than my PE teacher.	5	4	3	2	1
33. My parents made me do ‘Vacswim’ classes.	5	4	3	2	1

PART D

34. How good at swimming are your parents? Tick (✓) only ONE box for each parent.

- Father**
- ☐ strong swimmer
 - ☐ good swimmer
 - ☐ weak swimmer
 - ☐ non swimmer
 - ☐ I don't know

- Mother**
- ☐ strong swimmer
 - ☐ good swimmer
 - ☐ weak swimmer
 - ☐ non swimmer
 - ☐ I don't know

35. Select ONE swimming category (✓) that best describes your current swimming ability.

- ☐ **Category A.** You normally cannot swim in the water without being supported.
- ☐ **Category B.** At best you can glide or float on your front and back.
kick and recover to standing in waist deep water.
- ☐ **Category C.** At best you can swim 10 metres freestyle.
swim 10 metres of backstroke.
swim 10 metres of survival/lifesaving backstroke.
- ☐ **Category D.** At best you can swim 25-50 metres of freestyle.
swim 15 metres of breaststroke with the correct kick.
swim 15 metres in at least 2 other strokes (survival strokes are fine).
dive entry.
- ☐ **Category E.** At best you can swim 200 metres; including 50 metres freestyle, 50 metres backstroke and 100 metres in 3 survival strokes - with your head in the water.
- ☐ **Category F.** Can swim at least 400 metres; including 100 metres freestyle, 100 metres breaststroke and 200 metres in 2 survival strokes.
25 metres of butterfly.

Look at the Swimming Categories from Question 35 (A – F). Now – from the list below circle ONE that best describes in your mind the minimum for:

	Category	Category	Category	Category	Category	Category
36. a good swimmer	A	B	C	D	E	F
37. a weak swimmer	A	B	C	D	E	F
38. a safe swimmer	A	B	C	D	E	F

Look at the Swimming Categories from Question 35 (A – F). Now - from the list below circle ONE that best describes in your mind the minimum required to save another person in:

	Category	Category	Category	Category	Category	Category
39. a back yard pool	A	B	C	D	E	F
40. a 50 metre pool	A	B	C	D	E	F
41. the ocean/surf	A	B	C	D	E	F

PART E

INSTRUCTIONS: Think about how well each statement describes what you think or feel. There are no right or wrong answers – your opinion is what is wanted.

Use the number scale described below and **circle** only one number in response to each statement.

Strongly Agree	= 5					
Agree	= 4					
Neither Agree or Disagree	= 3					
Disagree	= 2					
Strongly Disagree	= 1					
		Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
42. I enjoy the activities we do in school PE.	5	4	3	2	1	
43. I did not enjoy this terms school swimming lessons.	5	4	3	2	1	
44. PE is not important to me.	5	4	3	2	1	
45. It is not important to me to be a good swimmer.	5	4	3	2	1	
46. My swimming improved in school swimming this term.	5	4	3	2	1	
47. My parent/s are interested in the school swimming lessons I do at school.	5	4	3	2	1	
48. This term I participated in most/all of the school swimming lessons.	5	4	3	2	1	
49. My swim teacher does not enjoy teaching swimming lessons.	5	4	3	2	1	
50. My swim teacher teaches interesting things in swimming.	5	4	3	2	1	
51. My swim teacher is a good swimming teacher.	5	4	3	2	1	
<hr/>						
52. PE is fun.	5	4	3	2	1	
53. The swimming activities in school lessons this term were fun.	5	4	3	2	1	
54. It is important for me to be good at PE.	5	4	3	2	1	
55. It is important to me to be good at ‘freestyle’.	5	4	3	2	1	
56. This term, because of the swimming lessons in school my ability to save another person improved.	5	4	3	2	1	
57. My parent/s don’t care if I am a good swimmer.	5	4	3	2	1	
58. I don’t like doing physical activity.	5	4	3	2	1	

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
59. My swim teacher thinks that swimming is important.	5	4	3	2	1
60. My swim teacher is not interested in what I want to learn in school swimming lessons.	5	4	3	2	1
61. My swim teacher uses words to explain swimming activities that are easy for me to understand.	5	4	3	2	1
62. I do not like doing PE.	5	4	3	2	1
63. I would like to do more swimming lessons this year.	5	4	3	2	1
64. I expect to make use of what I learn in PE.	5	4	3	2	1
65. It is important to me to be good at swim races.	5	4	3	2	1
66. As a result of doing swimming lessons in school this term I am a more confident swimmer.	5	4	3	2	1
67. My parent/s encourage me to do my best in school swimming.	5	4	3	2	1
68. I participate in as much physical activity as I can.	5	4	3	2	1
69. My swim teacher makes me feel like I would like to swim more.	5	4	3	2	1
70. My swim teacher sets activities that are good for my swimming ability level (not too hard or too easy).	5	4	3	2	1
71. My swim teacher is good at explaining how I can do better at swimming activities.	5	4	3	2	1
72. In PE I try to do as well as I can.	5	4	3	2	1
73. In school swimming lessons I try to do as well as I can.	5	4	3	2	1
74. I don't learn much in PE.	5	4	3	2	1
75. It is important to me to learn how to save people in water.	5	4	3	2	1
76. This term, I did not become a stronger swimmer.	5	4	3	2	1
77. My parent/s encourage me to be a better swimmer.	5	4	3	2	1
78. I do a lot of swimming activities.	5	4	3	2	1
79. My swim teacher does not care if we improve in swimming.	5	4	3	2	1

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
80. My swim teacher gives me good coaching in swimming lessons.	5	4	3	2	1
81. My swim teacher knows a lot about swimming activities.	5	4	3	2	1
82. The activities we do in PE are interesting.	5	4	3	2	1
83. The activities we did in school swimming this term were interesting.	5	4	3	2	1
84. The activities we do in PE are important to my future.	5	4	3	2	1
85. It is important to learn how to be a safe swimmer.	5	4	3	2	1
86. I learnt a lot about swimming in school lessons this term.	5	4	3	2	1
87. My parent/s would be unhappy if I avoided school swimming.	5	4	3	2	1
88. I participate in most/all of my PE classes.	5	4	3	2	1
89. My swim teacher is interested in teaching swimming lessons.	5	4	3	2	1
90. We do things in school swimming lessons that everyone likes.	5	4	3	2	1
91. The activities that my school swim teacher has given me this term have not helped me to be a better swimmer.	5	4	3	2	1
92. I don't like having to wear bathers in school swimming.	5	4	3	2	1
93. I don't mind wearing only 'racing style' bathers in swimming.	5	4	3	2	1
94. I feel concerned with swimming outdoors in the sun.	5	4	3	2	1
95. I feel concerned with having to dress/undress in the change room.	5	4	3	2	1
96. I am nervous in school swimming classes.	5	4	3	2	1
97. I feel concerned with being teased in school swimming classes.	5	4	3	2	1
98. In school swimming classes the water temperature is too cold.	5	4	3	2	1
99. In school swimming classes the water temperature is too hot.	5	4	3	2	1
100. In school swimming classes the pool is too crowded.	5	4	3	2	1
101. I would prefer school swimming classes to be of the same sex.	5	4	3	2	1
102. I like to wear a shirt in school swimming classes.	5	4	3	2	1

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
103. Only slim people enjoy school swimming classes.	5	4	3	2	1
104. School swimming lessons are embarrassing for me.	5	4	3	2	1

105. What is the **best** thing about school/interm swimming classes?

106. What is the **worst** thing about school/interm swimming classes?

107. If the current school swimming classes were **optional**, would you choose to participate? **Select ONE category (✓).**

☐ Yes ☐ No

YOU HAVE FINISHED

Please be patient and wait without talking - for everyone to finish.
The supervisor will ask for the questionnaires back when everyone has finished.

THANK YOU VERY MUCH FOR YOUR TIME AND EFFORT



11 March, 2002

Dear Teacher in Charge of Physical Education

Thank you for agreeing to answer the enclosed questionnaire. Please read and follow the instructions as stated below.

Enclosed in the envelope you will find:

- i) A Teacher in Charge of Physical Education questionnaire.
- ii) A Statement of Disclosure – Teacher in Charge of Physical Education.
- iii) A Statement of Disclosure – Teacher of Physical Education.
- iv) A Parent Permission letter – 35 copies.

INSTRUCTIONS

1. Please assist by confirming that one physical education teacher (not a class currently taught by the Teacher in Charge of PE) from the **Year 9** level and the members of their class agree to complete a questionnaire.
2. Ensure that the students receive the Parent Permission document (35 copies are enclosed) and inform the students that they are required to show the letter and discuss the project requirements at home. Please reinforce that the return slip is to be returned **only** if they or their parents choose **not** to grant permission to participate in the study.
3. Ensure that the physical education teacher receives a copy of the Statement of Disclosure – Teacher of Physical Education.
4. Determine a date/time when the teacher and the students will be made available in the one room (or area) to complete the questionnaire. **The dates for teacher/student questionnaire administration are between-and-including Monday March 25 to Friday April 5, 2002.**
5. When contacted by the researcher – confirm the dates and times for the questionnaire administration.
6. Having completed the 'Teacher in Charge' questionnaire, place it in the envelope provided. Please make it available at the school's main reception for collection by the ECU Research Assistance who will be visiting your school to administer a questionnaire to an intact PE class (as pre-determined) and a questionnaire to their PE class teacher (not a class currently taught by the Teacher in Charge of PE).

Yours faithfully

Peter Whipp

(Project Officer)

SWIMMING IN SCHOOLS PROJECT
Statement of Disclosure – Teacher of Physical Education

This statement has been prepared in accordance with the regulations and the suggestions of the Edith Cowan University Committee for the Conduct of Ethical Research as set out in the application to undertake research involving Human Subjects – March 2000.

1. The proposed research topic is “Teaching swimming in schools: Issues beyond drowning.”
2. Participants will not be involved in any activity requiring discomfort or hazardous experiences. The major tools for gathering of data will be through the administration of a questionnaire to teachers (in 50 schools) and students (2000).
 - i) *Teacher Questionnaire:*
 - (a) Teacher in Charge of Physical Education (approximately 20-30 minutes to complete)
Participants will be given a questionnaire to complete in which their opinions on issues related to school physical education swimming classes will be obtained. While the teacher is required to identify the school name, the information will be kept strictly confidential and the teacher will not be identified in any publication. The questionnaire consists of question items on teachers' background (demographic) information, views on swimming in schools, curriculum content knowledge and skill, pedagogical strategies, and the existing school physical education aquatic curriculum, outcomes, issues of concern and perceived student swimming abilities.
 - (b) Teachers of Year 8 or 9 Physical Education (approximately 20 minutes to complete)
One teacher in each school will be given a questionnaire to complete in which their opinions on issues related to school physical education swimming classes will be obtained. While the teacher is required to identify the school name, the information will be kept strictly confidential and the teacher will not be identified in any publication. The questionnaire consists of question items on teachers' background (demographic) information, views on swimming in schools, curriculum content knowledge and skill, pedagogical strategies, and the existing school physical education aquatic curriculum, outcomes, issues of concern and perceived student swimming abilities.
 - ii) *Student Questionnaire:* (approximately 20 minutes to complete)
Participants will be given a questionnaire to complete in which their opinions on issues related to school physical education swimming classes will be obtained. While the student is required to identify the school name, the information will be kept strictly confidential and the student will not be identified in any publication. The questionnaire consists of question items on students' background (demographic) information, views on swimming in schools, issues of concern and self-perceived swimming abilities.
3. The potential benefits of this study will be to:
 - the teachers of physical education;* by providing them with a knowledge and better understanding of the perceived teacher and student needs and concerns thereby assisting teachers to provide programmes and teaching strategies that will improve student outcomes in school swimming classes,
 - the students of physical education in the following ways;* by allowing students to express their level of concern for aspects associated with school swimming, and by allowing students to reflect on the level of success of the existing programmes – new innovative programmes may be created to address some of these problems and enhance the students learning experience,
 - humanity generally;* by closely scrutinising the existing school swimming programmes and by listening to the teachers and students involved it is hoped to identify best practice in an activity area that has the potential to save lives.
4. Potential project participants will not be treated, or suffer, in a prejudiced manner if they decide not to participate.
5. The researcher is willing to answer any questions that participants may have regarding the procedures employed in the Swimming in Schools project.

Questions should be directed to Peter Whipp (Project Officer/PhD Student) of the School of Education, Edith Cowan University (Mt Lawley campus) on telephone number 9370 6802 or 0438 196136.

If you have any concerns about the project or would like to talk to an independent person, you may contact Associate Professor Andrew Taggart on telephone number 9370 6806.

Research Assistant – Information Letter

Swimming in Schools Project

Payment - \$15.00 per hour

Team duties

- | | |
|----------|--|
| 7/3/02 | Finalise Team and confirm dates/times of availability. |
| Week 5. | Team to complete Police Clearance documents.
Subject pool to be finalised. |
| 11/3/02 | Confirm dates and times for school visits. |
| Week 5. | |
| 20/3/02 | Orientation and training meeting for all Research Team members. At ECU Mt Lawley (room to be confirmed) – 5.00pm |
| 20/3/02 | Alternate Orientation and training meeting for all Team members who cannot attend the first meeting. At 87 Alexander St, Wembley– 7.30pm. |
| 21-/3/02 | Confirm with the PE Teacher (by phone or email) the time/day and venue of visit. Confirm details of where to park and how to find reception. |
| 25-/3/02 | Administer questionnaires and collect TiC questionnaire. |
| Week 8. | |
| 2-/4/02 | Administer Questionnaires and collect TiC questionnaire (con't). |
| Week 9. | |
| 8-/4/02 | Complete and collect any outstanding questionnaires. |
| Week 10. | |

The visits would take place in the 2 weeks: - March 25 – April 5. However, some may have to be finalised during week 10 of the school year.

Contact

Peter Whipp
Project Officer

Telephone 9370 6802
Mobile [REDACTED]
Email p.whipp@ecu.edu.au

INSTRUCTIONS FOR SCHOOL VISIT

REMEMBER – that all information is **CONFIDENTIAL** and must remain that way. This includes the visit to the school itself and the school name and all its employees.

Please call the school to check with reception re: parking and directions to front reception. You may choose to inform them that you will be there at a particular time.

Ensure that you take more than the anticipated number of questionnaires needed. Please ensure that you have multiple copies of both the Year 8 Teacher and Year 9 teacher questionnaire at every visit – just in case other staff offer to complete a questionnaire.

Please arrive at the school at least 10 minutes before the time listed.

On arrival – check into front reception.

1. Introduce yourself as – Research Team member with the Swimming in Schools project.
2. You are expected by the (Head of PE) and you have a pre-arranged appointment to facilitate a questionnaire with a class and sometimes multiple classes.
3. Would it be possible to contact The Head of PE and inform them that I am here to deliver the questionnaire?
4. Can I check – has the Head of PE has left a completed questionnaire for me to collect at front reception. If they haven't make sure you ask the teacher or the Head of PE for it before you go.

At the classroom

Everything is about minimising the time required to complete the questionnaire.

Please give the teacher – the Teacher Questionnaire and ask them to begin this immediately. You will take this completed questionnaire today.

Student Information

This project is co-ordinated through Edith Cowan University and is funded by the Department of Education, the Independent Schools Association of WA and Edith Cowan University.

Whilst this is not compulsory -

We are very interested in reading your honest responses to the questionnaire that I will present to you today. The topic is "Swimming in Schools" and is about your experiences during the Physical Education Swimming activities that you have been doing this term.

Should you have any questions during the process – please raise your hand and I will come and assist you.

Hand out the questionnaire – asking them to read the first page, complete the questions on back of the first page (Page 2) and then the questions relating to Interm swimming (Page 3) and VacsWim (Page 4) which are for those people who have at some time participated in these programmes. If you are not sure – raise your hand and I will help you.

Continue on with all of the questions – and remember - it is what **you** think and believe that we wish to hear.

Please thank them all for their assistance.

Remember to collect all

student questionnaires

the teacher questionnaire

and the Teacher in Charge of PE questionnaire

Ring me immediately for any questions or concerns.

My mobile number is [REDACTED] Thank you and good luck, Peter Whipp

Can you record any specific comments (and attach to the TiC Questionnaire) that may reflect anything of the class that you are collecting data with or the programme, eg. if it is a co-ed school but classes are single sex, if the students are not an intact class that all belong to that one teacher.

Record:

- All of the distances that you travel.
- All of the visits that you do
- All of the phone calls that you make
- All of the time that you spend on each visit.

When a visit is completed:

Please maintain all of the information (questionnaires) from the school visit together and maintain it separately from material collected at other school visits. Remember, to store them securely.

We will communicate about the collection of the completed packages at your convenience; however, I do wish to collect them ASAP.

INFORMATION FOR PHONE CALLING TO SCHOOLS

1. Phone the school
2. Introduce yourself as from Edith Cowan University – Swimming in Schools Project
3. Ask for the Head of Physical Education
4. Confirm that this project is operating with the support of the Department of Education, AISWA and ECU.

Documents are in the mail and addressed to the School Principal – with copies of Teacher in Charge of PE

Statement of Disclosure – Teacher in Charge of PE

Statement of Disclosure – Teacher of PE

Teacher in Charge questionnaire

35 copies of a Parent Permission letter; which must go out to the students before the end of this week!! You may also re-enforce that this letter has a return slip that is only returned if the parent or child chooses **not** to participate in the questionnaire.

THE AIM OF THE PHONE CALL:

Contact the TiC of PE.

Confirm that Year 8 and 9 have undertaken a unit of swimming in PE this Term 1 2002. If they haven't then – we will not use them as a subject group.

Introduce the project

What is happening in Year 8 and 9 PE swimming activities.

What the issues of concern are.

The teacher and student perceptions.

We need:

A class of Year 8 or 9 (AS PRESCRIBED) to answer a 20 minute questionnaire. This will be facilitated by a Project team member. This will be done – most likely during a PE class – however, some schools are choosing health class time or a lunch time.

Note – the students must be given a Parent Permission document – prior to this Friday.

The PE teacher of that class (not the TiC of PE) to be with the class and also to answer a questionnaire. If there is only one PE teacher at the school – they will answer both questionnaires.

The TiC of PE to answer a questionnaire prior to the visit – and make it available at front reception or with the Teacher so that it can be collected at the time of the visit.

CONFIRM – the date and time of the visit to have the class available to answer the questionnaire and for the teacher to answer the questionnaire.

DATES for visits – we have set aside the 2 week period of MONDAY 25th MARCH – to and including FRIDAY 5th APRIL. We prefer the 2nd week as many schools have already opted for the first week. Remember that FRIDAY 29th MARCH and MONDAY 1st APRIL are EASTER

If needed we could make it in the following week.

If they wish for other classes to do the questionnaires then that is fine.

Peter Whipp





6 May 2002

Mr

Head of Physical Education
Senior High School

St

WA

Dear

Thank you for your assistance in the organisation and administration of the recent Swimming in Schools Project student questionnaires. As promised, with data entry and analysis underway, you will receive a copy of the results of this study in the future.

Gary, to fully understand the status of swimming in your school and to complement the student data collected, it is important that I obtain completed copies of the following staff questionnaires.

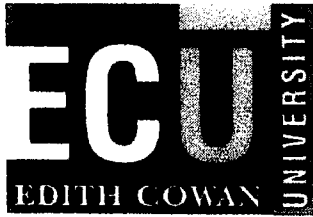
1. **Teacher in Charge of Physical Education questionnaire**
2. **Teacher of Year 8 questionnaire**
3. **Teacher of Year 9 questionnaire**

I have included in this envelope an additional copy of the above listed and a return self addressed and pre-paid envelope.

I appreciate your assistance in completing the 'picture' through taking the time to finalise this important stage in the process in this, the first week of Term 2.

Yours sincerely

Peter Whipp
Swimming in Schools Project Officer



SWIMMING IN SCHOOLS PROJECT

4 April, 2002

Dear Parent

As part of a research project at Edith Cowan University I am investigating what is happening in Physical Education aquatic activities, together with childrens' thoughts about and experiences in, these classes. Your child's physical education teacher at **Senior High School** has agreed to take part in this study and approval has been granted through the School Principal and the Teacher in Charge of Physical Education. The questionnaire will be undertaken during physical education classes and the teacher will remain with the students at all times.

As a member of the class, your child will be requested to complete a questionnaire (approximately 20 minutes in length) and may be involved in a student focus group interview (approximately 30 minutes in length). The questionnaire and the interview will be administered by the Project Officer.

I request your permission for your child to take part in the research.

I assure you that all information will be used for research purposes only and that your child's identity and that of the school **will remain anonymous**. Potential project participants will not be treated, or suffer, in a prejudiced manner if they decide not to participate.

The study aims to investigate and determine the current status of secondary school physical education aquatic programmes. As a consequence of undertaking this research it is hoped that the findings and recommendations will lead to enhancement of the learning experiences in Health and Physical Education.

A copy of the study's results will be forwarded to the school.

If you have any questions about the project you may contact me (Peter Whipp) on 9370 6802 or on mobile [REDACTED] or Associate Professor Andrew Taggart on 9370 6806.

You are **not required** to complete the return slip, if you **allow your child to participate** knowing that you can withdraw your permission at any time. Should you **not wish** your child to be involved in any aspect of the project, please complete and sign the return slip below. Students will also be given the opportunity to not undertake the questionnaire.

Thank you in anticipation for allowing your son/daughter to be involved in the project.

[REDACTED]

Peter Whipp
Project Officer/PhD Student

Please complete this return slip, if you **do not** give permission for your child to participate. Insert your child's name and sign in the space provided. Return this slip to the Physical Education teacher before Friday 12 April, 2002.

I do not give permission for my child (insert name) _____ to complete the proposed swimming questionnaire.

Parent's signature:

Date:

19th March 2002**Human Research Ethics Committee**

Mr Peter Whipp



Dear Mr Whipp

Code: 01-212**Project Title:** *Teaching swimming in schools: Issues beyond drowning*

Thank you for addressing the issues as requested by members of the Human Research Ethics Committee and forwarding the necessary papers.

As previously advised, I am pleased to confirm that the proposal complies with the provisions contained in the University's policy for the conduct of ethical research. and your application for ethics clearance has been approved.

Period of approval: **From** 1st January 2002 **To** 30th December 2003

Please note that your research proposal must be approved by the Research Students and Scholarships Committee before you commence any data collection. The Graduate School will inform you in writing as soon as your research proposal has been accepted.

With best wishes for success in your work.

Yours sincerely



Marilyn Beresford
EXECUTIVE OFFICER

Phone 9273 8170
Fax: 9273 8661
Email: m.beresford@cowan.edu.au

Attachment: Conditions of Approval

cc. Associate Professor Andrew Taggart, Supervisor
Ms Rebecca T Cook, Administrative Officer, HDC
Ms J Knight, Manager, Graduate School



EDUCATION
DEPARTMENT
OF
WESTERN
AUSTRALIA

151 ROYAL STREET
EAST PERTH WA 6004
TELEPHONE (08) 9264 4111
FACSIMILE (08) 9264 5005
TTY (08) 9264 4641

Your Ref.

Our Ref. DO02/038331

Enquiries

Branch

Dr Andrew Taggart
Associate Professor
Edith Cowan University
2 Bradford Street
MOUNT LAWLEY WA 6050

Dear Dr Taggart

Thank you for your request to conduct a research project in forty Western Australian government schools. I understand that a mix of six primary and thirty-four secondary schools is proposed and that the project will investigate the teaching of swimming in upper primary and lower secondary schools.

The project addresses an area of interest to the Department of Education and therefore I give in-principle support to your proposal. It is a condition of approval that the results of this study are forwarded to the Department upon its conclusion. Mr Gary Shaw, Manager, Swimming and Water Safety, will be pleased to liaise with you as appropriate.

I am enclosing a copy of the Department's policy which outlines the procedures for such research to occur in schools. In accordance with this policy, the decision to participate in this project is a matter of discretion for the individual school principals.

Responsibility for the quality control of the ethics and methodology of the proposed research resides with Edith Cowan University. Schools will require written evidence from the University that the ethics and methodology of the proposed project have been thoroughly vetted.

Thank you for bringing your research project to my attention.

Yours sincerely

PAUL ALBERT
DIRECTOR GENERAL

20 MAR 2002

Enc



10 October 2001

Associate Professor A Taggart
 Director, SPARC
 School of Education
 Edith Cowan University
 Bradford Street
 MT LAWLEY WA 6050

Dear Andrew

Please accept this letter as confirmation that the Association of Independent Schools of Western Australia (AISWA) will join with the Sport and Physical Activity Research Centre at Edith Cowan University to collaboratively design and develop a research project to investigate swimming programs in primary and secondary schools in Western Australia.

The project will incorporate key outcomes as determined by the Principal Policy Officer working with the SPARC research team. SPARC will manage the project in consultation with AISWA and the responsible officer. You will be the Project Director and will be supported by the designated Research Associate and other staff, as required.

The Project will commence in January 2002 and conclude in December 2002.

AISWA will fund the research project for \$: cash and \$: in kind, as detailed in the associated documentation.

We look forward to the start of this collaborative endeavour.

Yours sincerely

(Mrs) Audrey Jackson
 EXECUTIVE DIRECTOR

SWIMMING UNIT - YEAR 8

AIM -

To develop an understanding of the strokes used in swimming and an appreciation of general water safety.

OBJECTIVES -

At the conclusion of this unit students should be able to:

1. Demonstrate with competence, Freestyle, Breaststroke, Backstroke, Butterfly and Sidestroke over 50m.
2. Demonstrate life preserving skills and through this gain water confidence.
3. Demonstrate a forward and backward dive off the 1m board.

AUDIO-VISUAL -

"Swimming: With Mark Tonelli" (60 min).

REFERENCES -

Swimming Coaching Manual - Level 1
Community Recreation Council of W.A.

THEME **SWIMMING - YEARS 8 & 9**
 ASPECT **STARTS**
 LESSON **1**

OBJECTIVES

At the conclusion of this lesson students should be able to:

1. Perform the racing dive correctly.
2. Demonstrate a backstroke start.

LESSON DEVELOPMENT	ORGANIZATION	TEACHING POINTS
1. Introduction. 2. Grade students in: - Freestyle } - Breaststroke } A, B or C. - Backstroke } - Butterfly }	Lines of 3.	
3. Introduce the Racing Dive (Preparation for Interhouse Swimming) Commands - Key Words: Whistle, Take your marks, Gun.	Lines across the pool - deep end.	1. Hands inside or outside feet. 2. Grab block. 3. Press against block on take-off. 4. Stretch. 5. Drop head on entry
4. Backstroke Start (I/H) - Demonstration - Commands (Whistle - enter the water) - Key Words: Whistle, Take your marks, Gun.	Lines across the pool - deep end.	1. Pull body upwards and towards the wall. 2. Feet offset on the wall -coiled spring 3. Thrust up and away from block. 4. Arms thrown around sideways. 5. Glide. <u>Faults:</u> 1. No arching over the water. 2. Not kicking hard after leaving the wall.
5. Finish in Breaststroke. (Points 3,4 & 5 - In preparation for Interhouse swimming)	Shallow end - lines	1. 2 hands touch wall simultaneously. 2. Don't glide in. <u>Faults:</u> 1. Uneven hands. 2. Not touching simultaneously.

EQUIPMENT REQUIRED

SAFETY ASPECTS

THEME	SWIMMING - YEARS 8 & 9
ASPECT	FREESTYLE
LESSON	2

OBJECTIVES

At the conclusion of this lesson students should be able to:

1. Demonstrate the correct arm technique.
2. Demonstrate the correct breathing and timing.
3. Demonstrate the whole stroke.

LESSON DEVELOPMENT	ORGANIZATION	TEACHING POINTS
WARM UP 1. Relays - Groups of 4. (i) With kickboard - Kicking (head up), kicking (head down). (ii) Without kickboard. (iii) Dog Paddle.		
DEVELOPMENT FREESTYLE <u>Arms:</u> 1. Practice on wall (no breathing) 2. Wall - Kicking gently as you do the arms 3. Kickboard - Working across the pool - kicking. 4. Single Arm - Right then left. 5. Single Arm Skate - Skate fingers along the surface during recovery. 6. Polo or Tarzan swim (Head up). 7. Catch-up. 8. Pull Properly. <u>Arm Recovery and Timing</u> 1. Thumb Touching - run thumb up arms. 2. Chicken Wings - place fists in armpits. Rotate arms. <u>Breathing</u> 1. Wall - Emphasize timing. 2. Kickboard (no arms) - Partner observes and corrects head position. 3. With arms on kickboard. 4. Off kickboard. <u>Whole stroke</u> 1. Relays - Across the pool (Groups of 4) (i) Catch-up (ii) One Arm Freestyle (iii) Polo (Head up) (iv) Bilateral Breathing	<p>Pairs - lines.</p> <pre> x x x x x x x x x x x x ↓ </pre> <p>Pairs - lines.</p> <pre> x x x x x x x x x x x x ↓ </pre> <p>Across the pool ↕</p> <pre> x x x x x x </pre>	<p>See Handout.</p> <p><u>Faults:</u></p> <ol style="list-style-type: none"> No bent elbows. Pull - Too wide. Arm entry - Too wide. <p>See Handout.</p> <p><u>Faults:</u></p> <ol style="list-style-type: none"> Head lifting when turned. Head turning before breathing, arm starts to pull. Not blowing out when face is in the water.

EQUIPMENT REQUIRED

Kickboards, whistle.

SAFETY ASPECTS


Common sense.

THEME SWIMMING - YEARS 8 & 9
 ASPECT BACKSTROKE
 LESSON 3

OBJECTIVES

At the conclusion of this lesson students should be able to:

1. Perform the correct leg kick action.
2. Demonstrate the correct arm action, above and below the water.
3. Demonstrate the whole stroke competently.

LESSON DEVELOPMENT	ORGANIZATION	TEACHING POINTS
WARM UP 1. Relays - Groups of 4. - Dog Paddle - Freestyle - Chicken Wings - Kicking on back	25m xx xx xx xx 	
DEVELOPMENT BACKSTROKE <u>Back Mobility:</u> (Pairs) 1. Gliding on the back. 2. Kicking on back. 3. Using arms - no kicking. <u>Leg Kick:</u> 1. Kickboard - Hold with each hand. 2. Kickboard - Extended with straight arms beyond the head. 3. No kickboard - Kicking. 4. Sculling Action. 5. Hands extended beyond the head, wrists crossed, palms facing, fingers clasped, straight elbows. 6. Kicking Salute - One arm at side, other arm vertical. <u>Arm Action:</u> (Straight Arm) 1. Holding kickboard above the head, release kickboard and follow through the stroke motion. 2. Repeat arms alternately. (Bent Arm, under the water. Tell students - "Collect a ball from above the shoulder and throw it towards the feet.") <u>Culmination:</u> Relays - Groups of 4. 1. Crocodile. 2. Freestyle. 3. Backstroke.	Across the pool. x x x x x x x x x x Across the pool. x x x x x x x x x x Across the pool. x x x x x x x x x x 25m. xx xx xx xx xx xx xx xx	See Handout. <u>Faults:</u> 1. Body position - head up, feet sunk. See Handout. <u>Faults:</u> 1. Too splashy. 2. Too deep. 3. Too much knee bend. See Handout. <u>Faults:</u> 1. Arm recovery not straight. 2. Not bending arms during pull phase. 3. Arm entry too wide.

EQUIPMENT REQUIRED

Kickboards, whistle.







SAFETY ASPECTS

THEME SWIMMING - YEARS 8 & 9
ASPECT BREASTSTROKE
LESSON 4

OBJECTIVES

At the conclusion of this lesson students should be able to:

1. Demonstrate the Whip Kick in Breaststroke.
2. Demonstrate the correct pull and breathing sequence.
3. Demonstrate the whole stroke.

LESSON DEVELOPMENT	ORGANIZATION	TEACHING POINTS															
WARM UP Relays - Groups of 4. 1. Kicking. 2. Backstroke. 3. Freestyle. 4. Underwater. 5. Crocodiles.	Across the pool. <table><tr><td>x</td><td>x</td><td>x</td></tr><tr><td>x</td><td>x</td><td>x</td></tr><tr><td></td><td></td><td></td></tr><tr><td>x</td><td>x</td><td>x</td></tr><tr><td>x</td><td>x</td><td>x</td></tr></table>	x	x	x	x	x	x				x	x	x	x	x	x	
x	x	x															
x	x	x															
																	
x	x	x															
x	x	x															
DEVELOPMENT (Pairs) <u>Legs:</u> 1. On the edge - practice legs. 2. In the water, on the wall - practice kick. 3. Ankle touch - inhale then kick. 4. Frogkick on their back. 5. Kick-a-bouy knees - put a kickboard between thighs (streamlines the action). <u>Pull:</u> 1. Explain when to take a breath - standing practicing. 2. Practice gliding - count 3. 3. Pull only - put a kickboard between legs. 4. Single arm - pull with one arm at a time. 5. Whole stroke - count strokes. Do as few as possible across width. Keywords: Pull, Bend, Kick, Glide. YEAR 9 ONLY <u>Breaststroke Turn:</u> Practice in pairs. (One partner watching and correcting). <u>Culmination:</u> 1. Swim 4 x 25m's Breaststroke. 2. Relays. (Groups of 4) - Breaststroke - Freestyle	Across the pool. <table><tr><td>x</td><td>x</td><td>x</td><td>x</td></tr><tr><td>x</td><td>x</td><td>x</td><td>x</td></tr><tr><td></td><td></td><td></td><td></td></tr></table>	x	x	x	x	x	x	x	x					<p>See Handout.</p> <p><u>Faults:</u></p> <ol style="list-style-type: none">1. Feet not turned out2. Timing - same speed throughout. <p>See Handout.</p> <p><u>Faults:</u></p> <ol style="list-style-type: none">1. Too wide.2. One continuous motion - no glide.3. Not lifting their head at the <u>start</u> of the pull.4. Order of stroke - Incorrect (See Keywords). <p>See Handout.</p> <p><u>Faults:</u></p> <ol style="list-style-type: none">1. Poor sequencing of armstroke and kick.2. Surfacing too early or too late.			
x	x	x	x														
x	x	x	x														
																	

EQUIPMENT REQUIRED

Kickboards, whistle.

SAFETY ASPECTS

Common sense.

THEME

ASPECT

LESSON

SWIMMING - YEARS 8 & 9

BUTTERFLY

5

OBJECTIVES

- At the conclusion of this lesson students should be able to:
1.

2.

3.
- Demonstrate the Dolphin Kick.

Demonstrate the correct arms and breathing.

Perform the whole Butterfly stroke.

LESSON DEVELOPMENT	ORGANIZATION	TEACHING POINTS
<p><u>WARM UP</u></p> <div> <div>1.</div> <div>2.</div> </div> <div> <div>Scaredrow Tiggy.</div> <div>4 x 25m laps - Freestyle.</div> </div>		
<p><u>DEVELOPMENT</u></p> <p>BUTTERFLY</p> <p><u>Legs:</u> (Pairs)</p> <div> <div>1.</div> <div>2.</div> <div>3.</div> <div>4.</div> <div>5.</div> <div>6.</div> <div>7.</div> </div> <div> <div>Hold edge - Practice kick.</div> <div>Board - Kick across pool (fluid but floppy)</div> <div>No board - Kicking across. Thumbs joined</div> <div>Hands by sides - Kick across.</div> <div>Under water.</div> <div>On side on the surface of the water.</div> <div>Kick, arms in front, head out of water.</div> </div> <p><u>Arms and Breathing:</u></p> <div> <div>1.</div> <div>2.</div> <div>3.</div> </div> <div> <div>Stand in water bending over practising arms.</div> <div>As for 1. but with breathing.</div> <div>Lie in water (float) doing arms.</div> </div> <p><u>Whole:</u></p> <div> <div>1.</div> <div>2.</div> <div>3.</div> <div>4.</div> </div> <div> <div>Do some kicks without moving arms.</div> <div>Then do arm movement without legs. (Lift head).</div> <div>When efficient, cut out the pause and do the whole stroke.</div> <div>When continuous - breathe every second stroke.</div> </div> <p><u>Culmination:</u></p> <p>Butterfly Relays across pool in groups of 4.</p>	<div>Across the pool.</div> <div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> </div> <div>Across the pool.</div> <div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> </div> <div>Across the pool.</div> <div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> <div>x</div> </div>	<div>See Handout.</div> <p><u>Faults:</u></p> <div> <div>1.</div> <div>2.</div> <div>3.</div> </div> <div> <div>Legs not together.</div> <div>Kicking continuously. (Not definite 2 beat kick).</div> <div>Too much knee bend.</div> </div> <div>See Handout.</div> <p><u>Faults:</u></p> <div> <div>1.</div> <div>2.</div> <div>3.</div> </div> <div> <div>Not getting arms out of the water.</div> <div>Elbows <u>too</u> bent.</div> <div>Head not dropping down on arm entry</div> </div> <div>See Handout.</div> <p><u>Faults:</u></p> <div> <div>1.</div> </div> <div> <div>Incorrect timing.</div> </div>

EQUIPMENT REQUIRED

Kickboards, whistle.

SAFETY ASPECTS

THEME SWIMMING - YEARS 8 & 9
ASPECT SIDESTROKE
LESSON 6
OBJECTIVES

At the conclusion of this lesson students should be able to:

1. Demonstrate the correct leg kick for sidestroke.
2. Demonstrate the correct arm action for sidestroke.
3. Demonstrate the whole stroke.
4. Year 9's demonstrate the Egg Beater.

LESSON DEVELOPMENT	ORGANIZATION	TEACHING POINTS
WARM UP (Groups of 4 across pool). 1. Crocodiles - Breaststroke, Freestyle. 2. Freestyle Arms - No legs. 3. Breaststroke legs.		
DEVELOPMENT SIDESTROKE Legs: (Pairs) (Imagine you are stepping over a barrel). 1. Out of water practising the action. 2. In water:- (i) Lie on side. (ii) Raise heels to bottom. (iii) Split. (iv) Squeeze. (v) Glide. 3. Practice on the other side. (Upper leg goes forward). Arm Movement: 1. Practice out of water. (i) One arm up, one down. (ii) Top arm pulls. (iii) Bottom arm pushes. Practices: (Pairs). 1. On the wall practicing kick. 2. One person lies on right side with right hand resting in partner's hands. They do the kick, while partner walks backwards. 3. Repeat 2. on the left side. 4. Do the whole stroke. (Change sides).	Across the pool. x x x x x x	See Handout. Faults: 1. Bottom leg goes forward. 2. Not flexing the foot in the split. 3. Squeeze - Too slow. 4. Not gliding. See Handout. Faults: 1. Hands not meeting Faults: 1. Not bending everything at the same time. 2. No glide. 3. Not looking where you are going.
YEAR 9 (ONLY) EGG BEATER 1. Sitting on edge of pool practising legs. 2. In water.		1. Legs apart. 2. Knees bent. (As if sitting down). 3. Feet flexed. 4. Circle inwards alternating each leg
Culmination: 4 x 25m Interruption Relay. 1. Must Dog Paddle, on whistle do a Duck Dive, somersault, tread water, etc. When whistle blows again student can commence swimming until the next occasion when the whistle is blown.	Groups of 4. x x x x x x x x ↑ ↓ x x x x x x x x	

EQUIPMENT REQUIRED

Kickboards, whistle.

SAFETY ASPECTS

THEME	SWIMMING - YEARS 8 & 9
ASPECT	STARTS, TURNS, FINISHES.
LESSON	7
OBJECTIVES	

At the conclusion of this lesson students should be able to:

1. Demonstrate the Tumble Turn.
2. Demonstrate bilateral breathing.
3. Demonstrate Breaststroke, Backstroke and Grab Start.

[illegible]

EQUIPMENT REQUIRED

Kickboards, whistle.

SAFETY ASPECTS

THEME SWIMMING - YEARS 8 & 9
 ASPECT DIVING
 LESSON 8

OBJECTIVES

At the conclusion of this lesson students should be able to:

1. Perform a standing dive from edge of pool.
2. Demonstrate the 3 steps and hurdle.
3. Demonstrate the 3 steps and hurdle with a forward dive.

LESSON DEVELOPMENT	ORGANIZATION	TEACHING POINTS
<u>WARM UP</u> 8 x 25m Freestyle.	Lanes.	
<u>DEVELOPMENT</u> <u>Diving:</u> 1. Standing dive off edge of pool (Emphasize vertical entry and spring). 2. Pairs - Each person to correct their partner's faults. 3. Diving in Canon-Forward Dive (One after the other). 4. Introduce 3 steps and a hurdle on the ground. 5. Split class into 2 groups. One group to still practice on the ground. The other group to practice on the 1m board and do a straight jump into water. 6. As above, but do a forward dive off board. 7. Introduce Forward Tuck and Forward Pike - Year 9's. (Emphasize elevation and head position at take-off).	x x x x x x x x <hr/> Deep end.	1. Arms above head, Straight, thumbs locked, covering ears. 2. Emphasize height. 3. Hurdle - - step, step, step - knee up, jump - land 2 feet together. - dive. <u>Faults:</u> 1. Head up - not tucked between ears. 2. Arms dropping forwards as soon as they enter water

EQUIPMENT REQUIRED

Whistle.

SAFETY ASPECTS

1. No-one dives until whistle goes.
2. Must ensure water is clear before girls dive.

THEME SWIMMING - YEARS 8 & 9
ASPECT DIVING
LESSON 9

OBJECTIVES

At the conclusion of this lesson students should be able to:

1. Perform a back dive from the 1m board.

LESSON DEVELOPMENT	ORGANIZATION	TEACHING POINTS
1. Revise forward dive with 3 step take-off and hurdle from 1m board. (3 dives each).		
BACK DIVE 1. Pairs in water - arch back to complete a circle under water (5 x). 2. Crouching on edge of pool, other person supporting at knees. (Instruct diver to push up and out and look back for the water, partner ensures diver pushes right out from the wall). 3. Pairs - standing on edge of pool. Partner can support diver in lower back region if required. Diving from edge. 4. Back dive off 1m board. <u>Culmination:</u> Free Dive - Back, Forward, Tuck, Pike, etc.	 Freely spaced in water. Edge of pool. x x x x x x x x <hr/> Deep end.	

EQUIPMENT REQUIRED

SAFETY ASPECTS

1. Must ensure girls DO NOT dive until water is clear.

Strand: Skills for Physical Activity

Observing Student Performance in Swimming

Student: _____

Class: _____

Teacher: _____

Outcome Level	1	2	3	4
Student Outcome Statement: Skills for Physical Activity Pointers: Examples of skills for each level	Demonstrates the fundamental movement skills of body management and locomotion. <ul style="list-style-type: none"> enter and exit water safely glide front and back kick and recover in waist deep water float on back and front with or without a flotation aid 	Demonstrates a wide range of fundamental movement skills including object-control skills. <ul style="list-style-type: none"> swim 10m freestyle with regular breathing swim 5m breastroke kick on back support the body in an upright position 	Demonstrates control in performing movement skills in a controlled environment (eg. isolated skills). <ul style="list-style-type: none"> swim 25m freestyle swim 15m breastroke swim 15m backstroke swim 15m survival backstroke swim 15m sidestroke 	Performs movement skills with control in an open environment. <ul style="list-style-type: none"> swim 50m freestyle with effective kicking, arm stroking and breathing techniques swim 50m breaststroke with effective kicking, arm stroking and breathing techniques demonstrate a dive entry into deep water
Outcome Level	5	6	7	8
Student Outcome Statement: Skills for Physical Activity Pointers: Examples of skills for each level	Performs and modifies a range of movement skills in different forms of physical activity. <ul style="list-style-type: none"> swim 200m demonstrating efficient technique, including <ul style="list-style-type: none"> 50m freestyle 50m backstroke 50m breastroke 25m survival backstroke 25m sidestroke 	Displays advanced movement skills in selected forms of physical activity. <i>Sec O.</i> <ul style="list-style-type: none"> swim <u>300m</u> demonstrating efficient technique, including <ul style="list-style-type: none"> 50m freestyle 50m backstroke 25m butterfly 175m survival strokes <p style="text-align: center;"><i>7 laps</i></p>	Demonstrates enhanced performance by evaluating and refining advanced movement skills in selected forms of physical activity. <ul style="list-style-type: none"> swim a 200m individual medley demonstrating efficient technique, including <ul style="list-style-type: none"> 50m butterfly 50m backstroke 50m breastroke 50m freestyle 	Demonstrates the movement skills required to perform at an elite level.

* If a student has achieved one level it is assumed that they have achieved the levels below

Physical Education
A checklist for Observing Student Performance in Bronze Star Lifesaving Award

Student: _____

Class: _____

Teacher: _____

Test Item	1	2	3	4
Pointers	<p>Theory Answer questions on:</p> <ul style="list-style-type: none"> safe water practices how to survive in the water self-preservation in rescues recognising an emergency assessment before and during a rescue priorities for rescue treatment for shock and elementary aftercare including getting help and contact emergency services in the local area. 	<p>Resuscitation Demonstrate:</p> <ul style="list-style-type: none"> checking for dangers the assessment for unconsciousness clearing and opening the airway checking for the signs indicating the presence or absence of breathing positioning of the casualty for EAR mouth-to-mouth resuscitation mouth-to-nose resuscitation the appropriate action for a casualty who vomits or regurgitates the appropriate action if an airway blockage is apparent the lateral position 	<p>Water Test: Throw – PFD A person is in difficulty 6 metres from safety. Effect a throwing rescue using a PFD as a buoyant aid.</p> <ul style="list-style-type: none"> reassurance effective instruction self-preservation accurate throw 	<p>Water Test: Throw – Unweighted Rope A person is in difficulty 10m from safety. Perform a throwing rescue using an unweighted rope. Secure the person at a point of safety.</p> <ul style="list-style-type: none"> reassurance effective instruction self-preservation effective use of the unweighted rope steady haul to safety person secured
Test Item	5	6	7	8
Pointers	<p>Water Test: Rescue and Resuscitation – An unconscious and non-breathing person is floating face down in deep water.</p> <ul style="list-style-type: none"> enter the water and swim to the person turn the person over and tow 10m to shallow water commence EAR while wading to safety call for assistance 	<p>Water Test: Accompanied Rescue – A person is in difficulty 15m from safety. With flotation aid;</p> <ul style="list-style-type: none"> enter the water as for unknown conditions wade and swim to the person pass the aid to the person instruct in the use of the aid accompany the person to safety secure the person at the point of safety 	<p>Water Test: Tow – A weak swimmer is in difficulty in deep water 20m from safety. With a non-rigid towing aid selected by the assessor.</p> <ul style="list-style-type: none"> enter deep water using a stride entry or compact jump swim to the person and adopt a defensive position offer the aid to the person and tow to safety assist the person out of the water using a stirrup lift 	<p>Water Test: Surface Dive – Demonstrate a head first and feet first surface dive collecting an object from the bottom on each occasion.</p> <ul style="list-style-type: none"> head first surface dive feet first surface dive recovery of an object with each dive
Test Item	9	10	11	12
Pointers	<p>Water Test: Underwater Search – Demonstrate a search pattern.</p> <ul style="list-style-type: none"> searching with hands at minimum depth methodical coverage of area self preservation 	<p>Water Test: Defensive Techniques – Demonstrate the following.</p> <ul style="list-style-type: none"> a rapid reverse an effective leg block an effective escape from a front grasp defence position after each action 	<p>Water Test: Initiative – Demonstrate initiative in effecting a rescue of a person who is no more than 15 m from safety.</p> <p>The assessor will specify –</p> <ul style="list-style-type: none"> Whether the person is injured, unconscious or a weak swimmer From three to five rescue aids The distance the person is from safety <p>On completion of this test, the candidate may be asked to explain the reasons for the actions taken.</p>	<p>Water Test: Survival Skills – Dressed in swimwear, trousers and long sleeved shirt.</p> <ul style="list-style-type: none"> Float using a hand sculling movement for 1 minute and then tread water for 1 minute waving intermittently as if signalling for help Don a PFD and swim 50m Demonstrate the HELP position Climb out of the water
Test Item	13	Bronze Star Award		
Pointers	<p>Water Test: Swim – Dressed in swimwear, swim continuously 300m in 10 minuits</p> <ul style="list-style-type: none"> 100m front crawl 100m on the side 100m on the front 	<input type="checkbox"/> Not Completed <input type="checkbox"/> Still to be Completed <input type="checkbox"/> Successfully Completed		

Theory Test Mark

* test items circled have been achieved

CLASS: Yr 9

ASSESSMENT - BRONZE STAR

NAMES

DOB	THEORY	EAR	THROW PFD	THROW ROPE	RESCUE & RESUS	ACOMP. RESCUE	TOW	SURFAC DIVE	U.H2O SEARCH	DEFENS TECH	SURVIE SKILLS	300M SWIM 10mins.	INITIAT.	MONEY \$10.00	Comments
	17	✓	✓	✓		✓	✓	✓	✓	✓	✓	6:00			
	20	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8:04	✓		P
	24	✓ ^{1.01}	✓	✓	✓	✓	✓	✓	✓	✓	✓	7:55	✓		P
	23	✓ 65	✓	✓	✓	✓	✓	✓	✓	✓	✓	8:03	✓		P
	24	✓ 65			✓	✓		✓	*		✓	8:23	✓		
4	1317	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8:19	✓		P
6	15	✓ 61	✓	✓	✓	✓	✓	✓	✓	✓	✓	11:27	✓		X
	17	✓ 61	✓	✓	✓	✓	✓	✓	✓	✓	✓	8:02	✓		
	17	X	✓	✓		✓	✓	✓	✓		✓	6:47			
	17	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8:23	✓		P
	19 (P)	✓ 8	✓	✓		✓	✓	✓	✓	✓	✓	8:53			
	17	X	✓	✓				✓	*		✓	6:47			X
	17	✓ 51	✓	✓		✓	✓	✓		✓					X
	21	✓ 61	✓	✓	✓	✓	✓	✓	✓	✓	✓	8:40	✓		P
	18:14	✓ 61	✓	✓		✓	✓	✓	✓	✓	✓	6:55			
	2016 (P)	✓ 61	✓	✓	✓	✓	✓	✓	✓	✓	✓	7:35	✓		P
	2015 (P)	✓ 61	✓	✓	✓	✓	✓	✓	✓	✓	✓	6:09	✓		P
	14 (P)	✓	✓	✓	✓		✓	✓	✓		✓	12:56			X
	225 (P)	✓ 01	✓	✓	✓	✓	✓	✓	✓	✓	✓	9:30	✓		P
	15 (P)	✓ 60	✓	✓		✓	✓	✓	✓	✓	✓	X			X
	15 (P)	✓ 60	✓	✓	✓	✓	✓	✓	✓	✓	✓	7:31			
	19 (P)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	8:00	✓		P
	1916 (P)	✓ 80	✓	✓	✓	✓	✓	✓	✓	✓	✓	11:25			X
	22 (P)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	6:53	✓		P

<p>STAGE 1 – BEGINNER</p> <ol style="list-style-type: none"> 1. Enter water safely Shallow. Safe exit 2. Exit water safely Face up 3. Open eyes underwater Identify an object 4. Submerge Waist deep 5. Glide forward and recover Waist deep (minimum) 6. Float or glide backward and recover Waist deep. Rotation and acceptable <p>S1 Safety/Survival Sequence No. 1</p> <p>For an explanation of each sequence see Safety/Survival Sequence</p>	<p>STAGE 4 – WATER AWARENESS</p> <ol style="list-style-type: none"> 16. Swim 15m freestyle Regular breathing 17. Swim 10m backstroke Catchup acceptable 18. Swim 10m survival backstroke Below water arm recovery 19. Swim 5m breaststroke kick Extension 20. Scull head first on back Without leg action 21. Recover an object Chest deep 22. Swim in deep water (Only ___m available) <p>S4 Safety/Survival Sequence No. 4</p>	<p>STAGE 7 – INTERMEDIATE</p> <ol style="list-style-type: none"> 32. Scull feet first on back Sustaining hand action 33. Demonstrate eggbeater kick Water polo kick 34. Swim 150 metres Proficient technique <ul style="list-style-type: none"> • 25m Backstroke • 50m Breaststroke • 50m Freestyle • 25m Survival Backstroke <p>S7 Safety/Survival Sequence No. 7</p>
<p>STAGE 2 – WATER DISCOVERY</p> <ol style="list-style-type: none"> 7. Glide forward and kick 3m Horizontal body position. Face in 8. Glide backward, kick and recover No set distance 9. Swim 5m freestyle Face submerged 10. Scull/tread water Basic hand and leg action, chest deep <p>S2 Safety/Survival Sequence No. 2</p>	<p>STAGE 5 – WATER SENSE</p> <ol style="list-style-type: none"> 23. Swim 25m freestyle Proficient technique 24. Swim 15m backstroke Proficient technique 25. Swim 15m survival backstroke Symmetrical leg action 26. Swim 15m breaststroke Symmetrical leg action 27. Demonstrate a surface dive Chest deep. Recover an object <p>S5 Safety/Survival Sequence No. 5</p>	<p>STAGE 8 – WATER WISE</p> <ol style="list-style-type: none"> 35. Swim 25m sidestroke Scissor kick required 36. Demonstrate dolphin kick Extension 37. Swim 200 metres Proficient technique <ul style="list-style-type: none"> • 50m Backstroke • 50m Breaststroke • 50m Freestyle • 25m Survival Backstroke • 25m Sidestroke <p>S8 Safety/Survival Sequence No. 8</p>
<p>STAGE 3 – PRELIMINARY</p> <ol style="list-style-type: none"> 11. Swim 10m freestyle Breathing 12. Glide backward and kick 5m Waist deep (minimum) 13. Swim 5m breaststroke leg action On back with board 14. Demonstrate survival sculling On back 15. Demonstrate a forward roll Extension <p>S3 Safety/Survival Sequence No. 3</p>	<p>STAGE 6 – JUNIOR</p> <ol style="list-style-type: none"> 28. Swim 50m freestyle Proficient technique 29. Swim 25m backstroke Proficient technique 30. Swim 25m breaststroke Proficient technique 31. Demonstrate a dive entry Deep water required <p>S6 Safety/Survival Sequence No. 6</p>	<p>STAGE 9 – SENIOR</p> <ol style="list-style-type: none"> 38. Swim 10m butterfly Extension 39. Demonstrate a tumble turn Extension 40. Swim 300 metres Proficient technique <ul style="list-style-type: none"> • 50m Freestyle (or 25m Butterfly and 25m Freestyle) • 50m Backstroke • 50m Breaststroke • 50m Freestyle • 50m Sidestroke • 50m Survival Backstroke 41. Basic principles of EAR <p>S9 Non-contact Rescues</p>

NOTE: ADULT SUPERVISION IS ALWAYS NECESSARY

It cannot be assumed that all skills will be repeated under different conditions.

**CONSENT FOR WATER-BASED EXCURSIONS/ACTIVITIES*****STRICTLY CONFIDENTIAL***

This form is intended to assist the school and supervising teachers in the event of an emergency involving your child. It is required for all children attending educational excursions.

Student details

Student's nameDate of birth

Parent or guardian's full name

Address

.....

Telephone number – home

Telephone number – work.....

Mobile telephone number

Name of family doctor Telephone number

Swimming ability (refer to the Education Department and Water Safety Continuum – attached)

Stage 1. BEGINNER	Stage 7. INTERMEDIATE
Stage 2. WATER DISCOVERY*	Stage 8. INTERMEDIATE
Stage 3. PRELIMINARY	Stage 9. SENIOR
Stage 4. WATER AWARENESS*	Stage 10. JUNIOR SWIM AND SURVIVE*
Stage 5. WATER SENSE*	Stage 11. SWIM AND SURVIVE*
Stage 6. JUNIOR	Stage 12. SENIOR SWIM AND SURVIVE*

My child has achieved stage number:

Date Achieved

I am unsure. Please assess my child:

Other comments:

Note: Details of swimming ability related to the excursion

Schools need to request information from parents regarding students' skills and abilities in the context of the excursion. eg ocean, pool.

*Royal Life Saving Society of Australia Awards. Stage 10 focuses on safety and survival abilities, including clothed survival and personal fitness for survival, and extends the student's range of swimming skills. Stages 11 and 12 involve further development of survival and swimming skills and endurance. Stage 12 provides a foundation for rescue awards.

Medical details

Is your child subject to asthma, seizures, fainting, epilepsy, diabetes or any other conditions that may affect his or her safety during aquatic activities? (Staff cannot take responsibility for medical conditions of which they are unaware),

Yes ☐ No ☐

If "yes", give details:

.....
.....

Is your child allergic to:

Penicillin ☐ Give details

Any other drug ☐ Give details

Any food ☐ Give details

Other ☐ Give details

Is any special care required?

Yes ☐ No ☐

If "yes", give details:

.....
.....

Tetanus vaccination:

Yes ☐ No ☐ Don't know ☐

Medications:

Arrangements for the safekeeping and handling of medications must be made prior to the excursion.

Is your child presently taking tablets and/or other forms of medication?

Yes ☐ No ☐

Does your child self-administer the medication?

Yes ☐ No ☐

If "yes", give details (dosage, frequency, name of medication and reason for use):

.....
.....

I agree to inform the organisers before the scheduled excursion departure of any change to my child's health and fitness so that appropriate supervision may be arranged. I acknowledge that, in the event of an accident, the school staff will arrange to present my child for medical assessment as soon as possible.

Signature of parent or guardian Date

SWIMMING AND WATER SAFETY CONTINUUM

<p>STAGE 1 – BEGINNER</p> <ol style="list-style-type: none"> 1. Enter water safely Shallow Safe exit 2. Exhale in water Face in 3. Open eyes under water Identify an object 4. Submerge Waist deep 5. Glide forward and recover Waist deep (minimum) 6. Float or glide backward and recover Waist deep flotation aid acceptable <p>S1 Safety/Survival Sequence No. 1 *</p> <p>* For an explanation of each sequence, see "Safety/Survival Sequences".</p>	<p>STAGE 4 – WATER AWARENESS</p> <ol style="list-style-type: none"> 16. Swim 15m freestyle Regular breathing 17. Swim 10m backstroke Catch-up acceptable 18. Swim 10m survival backstroke Below water arm recovery 19. Swim 5m breaststroke kick Extension 20. Scull head first on back Without leg action 21. Recover an object Chest deep 22. Swim in deep water <p>S4 Safety/Survival Sequence No. 4</p>	<p>STAGE 7 – INTERMEDIATE</p> <ol style="list-style-type: none"> 32. Scull feet first on back Sculling hand action 33. Demonstrate eggbeater kick Water polo kick 34. Swim 150 meters Proficient technique <ul style="list-style-type: none"> • 25m Backstroke • 50m Breaststroke • 50m Freestyle • 25m Freestyle <p>S7 Safety/Survival Sequence No.7</p>
<p>STAGE 2 – WATER DISCOVERY</p> <ol style="list-style-type: none"> 7. Glide forward and kick 3m Horizontal body position. Face in. 8. Glide backward, kick and recover No set distance 9. Swim 5m freestyle Face submerged 10. Scull/tread water Basic hand and leg action, chest deep <p>S2 Safety/Survival Sequence No. 2</p>	<p>STAGE 5 – WATER SENSE</p> <ol style="list-style-type: none"> 23. Swim 25m freestyle Proficient technique 24. Swim 15m backstroke Proficient technique 25. Swim 15m survival backstroke Symmetrical eg action 26. Swim 15m breaststroke Symmetrical action 27. Demonstrate a surface dive Chest deep. Recover an object <p>S5 Safety/Survival Sequence No. 5</p>	<p>STAGE 8 – WATER USE</p> <ol style="list-style-type: none"> 35. Swim 25m sidestroke Scissor kick required 36. Demonstrate dolphin kick Extension 37. Swim 200 metres Proficient technique <ul style="list-style-type: none"> • 50m Backstroke • 50m Breaststroke • 50m Freestyle • 25m Survival Backstroke • 25m Sidestroke <p>S8 Safety/Survival Sequence No. 8</p>
<p>STAGE 3 – PRELIMINARY</p> <ol style="list-style-type: none"> 11. Swim 10m freestyle Breathing 12. Glide backward and kick 5m Waist deep (minimum) 13. Swim 5m breaststroke leg action On back with board 14. Demonstrate survival sculling On back 15. Demonstrate forward roll Extension <p>S3 Safety/Survival Sequence No. 3</p>	<p>STAGE 6 – JUNIOR</p> <ol style="list-style-type: none"> 28. Swim 50m freestyle Proficient technique 29. Swim 25m backstroke Proficient technique 30. Swim 25m breaststroke Proficient technique 31. Demonstrate a dive entry Deep water required <p>S6 Safety/Survival Sequence No. 6</p>	<p>STAGE 9 – SENIOR</p> <ol style="list-style-type: none"> 38. Swim 10m butterfly Extension 39. Demonstrate a tumble turn Extension 40. Swim 300 metres Proficient technique <ul style="list-style-type: none"> • 50m Freestyle (or 25m Butterfly & 25m Freestyle) • 50m Backstroke • 50m Breaststroke • 50m Freestyle • 50m Sidestroke • 50m Survival Backstroke 41. Basic principles of EAR <p>S9 Non-contact Rescues No. 9</p>

NOTE: ADULT SUPERVISION IS ALWAYS NECESSARY

It cannot be assumed that all skills will be repeated under different conditions

Swimming Assessment Framework

EDWA SOS Framework	1	2	3	4	5	6
EDWA Vacation Swimming Program Stages	2 Swim 5 freestyle Scull Glide / kick on back	4 Swim 15 freestyle 10 backstroke 10 br/stroke	6 Swim 50 freestyle 25 backstroke 25 br/stroke	8 Swim 50 backstroke 50 br/stroke 50 freestyle 25 surv. back 25 sidestroke	9 Swim 50 of freestyle butterfly backstroke br/strok sidestroke surv. back EAR	
Royal Life Saving Society Awards			Jnr. Swim & Survive Swim 100m 25 freestyle 25 surv. back 25 backstroke 25 br/stroke	Swim & Survive Swim 200m 50 sidestroke 50 backstroke 50 br/stroke 50 freestyle	Snr Swim & Survive Swim 300m 50 butterfly 50 backstroke 50 br/stroke 50 freestyle 50 sidestroke 50 surv. back	Bronze Star Swim 300 in clothes EAR Rescues Search Survival Skills (PFD) Theory Test

Table Y1: Current Qualifications of the TiC and Teachers

n=33 TiC n=43 Teachers	TiC	T
Coded description	f	f
Bronze Medallion (RLSSA)	15	26
Austswim/Austswim Instructors		7
No current qualifications listed	6	6
First Aid (St Johns Snr, RLSSA).	6	6
Surf Rescue Certificate (Surf Life-saving Certificate)	5	5
Bronze Medallion Instructors/Examiners	4	4
Surf Bronze/Community Bronze – SLSA	3	3
Resuscitation – St Johns Certificate	2	3
Swimming Level 1. Coaching Accreditation	1	3
Level 2 Snorkelling/Scuba Instructor	1	
Surf Awareness Certificate		2
Oxygen resuscitation		1
Pool Lifeguard		1
Triathlon Level 1. Coaching		1
Swimming Level 3. Coaching Accreditation		1
Teaching of Swimming Certificate		1
Sports Trainer Level 1.		1
State Swim Instructor		1
Wilderness First Aid Certificate		1

TiC=Teacher in Charge of HPE. T=Teacher of HPE

Table Y2: Out of Date Qualifications of the TiC and Teachers

n=33 TiC n=43 Teachers	TiC	T
Coded description	f	f
No out of date qualifications listed	12	20
Bronze Medallion (RLSSA)	11	11
Austswim/Austswim Instructors	5	16
Surf Bronze/Community Bronze – SLSA	4	
Swimming Level 1. Coaching Accreditation	1	
Bronze Cross	1	
Resuscitation – St Johns Certificate		2
First Aid (St Johns Snr, RLSSA)		2
Teaching of Swimming Certificate		2

TiC=Teacher in Charge of HPE. T=Teacher of HPE.

Table Y3: Appropriate Lane/Space Allocation

Coded 'NO' responses from teachers responding to the question: Is the lane/space allocation appropriate for all of the students in a Year 8 and Year 9 class?	f	
	Yr 8	Yr 9
Crowded	4	5
Generally inadequate for teaching	1	1
Lanes are inappropriate – work across the pool	1	1
Cannot get any bookings at the public pool	1	
Dependent on the prevailing conditions		1

Table Y4: Appropriate Pool Depth

Coded 'NO' responses from teachers responding to the question: Is the pool depth appropriate for all of the students in Year 8 and Year 9 class?	f	
	Yr 8	Yr 9
Too deep – having depth where weaker students can stand	2	2
Gradual depth – use of shallow end is difficult	1	1
Not deep enough	1	2

Table Y5: Aspects of the Pool that Restrict the Unit

Coded 'YES' responses from TiC responding to the question: What are these aspects and how do they restrict the Year 8 and Year 9 swimming unit?	f	
	Yr 8	Yr 9
Pool unavailable		
Clash with other schools – over booked	3	2
Timetabling of multiple classes – space is restricted	2	2
No public pool available	1	1
Lane availability – restricted	1	1
More space		
More space would allow for smaller groups	2	2
More space the better the session	1	1
More space increases work time	1	1
Temperature - Cold	2	2
Storage restrictions - No where to put equipment	1	1
Space division - Sections are better than lanes	1	
Quality of water - River water	1	

Table Y6: Strongest Source of What to Teach in HPE Swimming

What to Teach			Frequencies of Rank							
Description	Overall Rank	Mean Rank	1	2	3	4	5	6	7	8
Teaching experience	1	2.53	14	6	5	7	2	2		
RLSSA training	2	2.79	9	6	4	5	3	1	1	
Austswim training	3	2.89	4	8	8	2	1	3		
Undergraduate training	4	2.93	7	4	5	6	3	2	1	
Other teachers	5	3.64	2	8	4	4	5	4	1	
SLSA training	6	3.78			2	2	4	1		
Books	7	3.87	1	2	6	5	5	6	2	4
PD training	8	4.19	1	4	1	2	4	1	3	
Other	9	-	1	1	2	2				

Other=Appropriate resource materials; club coaching experience; curriculum; own swim classes; own swimming experience; Vacswim/Interm teaching.

Table Y7: Strongest Source of How to Teach HPE Swimming

How to Teach			Frequencies of Rank							
Description	Overall Rank	Mean Rank	1	2	3	4	5	6	7	8
Teaching experience	1	1.40	17	9	7	2	3			
Other teachers	2	2.41	5	7	4	6	5	1	1	
Austswim training	3	2.85	4	9	6	3	1	2		1
RLSSA training	4	3.11	6	4	7	4	3	3		
Undergraduate training	5	3.17	7	5	4	6	4	2	1	
Books	6	3.27		1	6	7	5	3	2	2
PD training	7	4.80	1	3		3	4	4	1	2
SLSA training	8	5.00			3	1	2		2	1
Other	9	-	1	1		2				

Other=Club experience; advanced swimming option at University; Vacswim/Interm swimming experience; own swimming experience.

Table Y8: The Best Way to Teach Year 8 Swimming

Best Way to Teach			Frequencies of Rank							
Description	Overall Rank	Mean Rank	1	2	3	4	5	6	7	8
Teacher-centred	1	2.74	7	3	4	2	1		2	
Student-centred	2	2.88	5	4	2	3	1	1	1	
Technique drills	3	3.05	4	9	2	3	1	1		2
Games	4	3.63	2	1	6	6	2	1	1	
Challenge activities	5	3.88	2	3	2	2	3	3	1	
Peer teaching	6	4.33		2	2	2	4	2	1	2
Groups at stations	7	4.82	1		3		2	3	1	1
Discovery learning	8	6.27		1			2	2	3	3

Table Y9: The Best Way to Teach Year 9 Swimming

Best Way to Teach			Frequencies of Rank							
Description	Overall Rank	Mean Rank	1	2	3	4	5	6	7	8
Technique drills	1	2.43	5	5		3			1	
Student-centred	2	2.70	3	2	2	1	2			
Games	3	3.23		3	1	3	5	1		
Groups at stations	4	3.29	2		3			2		
Teacher-centred	5	3.41	7		4	1		2	1	2
Challenge activities	6	3.79	1	3	3	3	1	1	2	
Peer teaching	7	3.80		4	2	1	1		1	1
Discovery learning	8	5.00			1	1		1	1	2
Other	9	-		1						

Other=Ability grouping.

Table Y10: TiC Goals/Outcomes for Year 8 HPE Swimming

Goals/Outcomes			Frequencies of Rank							
Description	Overall Rank	Mean Rank	1	2	3	4	5	6	7	8
Develop confidence	1	2.18	13	6	2	5	2			
Safer water participant	2	2.55	5	5	4	6	1			1
Develop stroke proficiency	3	3.35	6	4	5	3	3	4	1	
Develop survival skills	4	3.64	2	6	7	1	4	3	2	
Have fun	5	4.36	1	3	5	4	6	2	3	1
Improve fitness	6	4.88	1	2	2	5	3	7	3	1
Develop rescue skills	7	6.00			2	1	3	3	7	2
Improve race times	8	6.21		1		2	3	1		7
Other	9	-		1						1

Other=Achieve qualifications; interpersonal skills.

Table Y11: Teacher Goals/Outcomes for Year 8 HPE Swimming

Goals/Outcomes			Frequencies of Rank							
Description	Overall Rank	Mean Rank	1	2	3	4	5	6	7	8
Develop confidence	1	2.29	13	3	2	3	1	1	1	
Safer water participant	2	2.90	4	6	2	5	2	1		
Develop survival skills	3	3.32	3	3	4	4	4	1		
Develop stroke proficiency	4	3.65	2	4	2	7	2	2	1	
Have fun	5	3.86	2	4	5	2	2	5		1
Develop rescue skills	6	4.71		1	4		4	3	2	
Improve fitness	7	5.50		1	2		3	4	7	
Improve race times	8	6.39		1	2		1		2	7

Table Y12: TiC Goals/Outcomes for Year 9 HPE Swimming

Goals/Outcomes			Frequencies of Rank							
Description	Overall Rank	Mean Rank	1	2	3	4	5	6	7	8
Develop confidence	1	2.44	7	5	5	6				
Safer water participant	2	2.79	6	4	2	5	1			1
Develop survival skills	3	3.00	5	4	6		4	2		
Develop stroke proficiency	4	3.87	4	3	3	2	4	7		
Have fun	5	4.28	3	3	5	4	2	2	3	3
Improve fitness	6	4.50	1	3	2	4	3	3	4	
Develop rescue skills	7	4.56	1	3	2	1	5	2	4	
Improve race times	8	6.89				1	2			6
Other	9	-		1						1

Other=Achieve qualifications; interpersonal skills.

Table Y13: Teacher Goals/Outcomes for Year 9 HPE Swimming

Goals/Outcomes			Frequencies of Rank							
Description	Overall Rank	Mean Rank	1	2	3	4	5	6	7	8
Develop confidence	1	2.93	5	3		3	1	1	1	
Develop stroke proficiency	2	3.44	3	2	5	2	2	1	1	
Safer water participant	3	3.65	2	3	2	5	2	3		
Develop survival skills	4	3.72	2	3	5	4	4			
Have fun	5	3.83	2	1	2	2	2	3		
Develop rescue skills	6	4.40	3	2	1		4	2	2	1
Improve fitness	7	4.74	2	3	2		3	2	7	
Improve race times	8	7.50					1		2	7

Table Y14: The Most Important Content to Teach in Year 8 HPE Swimming

Most Important Content			Frequencies of Rank							
Description	Overall Rank	Mean Rank	1	2	3	4	5	6	7	8
Confidence activities	1	2.65	13	1	2	3		1	2	1
Survival skills	2	2.83	3	8	6	3	2	1		3
Stroke proficiency F/S,BR/S,BA/S,FLY	3	3.04	5	4	4	8	2	1		
Safety activities	4	3.14	4	5	3	2	7			
Rescue skills	5	4.73		3	3	2	5	7	2	
Fun activities	6	5.00		1	5	3	4	3	2	3
Fitness activities	7	5.68								
Race techniques	8	7.53		2	1	2	1	5	5	9

Table Y15: The Most Important Content to Teach in Year 9 HPE Swimming

Most Important Content			Frequencies of Rank							
Description	Overall Rank	Mean Rank	1	2	3	4	5	6	7	8
Survival skills	1	2.18	6	6	2	2	1			
Stroke proficiency F/S,BR/S,BA/S,FLY	2	2.71	5	3	4	2	3			
Confidence activities	3	3.50	3	4		2	1	3	1	
Safety activities	4	3.77	1	3	3	6	1	2	1	
Rescue skills	5	4.13	1	1	5	1	2	5		
Fitness activities	6	5.06		1	4	2	1	5	3	1
Fun activities	7	5.69	1			2	6		4	3
Race techniques	8	6.71				1	3	1	3	6
Other	9	-	1							

Other=Self preservation.

Table Y16: Life-saving and Survival/Safety/Water Awareness Activities

Activities	Year 8	n=22	Year 9	n=19	Year 8/9	
	Rank	f	Rank	f	Rank	f
Survival strokes	1	20	1	19	1	39
Water entries	2	19	2	17	2	36
Treading water	3	17	2	17	3	34
Towing skills	5	13	4	16	4	29
Reach/throw skills	4	14	5	14	5	28
Search activities	6	10	6	12	6	22
Clothing swim	7	6	7	7	7	13
EAR/CPR	8	5	7	7	8	12
Other		1		2		

Other=Sculling, surf awareness, theory test. n=Number.

NB: More TiC responded to this question than those who chose to confirm how much time was allocated to life-saving and survival/safety/water awareness in the PE unit.

Table Y17: Activities Done Out of the Pool

Coded 'YES' responses to the question – what is done, where are they done?		Year 8	Year 9	Year 8/9	
Activities		f	f	Rank	f
Scenarios for – and skills of rescue/DRABC		6	6	1	12
CPR		2	4	2	6
Water safety		3	1	3	4
Assessment – theory/prac		1	2	4	3
Before and after school		1	1	5	2
Sun/skin safety/cancer prevention		1	1	5	2
Classroom		1	1	5	2
Stroke development		1		8	1

Table Y18: Life-saving and Survival/Safety/Water Awareness Programmes

Programmes	Frequency		
	Year 8	Year 9	Year 8/9
Bronze Star		3	3
Senior Swim and Survive		2	2
RLSSA Award - Snorkelling	1	1	2
RLSSA Award - General	1	1	2
Accompanied Rescue Certificate	1		1
Bronze Medallion		1	1

Table Y19: Methods Used to Monitor/Assess Student Outcomes

Coded teacher responses describing monitoring or assessment procedures	Phase of unit						Overall Rank	Total f
	Start		During		End			
	Rank	f	Rank	f	Rank	f		
Technique/endurance – observation/evaluation	1	21	1	16	1	9	1	46
Times for strokes – time-trials	4	4	2	6	3	6	2	18
Teaching/practical test/pre-test	3	5	-	-	2	7	3	12
General checklist – observation	-	-	4	5	3	6	4	11
Student Outcome Statement – pointers	6	2	5	2	3	6	5	10
Education Department – stages/levels	5	3	5	2	6	3	6	8
Asking students	2	6	-	-	-	-	7	6
Challenge activities			2	6			7	6
RLSSA awards/stage criteria	-	-	5	2	7	2	9	4
Sportfolio's	7	1	8	1	9	1	10	3
Progress maps/notes	-	-	8	1	7	2	10	3
Curriculum Framework – levels	7	1	-	-	9	1	12	2
Peer assessment/observation using a rubric	-	-	8	1	9	1	12	2
Student self-assessment	-	-	-	-	9	1	14	1
Participation	-	-	-	-	9	1	15	-

Table Y20: Strengths of the Programme

Strengths of the Programme	Year 8/9		Year 8		Year 9	
	Rank	f	Rank	f	Rank	f
Course content – water safety, rescue, survival, stroke technique	1	14	1	9	2	5
Provision for all students/exposure to swimming	2	11	2	8	3	3
Fun/enjoyable/safe activities	3	9	3	6	1	6
Opportunity for training/fitness	4	8	4	5	3	3
Participation	5	7	5	4	3	3
Student improvement	5	7	5	4	3	3
Having a school pool	7	5	5	4	7	1
Quality teachers/teaching	8	4	8	1	3	3
Facilities	9	2	-	-	5	2
Learning environment	9	2	-	-	5	2
Student enthusiasm	9	2	7	2	-	-
Compulsory	11	1	-	-	7	1
Space allocation	11	1	8	1	-	-
Held in warmer months	11	1	-	-	7	1
Reality situations	11	1	8	1	-	-
Discipline – learning for life	11	1	-	-	7	1
Maximum use of limited space	11	1	8	1	-	-
Off campus	11	1	-	-	7	1
Carnival preparation	11	1	8	1	-	-

Table Y21: Weaknesses of the Programme

Weaknesses of the Programme	Year 8/9		Year 8		Year 9	
	Rank	f	Rank	f	Rank	f
Large classes	1	12	2	8	3	4
Space limited	1	12	4	6	1	6
Not enough time allocated to HPE/swimming unit	3	11	1	10	6	1
Wide range of abilities	4	9	2	8	6	1
Course content – inappropriate/insufficient	5	8	5	3	2	5
Venue	6	4	5	3	6	1
Lack of student and/or parent support/interest/participation	7	3	8	1	4	2
Cold water	7	3	7	2	6	1
Lack of facilities/staff	9	2	-	-	4	2
Time wasted in travel	9	2	8	1	6	1
Boring.	11	1	-	-	6	1
No pool	11	1	8	1	-	-
Lack of knowledge of what else to do	11	1	8	1	-	-
Not enough instruction to students	11	1	8	1	-	-

STUDENT QUESTIONNAIRE: CONSTRUCT 1-10

Construct 1: Student Attitudes Toward Physical Education

VALID % FOR YR 8/9

42. I enjoy the activities we do in school PE.	SD	D	N	A	SA	M	Sd
All Yr 8/9	3.6	4.5	20.9	47.0	23.9	3.83	.964
Yr 8	2.9	4.5	19.0	47.6	26.0	3.89	0.939
Yr 9	4.7	4.5	23.7	46.1	20.9	3.74	0.993
Yr 8/9 Male	4.6	4.4	19.9	45.2	25.9	3.83	1.011
Yr 8/9 Female	2.6	4.4	21.8	49.8	21.5	3.83	.903
Yr 8/9 Government	3.9	3.5	19.7	47.2	25.7	3.87	0.965
Yr 8/9 Independent	3.0	6.7	23.9	46.4	20.0	3.74	0.955
52. PE is fun.	SD	D	N	A	SA	M	Sd
All Yr 8/9	5.1	4.4	17.6	34.2	38.7	3.97	1.095
Yr 8	4.7	3.8	16.7	33.2	41.5	4.03	1.077
Yr 9	5.7	5.2	18.8	35.6	34.6	3.88	1.116
Yr 8/9 Male	5.8	4.1	16.3	31.0	42.8	4.01	1.129
Yr 8/9 Female	4.4	4.4	18.9	38.3	34.1	3.93	1.047
Yr 8/9 Government	5.6	3.8	17.8	33.7	39.1	3.97	1.106
Yr 8/9 Independent	4.1	5.6	17.1	35.3	37.9	3.97	1.071
62. I do not like doing PE.	SD	D	N	A	SA	M	Sd
All Year 8/9	44.6	28.4	15.4	6.7	4.9	1.99	1.143
Yr 8	48.4	27.8	14.0	6.0	3.8	1.89	1.095
Yr 9	39.2	29.3	17.5	7.8	6.3	2.13	1.196
Yr 8/9 Male	47.3	24.9	15.8	7.1	4.9	1.97	1.163
Yr 8/9 Female	41.6	33.0	14.7	5.9	4.8	1.99	1.111
Yr 8/9 Government	43.4	28.0	15.7	7.6	5.3	2.03	1.171
Yr 8/9 Independent	47.4	29.3	14.8	4.6	3.9	1.88	1.072

72. In PE I try to do as well as I can.	SD	D	N	A	SA	M	Sd
All Year 8/9	2.1	2.7	11.8	40.7	42.7	4.19	.896
Yr 8	1.8	1.4	9.9	39.3	47.6	4.30	0.840
Yr 9	2.4	4.6	14.7	42.7	35.6	4.04	0.951
Yr 8/9 Male	2.8	2.9	12.5	38.7	43.2	4.19	.945
Yr 8/9 Female	1.3	2.4	10.4	43.3	42.6	4.24	.83
Yr 8/9 Government	2.6	2.5	12.7	39.8	42.4	4.17	0.927
Yr 8/9 Independent	0.9	3.1	9.8	42.9	43.4	4.25	0.820
82. The activities we do in PE are interesting.	SD	D	N	A	SA	M	Sd
All Year 8/9	5.1	6.3	24.4	44.1	20.0	3.68	1.037
Yr 8	4.6	6.5	23.5	42.6	22.8	3.73	1.029
Yr 9	6.0	6.0	25.7	46.3	16.0	3.60	1.020
Yr 8/9 Male	6.0	6.2	24.0	43.3	20.6	3.66	1.058
Yr 8/9 Female	4.3	6.3	24.7	45.4	19.3	3.69	.993
Yr 8/9 Government	4.8	5.6	24.1	42.7	22.8	3.73	1.026
Yr 8/9 Independent	5.9	7.9	24.9	47.4	13.9	3.55	1.021

Construct 2: Student Attitude Toward Physical Education Swimming

VALID % FOR YR8/9

43. I did not enjoy this terms school PE swimming activities.	SD	D	N	A	SA	M	Sd
All Yr 8/9	20.1	35.0	26.4	11.9	6.6	2.50	1.134
Yr 8	21.6	36.0	23.3	12.6	6.6	2.47	1.154
Yr 9	17.9	33.6	31.0	10.0	6.5	2.54	1.104
Yr 8/9 Male	19.4	31.7	28.6	13.4	6.9	2.57	1.148
Yr 8/9 Female	20.8	39.5	23.1	10.4	6.3	2.42	1.116
Yr 8/9 Government	21.6	33.1	25.8	12.6	7.0	2.50	1.164
Yr 8/9 Independent	16.7	39.3	27.8	10.4	5.7	2.49	1.065
53. The swimming activities in PE this term were fun.	SD	D	N	A	SA	M	Sd
All Yr 8/9	6.8	8.5	26.1	37.7	20.9	3.58	1.113
Yr 8	6.5	6.5	24.7	39.2	23.2	3.66	1.098
Yr 9	7.2	11.5	28.1	35.6	17.6	3.45	1.124
Yr 8/9 Male	7.7	8.8	25.3	37.2	22.0	3.55	1.143
Yr 8/9 Female	5.7	8.2	26.5	39.0	20.5	3.60	1.077
Yr 8/9 Government	7.3	7.3	26.0	36.8	22.7	3.60	1.129
Yr 8/9 Independent	5.7	11.4	26.2	40.0	16.8	3.51	1.075
63. I would like to do more PE swimming activities this year.	SD	D	N	A	SA	M	Sd
All Year 8/9	11.0	13.5	27.2	23.9	24.4	3.37	1.285
Yr 8	9.4	11.2	26.0	25.8	27.7	3.51	1.262
Yr 9	3.0	16.8	29.0	21.3	19.6	3.17	1.293
Yr 8/9 Male	11.5	13.4	29.1	23.0	23.0	3.32	1.281
Yr 8/9 Female	10.1	13.5	24.9	25.5	26.1	3.44	1.282
Yr 8/9 Government	10.5	11.3	28.1	24.2	25.6	3.43	1.271
Yr 8/9 Independent	12.1	18.4	25.2	22.6	21.7	3.23	1.308

73. In PE swimming I try to do as well as I can.	SD	D	N	A	SA	M	Sd
All Year 8/9	3.8	3.8	14.3	41.5	36.6	4.03	1.0
Yr 8	2.8	3.2	12.1	41.0	40.9	4.14	0.946
Yr 9	5.1	4.8	17.4	42.4	30.4	3.88	1.056
Yr 8/9 Male	4.8	3.4	15.1	39.8	37.0	4.01	1.042
Yr 8/9 Female	2.7	4.3	12.6	44.1	36.3	4.07	.948
Yr 8/9 Government	4.5	4.5	14.2	40.4	36.4	4.00	1.043
Yr 8/9 Independent	2.2	2.4	14.4	44.1	36.9	4.11	0.892
83. The activities we did in PE swimming this term were interesting.	SD	D	N	A	SA	M	Sd
All Year 8/9	6.8	9.4	30.1	36.6	17.1	3.48	1.091
Yr 8	6.0	9.5	29.6	34.7	20.2	3.54	1.097
Yr 9	8.1	9.3	30.7	39.5	12.5	3.39	1.077
Yr 8/9 Male	7.2	10.0	29.2	37.8	15.7	3.45	1.094
Yr 8/9 Female	6.5	8.4	31.1	35.3	18.7	3.51	1.088
Yr 8/9 Government	6.4	8.1	29.9	36.6	19.0	3.54	1.084
Yr 8/9 Independent	7.8	12.3	30.4	36.7	12.8	3.34	1.095

Construct 3: Student Perceptions Of The Usefulness Of Physical Education

VALID % FOR YR8/9

44. PE is not important to me	SD	D	N	A	SA	M	Sd
All Yr 8/9	36.7	33.7	16.1	7.5	6.0	2.12	1.162
Yr 8	41.5	32.1	15.7	5.6	5.1	2.01	1.121
Yr 9	29.8	36.1	16.7	10.2	7.2	2.29	1.200
Yr 8/9 Male	37.2	31.3	16.9	7.9	6.7	2.15	1.198
Yr 8/9 Female	36.1	36.5	15.3	7.1	5.0	2.08	1.115
Yr 8/9 Government	25.4	34.2	16.3	7.7	6.5	2.16	1.176
Yr 8/9 Independent	39.8	32.6	15.8	7.0	4.8	2.04	1.127
54. It is important for me to be good at PE.	SD	D	N	A	SA	M	Sd
All Yr 8/9	3.8	7.3	22.2	36.2	30.4	3.82	1.064
Yr 8	2.9	7.1	19.8	37.0	33.1	3.90	1.035
Yr 9	5.1	7.6	25.6	35.2	26.4	3.70	1.095
Yr 8/9 Male	4.2	6.6	20.5	37.2	31.5	3.85	1.068
Yr 8/9 Female	3.4	8.1	24.0	35.4	29.1	3.79	1.056
Yr 8/9 Government	4.1	7.2	23.3	35.7	29.8	3.80	1.070
Yr 8/9 Independent	3.3	7.7	19.7	37.5	31.8	3.87	1.050
64. I expect to make use of what I learn in PE.	SD	D	N	A	SA	M	Sd
All Year 8/9	3.4	6.0	26.8	42.2	21.6	3.73	.976
Yr 8	3.1	3.7	25.9	42.5	24.8	3.82	0.949
Yr 9	3.8	9.2	28.2	41.7	17.0	3.59	0.998
Yr 8/9 Male	3.8	6.5	25.9	41.8	22.0	3.72	1.00
Yr 8/9 Female	2.8	5.2	27.9	42.9	21.2	3.74	.943
Yr 8/9 Government	3.3	5.4	27.4	42.0	21.9	3.74	0.969
Yr 8/9 Independent	3.5	7.0	25.7	42.8	21.1	3.71	0.990

74. I don't learn much in PE.	SD	D	N	A	SA	M	Sd
All Yr 8/9	25.5	33.6	24.1	11.7	5.1	2.37	1.133
Yr 8	28.2	34.2	22.1	10.7	4.8	2.30	1.129
Yr 9	21.7	32.8	26.9	13.2	5.4	2.48	1.130
Yr 8/9 Male	26.4	30.6	24.3	12.3	6.3	2.41	1.182
Yr 8/9 Female	24.2	37.8	23.3	11.2	3.6	2.32	1.069
Yr 8/9 Government	27.2	32.8	23.6	11.3	5.1	2.34	1.140
Yr 8/9 Independent	21.8	35.4	25.1	12.7	5.1	2.44	1.115
84. The activities we do in PE are important to my future.	SD	D	N	A	SA	M	Sd
All Yr 8/9	5.8	11.8	31.3	32.2	18.9	3.47	1.101
Yr 8	4.9	10.4	29.8	34.2	20.7	3.56	1.078
Yr 9	7.2	13.8	33.4	29.3	16.3	3.34	1.121
Yr 8/9 Male	5.9	10.6	28.5	34.4	20.7	3.54	1.108
Yr 8/9 Female	5.8	13.2	34.3	29.8	16.9	3.39	1.090
Yr 8/9 Government	5.5	11.1	31.7	32.2	19.4	3.49	1.091
Yr 8/9 Independent	6.6	13.2	30.3	32.2	17.8	3.41	1.122

Construct 4: Student Perceptions Of The Importance Of Swimming

VALID % FOR YR8/9

45. It is not important to me to be a good swimmer.	SD	D	N	A	SA	M	Sd
All Yr 8/9	34.7	33.0	16.8	9.8	5.7	2.19	1.176
Yr 8	37.2	31.6	16.6	9.1	5.6	2.14	1.176
Yr 9	31.1	35.2	17.1	10.7	5.9	2.25	1.174
Yr 8/9 Male	31.4	32.3	17.7	12.2	6.4	2.30	1.211
Yr 8/9 Female	38.8	34.2	15.3	6.9	4.7	2.05	1.115
Yr 8/9 Government	32.9	33.3	17.2	10.2	6.3	2.24	1.194
Yr 8/9 Independent	38.8	32.4	15.9	8.8	4.2	2.07	1.128
55. It is important to me to be good at 'freestyle'.	SD	D	N	A	SA	M	Sd
All Yr 8/9	4.1	7.9	24.8	37.7	25.5	3.72	1.056
Yr 8	3.9	7.3	24.1	36.9	27.9	3.78	1.054
Yr 9	4.5	8.8	26.0	38.8	22.0	3.65	1.054
Yr 8/9 Male	4.8	7.9	23.4	36.7	27.1	3.73	1.090
Yr 8/9 Female	3.2	8.0	26.4	39.4	22.9	3.71	1.010
Yr 8/9 Government	4.6	7.8	25.8	37.0	24.9	3.70	1.068
Yr 8/9 Independent	3.1	8.1	22.8	39.3	26.8	3.79	1.026
65. It is important to me to be good at swim races.	SD	D	N	A	SA	M	Sd
All Yr 8/9	12.1	19.6	31.4	22.8	14.0	3.07	1.221
Yr 8	11.3	19.8	30.8	22.7	15.5	3.11	1.217
Yr 9	13.4	19.3	32.3	23.0	12.0	3.01	1.201
Yr 8/9 Male	13.7	18.4	30.6	22.2	15.1	3.07	1.246
Yr 8/9 Female	9.9	21.2	32.5	23.7	12.6	3.08	1.161
Yr 8/9 Government	11.8	19.8	33.0	21.8	13.6	3.06	1.196
Yr 8/9 Independent	12.9	19.2	27.7	25.1	15.1	3.10	1.247

75. It is important to me to learn how to save people in water.	SD	D	N	A	SA	M	Sd
All Yr 8/9	2.8	3.6	18.0	34.7	40.9	4.07	.991
Yr 8	2.3	3.3	15.8	33.4	45.2	4.16	0.959
Yr 9	3.6	4.1	21.3	36.4	34.6	3.94	1.024
Yr 8/9 Male	3.6	4.8	20.5	34.7	36.4	3.95	1.043
Yr 8/9 Female	1.6	2.2	14.8	34.9	46.4	4.22	.894
Yr 8/9 Government	3.2	4.4	19.9	32.9	39.6	4.01	1.030
Yr 8/9 Independent	2.0	1.8	13.8	38.7	43.8	4.21	0.884
85. It is important to learn how to be a safe swimmer.	SD	D	N	A	SA	M	Sd
All Yr 8/9	2.9	2.3	14.7	40.0	40.2	4.12	.940
Yr 8	2.3	1.8	12.6	38.4	44.8	4.22	0.899
Yr 9	3.7	3.0	17.6	42.3	33.4	3.99	0.981
Yr 8/9 Male	4.1	3.1	19.0	38.9	34.7	3.98	1.015
Yr 8/9 Female	1.5	1.3	9.4	41.4	46.3	4.3	.811
Yr 8/9 Government	3.1	2.5	16.3	39.1	39.0	4.08	0.963
Yr 8/9 Independent	2.2	2.0	11.0	42.0	42.9	4.21	0.878

Construct 5: Student Perceptions Of The Outcomes Attained In Response To Participating In Physical Education Swimming

VALID % FOR YR8/9

46. My swimming improved in PE this term.	SD	D	N	A	SA	M	Sd
All Yr 8/9	8.7	17.6	31.8	31.8	10.1	3.17	1.103
Yr 8	8.5	17.4	29.5	33.4	11.2	3.21	1.118
Yr 9	9.0	17.8	35.2	29.5	8.5	3.11	1.079
Yr 8/9 Male	8.9	17.2	30.2	32.6	11.2	3.20	1.123
Yr 8/9 Female	8.3	18.0	33.8	31.6	8.3	3.14	1.068
Yr 8/9 Government	7.2	16.7	31.6	33.7	10.8	3.24	1.080
Yr 8/9 Independent	12.1	19.6	32.3	27.5	8.6	3.01	1.140
56. This term, because of the swimming activities in PE my ability to save another person improved.	SD	D	N	A	SA	M	Sd
All Yr 8/9	8.9	11.1	33.9	29.3	16.8	3.34	1.148
Yr 8	9.0	11.8	33.1	29.5	16.7	3.33	1.153
Yr 9	8.9	10.0	35.0	29.1	16.9	3.35	1.141
Yr 8/9 Male	9.8	11.4	32.8	30.1	15.9	3.31	1.162
Yr 8/9 Female	7.8	10.6	35.4	28.8	17.4	3.37	1.125
Yr 8/9 Government	7.6	10.4	35.4	30.9	15.7	3.37	1.100
Yr 8/9 Independent	12.0	12.6	30.5	25.7	19.2	3.27	1.248
66. As a result of doing swimming in PE this term I am a more confident swimmer.	SD	D	N	A	SA	M	Sd
All Yr 8/9	8.3	12.9	32.8	30.7	15.3	3.32	1.131
Yr 8	7.4	11.8	32.9	31.0	17.0	3.38	1.121
Yr 9	9.7	14.4	32.7	30.4	12.8	3.22	1.139
Yr 8/9 Male	9.7	10.3	31.4	32.5	16.1	3.35	1.156
Yr 8/9 Female	6.5	16.0	34.4	29.0	14.2	3.28	1.094
Yr 8/9 Government	6.9	12.2	32.4	31.6	17.0	3.40	1.112
Yr 8/9 Independent	11.6	14.4	33.8	28.3	11.4	3.14	1.154

76. This term, I did not become a stronger swimmer.	SD	D	N	A	SA	M	Sd
All Yr 8/9	18.0	28.3	32.9	13.8	7.0	2.64	1.135
Yr 8	19.3	29.3	31.7	12.8	6.8	2.59	1.139
Yr 9	16.1	26.8	34.6	15.3	7.2	2.71	1.127
Yr 8/9 Male	18.4	27.5	32.2	13.7	8.2	2.66	1.166
Yr 8/9 Female	17.7	29.2	33.5	13.8	5.8	2.61	1.103
Yr 8/9 Government	19.2	27.2	32.9	14.1	6.5	2.62	1.138
Yr 8/9 Independent	15.3	30.6	32.8	13.1	8.1	2.68	1.129
86. I learnt a lot about swimming in PE this term.	SD	D	N	A	SA	M	Sd
All Yr 8/9	6.9	12.2	36.3	30.5	14.2	3.33	1.077
Yr 8	6.3	11.5	36.4	30.6	15.2	3.37	1.071
Yr 9	7.7	13.2	36.2	30.3	12.7	3.27	1.085
Yr 8/9 Male	6.9	12.7	34.7	31.5	14.2	3.34	1.084
Yr 8/9 Female	6.6	11.7	38.4	29.2	14.1	3.33	1.064
Yr 8/9 Government	5.5	11.1	34.6	32.4	16.5	3.43	1.061
Yr 8/9 Independent	10.0	14.6	40.3	26.1	9.1	3.10	1.078

Construct 6: Student Perceptions Of Parental Support For Swimming

VALID % FOR YR8/9

47. My parent/s are interested in the PE swimming activities I do at school.	SD	D	N	A	SA	M	Sd
All Yr 8/9	10.1	17.5	39.4	24.5	8.5	3.04	1.078
Yr 8	8.6	15.5	39.4	27.5	9.0	3.13	1.058
Yr 9	12.2	20.5	39.4	20.1	7.8	2.91	1.095
Yr 8/9 Male	11.4	20.1	39.1	21.2	8.2	2.95	1.094
Yr 8/9 Female	8.4	14.7	40.0	28.2	8.7	3.14	1.046
Yr 8/9 Government	10.2	17.5	38.9	24.2	9.3	3.05	1.092
Yr 8/9 Independent	9.8	17.5	40.6	25.3	6.8	3.02	1.046
57. My parent/s don't care if I am a good swimmer.	SD	D	N	A	SA	M	Sd
All Yr 8/9	33.5	32.3	22.4	7.5	4.2	2.17	1.102
Yr 8	37.8	31.0	20.5	6.5	4.2	2.08	1.103
Yr 9	27.3	34.2	25.2	9.0	4.3	2.29	1.091
Yr 8/9 Male	31.9	30.3	23.8	8.4	5.7	2.26	1.157
Yr 8/9 Female	35.2	34.6	21.1	6.6	2.5	2.07	1.025
Yr 8/9 Government	33.0	30.1	23.1	8.8	4.9	2.22	1.142
Yr 8/9 Independent	34.6	37.2	20.8	4.6	2.8	2.04	0.997
67. My parent/s encourage me to do my best in PE swimming.	SD	D	N	A	SA	M	Sd
All Yr 8/9	3.9	7.1	29.2	33.2	26.6	3.71	1.055
Yr 8	3.2	6.0	27.7	33.7	29.5	3.80	1.028
Yr 9	5.0	8.6	31.4	32.6	22.3	3.58	1.080
Yr 8/9 Male	5.0	7.7	31.7	30.8	24.8	3.63	1.088
Yr 8/9 Female	2.7	6.3	26.4	36.4	28.2	3.81	1.002
Yr 8/9 Government	4.3	7.2	29.2	33.1	26.1	3.70	1.067
Yr 8/9 Independent	3.0	6.7	29.3	33.4	27.5	3.76	1.027

77. My parent/s encourage me to be a better swimmer.	SD	D	N	A	SA	M	Sd
All Yr 8/9	4.0	8.4	31.6	33.3	22.6	3.62	1.048
Yr 8	3.5	7.5	28.6	35.6	24.7	3.70	1.033
Yr 9	4.8	9.7	36.0	30.0	19.5	3.50	1.059
Yr 8/9 Male	4.1	9.3	30.7	32.2	23.7	3.62	1.071
Yr 8/9 Female	3.9	7.2	32.9	34.5	21.5	3.63	1.021
Yr 8/9 Government	4.7	8.7	31.4	33.4	21.9	3.59	1.065
Yr 8/9 Independent	2.6	7.9	32.1	33.2	24.2	3.69	1.008
87. My parent/s would be unhappy if I avoided PE swimming.	SD	D	N	A	SA	M	Sd
All Year 8/9	7.3	9.9	27.5	32.6	22.7	3.53	1.158
Yr 8	7.3	7.8	27.0	32.3	25.6	3.61	1.161
Yr 9	7.3	13.0	28.2	33.2	18.3	3.42	1.146
Yr 8/9 Male	6.8	10.6	28.4	33.2	21.0	3.51	1.138
Yr 8/9 Female	7.8	9.2	26.5	32.2	24.4	3.56	1.178
Yr 8/9 Government	7.9	10.3	28.3	30.8	22.7	3.50	1.178
Yr 8/9 Independent	6.0	9.1	25.6	36.9	22.5	3.61	1.109

Construct 7: Student Perceptions Of Their Own Activity Patterns

VALID % FOR YR8/9

48. This term I participated in most/all of the school PE swimming classes.	SD	D	N	A	SA	M	Sd
All Yr 8/9	7.3	7.6	13.2	35.7	36.2	3.86	1.198
Yr 8	7.3	6.4	12.9	35.3	38.0	3.90	1.190
Yr 9	7.2	9.4	13.7	36.2	33.6	3.79	1.208
Yr 8/9 Male	7.5	8.0	14.9	31.8	37.7	3.84	1.226
Yr 8/9 Female	7.0	7.0	10.9	40.7	34.4	3.88	1.165
Yr 8/9 Government	8.4	8.3	13.7	36.1	33.7	3.76	1.229
Yr 8/9 Independent	4.8	6.1	12.3	34.8	42.0	4.03	1.106
58. I don't like doing physical activity.	SD	D	N	A	SA	M	Sd
All Yr 8/9	52.6	24.6	14.2	4.1	4.5	1.83	1.099
Yr 8	54.7	23.7	13.4	4.6	3.6	1.79	1.070
Yr 9	49.7	25.7	15.5	3.4	5.7	1.90	1.137
Yr 8/9 Male	55.8	22.9	12.8	4.0	4.6	1.79	1.104
Yr 8/9 Female	49.1	27.0	15.5	4.4	4.0	1.87	1.079
Yr 8/9 Government	49.1	25.8	15.5	4.8	4.8	1.90	1.123
Yr 8/9 Independent	60.6	21.8	11.3	2.6	3.7	1.67	1.025
68. I participate in as much physical activity as I can.	SD	D	N	A	SA	M	Sd
All Yr 8/9	3.1	6.3	20.3	34.7	35.5	3.93	1.044
Yr 8	2.4	5.4	17.0	37.2	37.9	4.03	0.991
Yr 9	4.2	7.5	25.1	31.2	32.0	3.79	1.101
Yr 8/9 Male	3.5	5.8	21.6	32.4	36.8	3.93	1.062
Yr 8/9 Female	2.4	6.8	18.9	37.8	34.1	3.95	1.007
Yr 8/9 Government	3.4	6.7	20.8	34.9	34.2	3.90	1.054
Yr 8/9 Independent	2.6	5.5	19.3	34.4	38.3	4.00	1.016

78. I do a lot of swimming activities.	SD	D	N	A	SA	M	Sd
All Yr 8/9	6.2	15.0	30.8	27.0	21.0	3.42	1.155
Yr 8	5.1	14.0	30.8	28.1	22.0	3.48	1.130
Yr 9	7.7	16.4	30.8	25.4	19.7	3.33	1.186
Yr 8/9 Male	6.9	14.1	30.9	29.2	18.9	3.39	1.146
Yr 8/9 Female	5.3	16.0	30.4	24.6	23.7	3.45	1.168
Yr 8/9 Government	6.1	15.2	30.8	27.3	20.6	3.41	1.151
Yr 8/9 Independent	6.3	14.6	30.8	26.2	22.1	3.43	1.167
88. I participate in most/all of the PE classes.	SD	D	N	A	SA	M	Sd
All Yr 8/9	3.1	5.0	13.6	36.5	41.9	4.09	1.011
Yr 8	2.6	4.7	11.4	35.5	45.8	4.17	0.985
Yr 9	3.7	5.4	16.9	38.0	36.1	3.97	1.038
Yr 8/9 Male	3.5	5.0	15.0	33.1	43.5	4.08	1.044
Yr 8/9 Female	2.7	4.9	11.8	40.9	39.7	4.10	.973
Yr 8/9 Government	3.6	5.5	15.6	34.9	40.4	4.03	1.052
Yr 8/9 Independent	1.8	3.8	9.3	40.0	45.3	4.23	0.896

Construct 8: Student Perceptions Of The Teacher Attitude To Physical Education Swimming

VALID % FOR YR8/9

49. My PE teacher does not enjoy teaching PE swimming activities.	SD	D	N	A	SA	M	Sd
All Yr 8/9	28.6	30.5	30.9	5.5	4.5	2.27	1.072
Yr 8	30.9	29.0	30.8	4.9	4.3	2.23	1.074
Yr 9	25.1	32.7	3.0	6.4	4.8	2.33	1.067
Yr 8/9 Male	26.1	26.7	33.8	7.7	5.7	2.40	1.122
Yr 8/9 Female	31.4	35.3	27.6	3.0	2.8	2.11	.976
Yr 8/9 Government	27.0	28.9	32.5	6.5	5.1	2.34	1.095
Yr 8/9 Independent	31.9	34.1	27.4	3.3	3.3	2.12	1.004
59. My PE swimming teacher thinks that swimming is important.	SD	D	N	A	SA	M	Sd
All Yr 8/9	2.2	0.8	15.9	47.1	33.9	4.10	.848
Yr 8	2.3	1.2	16.3	43.8	36.4	4.11	0.877
Yr 9	2.1	0.2	15.4	52.0	30.4	4.08	0.806
Yr 8/9 Male	3.4	1.1	17.3	45.9	32.3	4.03	.919
Yr 8/9 Female	0.7	0.4	14.0	49.0	35.7	4.19	.740
Yr 8/9 Government	2.3	0.8	16.5	44.4	36.0	4.11	0.867
Yr 8/9 Independent	2.0	0.9	14.6	53.3	29.3	4.07	0.804
69. My PE teacher makes me feel like I would like to swim more.	SD	D	N	A	SA	M	Sd
All Yr 8/9	6.6	11.9	41.0	25.7	14.9	3.30	1.069
Yr 8	5.8	11.5	40.2	25.2	17.3	3.37	1.075
Yr 9	7.7	12.5	42.1	26.3	11.3	3.21	1.053
Yr 8/9 Male	7.2	10.3	41.6	25.4	15.6	3.32	1.080
Yr 8/9 Female	5.6	14.0	40.6	25.7	14.0	3.29	1.050
Yr 8/9 Government	6.4	9.8	40.1	27.6	16.1	3.37	1.066
Yr 8/9 Independent	7.0	16.6	43.1	21.2	12.0	3.15	1.059

79. My PE teacher does not care if we improve in PE swimming.	SD	D	N	A	SA	M	Sd
All Yr 8/9	29.2	33.6	27.4	5.1	4.7	2.22	1.068
Yr 8	33.0	32.4	26.0	4.6	4.0	2.14	1.055
Yr 9	23.6	35.4	29.5	5.7	5.7	2.35	1.077
Yr 8/9 Male	27.9	29.3	31.0	5.9	5.9	2.32	1.118
Yr 8/9 Female	30.5	38.9	23.1	4.1	3.4	2.11	.998
Yr 8/9 Government	29.8	32.5	27.7	5.3	4.6	2.22	1.075
Yr 8/9 Independent	27.7	36.0	26.9	4.6	4.8	2.23	1.055
89. My PE teacher is interested in teaching swimming activities.	SD	D	N	A	SA	M	Sd
All Yr 8/9	3.3	3.8	32.7	38.5	21.8	3.72	.954
Yr 8	3.2	3.7	31.2	37.9	24.0	3.76	0.965
Yr 9	3.3	3.8	34.8	39.5	18.6	3.66	0.935
Yr 8/9 Male	4.0	4.6	34.0	37.0	20.4	3.65	.984
Yr 8/9 Female	2.5	2.7	30.7	40.6	23.5	3.80	.916
Yr 8/9 Government	3.5	3.7	32.0	38.7	22.0	3.72	0.965
Yr 8/9 Independent	2.7	3.8	24.2	38.2	21.1	3.71	0.930

Construct 9: Student Perceptions Of The Teacher Differentiation In Physical Education Swimming

VALID % FOR YR8/9

50. My PE teacher teaches interesting things in swimming.	SD	D	N	A	SA	M	Sd
All Yr 8/9	7.5	11.1	36.0	32.1	13.3	3.32	1.076
Yr 8	7.2	11.1	34.2	32.9	14.6	3.37	1.085
Yr 9	8.0	11.1	38.7	30.9	11.3	3.26	1.060
Yr 8/9 Male	8.8	11.3	36.2	31.1	12.6	3.27	1.098
Yr 8/9 Female	6.0	11.1	36.0	33.0	13.9	3.38	1.048
Yr 8/9 Government	6.9	9.8	36.4	32.1	14.9	3.38	1.069
Yr 8/9 Independent	9.0	14.2	35.2	32.1	9.6	3.19	1.082
60. My PE teacher is not interested in what I want to learn in swimming lessons.	SD	D	N	A	SA	M	Sd
All Yr 8/9	24.0	32.4	29.4	8.5	5.7	2.40	1.111
Yr 8	26.8	32.1	27.7	8.5	5.0	2.33	1.107
Yr 9	20.0	32.8	31.8	8.6	6.8	2.50	1.110
Yr 8/9 Male	22.9	28.2	32.9	9.7	6.2	2.48	1.131
Yr 8/9 Female	25.2	37.6	25.0	6.9	5.3	2.30	1.082
Yr 8/9 Government	24.8	31.6	29.2	8.7	5.6	2.39	1.115
Yr 8/9 Independent	22.1	34.1	29.7	8.1	6.1	2.42	1.103
70. My PE teacher sets activities that are good for my swimming ability level (not too hard or too easy).	SD	D	N	A	SA	M	Sd
All Yr 8/9	6.0	8.4	27.0	37.3	21.3	3.60	1.093
Yr 8	5.2	8.7	25.6	36.3	24.1	3.65	1.095
Yr 9	7.0	8.0	29.0	38.3	17.2	3.51	1.085
Yr 8/9 Male	6.4	8.7	28.5	34.7	21.7	3.57	1.113
Yr 8/9 Female	5.5	8.4	24.5	40.8	20.8	3.63	1.071
Yr 8/9 Government	6.0	7.2	26.6	38.0	22.1	3.63	1.086
Yr 8/9 Independent	5.9	11.2	27.8	35.7	19.5	3.52	1.104

80. My PE teacher gives me good coaching in PE swimming.	SD	D	N	A	SA	M	Sd
All Yr 8/9	6.1	6.6	30.0	37.6	19.7	3.58	1.067
Yr 8	6.4	5.2	28.4	36.9	23.1	3.65	1.087
Yr 9	5.7	8.6	32.2	38.6	14.8	3.48	1.031
Yr 8/9 Male	6.5	6.6	30.1	36.9	19.9	3.57	1.080
Yr 8/9 Female	5.9	6.8	29.4	38.7	19.2	3.58	1.058
Yr 8/9 Government	5.1	5.6	29.8	38.1	21.4	3.65	1.036
Yr 8/9 Independent	8.5	8.9	30.3	36.4	15.9	3.42	1.120
90. We do things in PE swimming that everyone likes.	SD	D	N	A	SA	M	Sd
All Yr 8/9	9.6	16.6	36.2	26.0	11.7	3.14	1.121
Yr 8	8.7	14.6	36.3	26.5	13.9	3.22	1.126
Yr 9	10.8	19.4	36.2	25.2	8.5	3.01	1.103
Yr 8/9 Male	10.8	15.7	36.0	26.4	11.2	3.11	1.134
Yr 8/9 Female	8.1	17.9	36.5	25.5	12.0	3.15	1.103
Yr 8/9 Government	8.7	13.5	36.0	28.1	13.7	3.25	1.119
Yr 8/9 Independent	11.6	23.6	36.7	21.1	7.1	2.89	1.088

Construct 10: Student Perceptions Of The Physical Education Swimming Teacher

VALID % FOR YR8/9

51. My PE teacher is a good swimming teacher.	SD	D	N	A	SA	M	Sd
All Yr 8/9	5.2	5.2	27.7	36.4	25.5	3.72	1.063
Yr 8	4.5	4.8	27.7	34.6	28.4	3.78	1.053
Yr 9	6.2	5.7	27.6	39.1	21.3	3.64	1.072
Yr 8/9 Male	6.5	6.0	30.0	35.3	22.2	3.60	1.094
Yr 8/9 Female	3.7	4.1	25.0	37.8	29.3	3.85	1.009
Yr 8/9 Government	5.0	4.5	26.6	36.2	27.6	3.77	1.060
Yr 8/9 Independent	5.7	6.6	30.1	36.9	20.7	3.60	1.062
61. My PE teacher uses words to explain swimming activities that are easy for me to understand.	SD	D	N	A	SA	M	Sd
All Yr 8/9	3.8	3.0	25.4	46.0	21.7	3.79	.943
Yr 8	3.0	2.9	25.3	44.6	24.1	3.84	0.927
Yr 9	4.9	3.1	25.5	48.1	18.3	3.72	0.963
Yr 8/9 Male	4.2	3.6	26.6	44.7	20.8	3.74	.968
Yr 8/9 Female	3.2	2.4	23.9	47.8	22.7	3.84	.911
Yr 8/9 Government	3.8	2.2	25.0	46.3	22.6	3.82	0.937
Yr 8/9 Independent	3.7	4.8	26.3	45.4	19.8	3.73	0.955
71. My PE teacher is good at explaining how I can do better at swimming activities.	SD	D	N	A	SA	M	Sd
All Yr 8/9	6.2	7.0	32.3	35.7	18.7	3.54	1.065
Yr 8	5.2	6.9	31.0	36.1	20.8	3.60	1.053
Yr 9	7.5	7.2	34.3	35.2	15.7	3.44	1.077
Yr 8/9 Male	7.0	6.9	32.1	34.9	19.1	3.52	1.092
Yr 8/9 Female	5.0	7.3	32.4	36.9	18.4	3.56	1.031
Yr 8/9 Government	5.4	5.9	30.6	37.5	20.6	3.62	1.044
Yr 8/9 Independent	7.9	9.7	36.3	31.6	14.5	3.35	1.090

81. My PE teacher knows a lot about swimming activities.	SD	D	N	A	SA	M	Sd
All Yr 8/9	3.1	2.6	20.4	43.2	30.6	3.96	.946
Yr 8	2.7	2.1	19.6	42.4	33.2	4.01	0.923
Yr 9	3.8	3.5	21.5	44.4	26.8	3.87	0.975
Yr 8/9 Male	4.5	2.4	21.2	43.3	28.7	3.89	.994
Yr 8/9 Female	1.7	3.0	19.5	43.1	32.7	4.02	.892
Yr 8/9 Government	3.4	1.7	19.2	42.6	33.1	4.00	0.949
Yr 8/9 Independent	2.5	4.5	23.0	44.5	25.5	3.86	0.934
91. The activities that my PE swimming teacher has given me this term have not helped me to be a better swimmer.	SD	D	N	A	SA	M	Sd
All Yr 8/9	14.7	26.1	34.1	16.2	8.8	2.78	1.149
Yr 8	16.9	26.2	32.8	15.8	8.3	2.72	1.163
Yr 9	11.6	26.1	35.9	16.8	19.6	2.87	1.124
Yr 8/9 Male	14.0	24.2	35.0	16.8	9.9	2.84	1.160
Yr 8/9 Female	15.6	28.6	32.7	15.6	7.5	2.71	1.132
Yr 8/9 Government	14.9	24.5	33.8	17.9	8.9	2.81	1.159
Yr 8/9 Independent	14.3	29.8	34.7	12.5	8.7	2.71	1.124

STUDENT QUESTIONNAIRE: ISSUES

Student Perceptions Of The Issues Associated With Physical Education Swimming

VALID % FOR YR8/9

92. I don't like having to wear bathers in PE.	SD	D	N	A	SA	M	Sd
All Yr 8/9	27.6	23.1	27.3	9.9	12.0	2.56	1.311
Yr 8	30.8	22.2	28.1	8.5	10.4	2.45	1.288
Yr 9	22.9	24.5	26.2	11.9	14.4	2.70	1.332
Yr 8/9 Male	25.9	20.8	29.8	11.2	12.4	2.63	1.311
Yr 8/9 Female	30.0	26.3	23.9	8.5	11.3	2.45	1.303
Yr 8/9 Government	29.7	22.0	27.9	9.6	10.8	2.5	1.298
Yr 8/9 Independent	22.9	25.8	26.0	10.6	4.8	2.69	1.332
93. I don't mind wearing only 'racing style' bathers in PE.	SD	D	N	A	SA	M	Sd
All Yr 8/9	33.0	19.3	27.4	12.1	8.2	2.43	1.281
Yr 8	31.4	17.9	28.7	13.0	9.0	2.50	1.296
Yr 9	35.3	21.3	25.5	10.9	7.0	2.33	1.253
Yr 8/9 Male	38.6	19.0	24.4	10.4	7.6	2.29	1.283
Yr 8/9 Female	26.9	19.5	30.5	14.1	9.0	2.59	1.267
Yr 8/9 Government	33.5	19.4	28.4	10.8	7.8	2.4	1.264
Yr 8/9 Independent	31.9	18.8	25.1	15.1	9.1	2.51	1.319
94. I feel concerned with swimming outdoors in the sun in PE.	SD	D	N	A	SA	M	Sd
All Yr 8/9	21.4	25.5	31.1	13.6	8.4	2.62	1.2
Yr 8	21.7	24.5	31.3	13.5	8.9	2.64	1.214
Yr 9	21.1	26.8	30.8	13.7	7.5	2.60	1.180
Yr 8/9 Male	21.6	22.6	32.4	14.6	8.7	2.66	1.213
Yr 8/9 Female	21.4	29.3	29.5	11.9	8.0	2.56	1.180
Yr 8/9 Government	20.4	23.2	32.8	14.7	9.0	2.69	1.206
Yr 8/9 Independent	23.8	30.5	27.4	11.3	7.1	2.47	1.174

95. I feel concerned with having to dress/undress in the change room.	SD	D	N	A	SA	M	Sd
All Yr 8/9	19.3	24.9	31.3	14.4	10.2	2.71	1.221
Yr 8	19.8	24.5	32.0	13.7	10.0	2.70	1.218
Yr 9	18.4	25.4	30.2	15.3	10.6	2.74	1.227
Yr 8/9 Male	19.9	23.8	34.2	13.5	8.6	2.67	1.187
Yr 8/9 Female	18.5	26.6	27.7	15.4	11.8	2.75	1.255
Yr 8/9 Government	18.5	23.3	33.0	15.0	10.1	2.75	1.212
Yr 8/9 Independent	20.9	28.4	27.3	12.9	10.4	2.64	1.240
96. I am nervous in PE swimming classes.	SD	D	N	A	SA	M	Sd
All Yr 8/9	32.7	28.7	23.2	10.5	4.9	2.26	1.162
Yr 8	35.0	28.2	22.7	9.2	4.9	2.21	1.159
Yr 9	29.4	29.4	24.0	12.4	4.8	2.34	1.163
Yr 8/9 Male	35.4	26.5	24.5	9.3	4.3	2.21	1.48
Yr 8/9 Female	29.3	31.6	21.6	12.1	5.4	2.33	1.171
Yr 8/9 Government	31.8	28.3	24.3	10.3	5.3	2.29	1.168
Yr 8/9 Independent	34.8	29.5	20.7	11.0	4.0	2.20	1.147
97. I feel concerned with being teased in PE swimming.	SD	D	N	A	SA	M	Sd
All Yr 8/9	33.7	24.5	25.0	10.5	6.3	2.31	1.215
Yr 8	34.1	23.7	25.5	9.5	7.2	2.32	1.235
Yr 9	33.2	25.7	24.4	11.8	4.9	2.30	1.185
Yr 8/9 Male	33.8	24.5	26.4	9.2	6.1	2.29	1.2
Yr 8/9 Female	33.8	24.9	22.9	12.2	6.2	2.32	1.229
Yr 8/9 Government	32.6	23.6	26.5	10.8	6.5	2.35	1.220
Yr 8/9 Independent	36.2	26.4	21.8	9.8	5.8	2.22	1.202
98. In PE swimming classes the water is too cold.	SD	D	N	A	SA	M	Sd
All Yr 8/9	18.3	22.6	29.7	16.0	13.3	2.83	1.275
Yr 8	20.6	23.3	29.2	13.9	13.1	2.76	1.288

Yr 9	15.1	21.6	30.6	19.1	13.7	2.95	1.248
Yr 8/9 Male	20.3	18.4	30.7	17.1	13.5	2.85	1.3
Yr 8/9 Female	16.0	27.2	28.8	14.9	12.6	2.8	1.239
Yr 8/9 Government	18.0	20.9	31.0	16.7	13.4	2.87	1.271
Yr 8/9 Independent	19.0	26.3	27.0	14.4	13.3	2.77	1.284
99. In PE swimming classes the water is too hot.	SD	D	N	A	SA	M	Sd
All Yr 8/9	39.4	28.5	24.6	4.4	3.1	2.03	1.044
Yr 8	40.0	28.4	24.8	3.3	3.5	2.02	1.048
Yr 9	38.6	28.7	24.4	6.0	2.3	2.05	1.039
Yr 8/9 Male	39.7	22.6	26.7	7.1	3.9	2.13	1.133
Yr 8/9 Female	39.3	35.4	22.2	1.1	1.9	1.91	.912
Yr 8/9 Government	38.7	27.1	25.4	5.4	3.4	2.08	1.077
Yr 8/9 Independent	41.0	31.7	22.9	2.2	2.2	1.93	.960
100. In PE swimming classes the pool is too crowded.	SD	D	N	A	SA	M	Sd
All Yr 8/9	21.4	28.1	28.3	14.5	7.6	2.59	1.191
Yr 8	24.5	27.3	26.8	14.6	6.9	2.52	1.202
Yr 9	17.0	29.3	30.7	14.3	8.7	2.68	1.168
Yr 8/9 Male	21.4	26.2	29.8	14.4	8.2	2.62	1.201
Yr 8/9 Female	21.7	30.7	26.2	14.5	6.7	2.54	1.175
Yr 8/9 Government	21.3	27.0	28.9	15.1	7.7	2.61	1.195
Yr 8/9 Independent	21.7	30.8	27.0	13.1	7.5	2.54	1.182
101. I would prefer PE swimming classes to be of the same sex.	SD	D	N	A	SA	M	Sd
All Yr 8/9	29.5	17.1	30.9	11.5	11.1	2.58	1.315
Yr 8	29.3	16.4	33.3	10.0	11.1	2.57	1.303
Yr 9	29.8	18.1	27.4	13.7	11.0	2.58	1.333
Yr 8/9 Male	37.2	17.7	31.5	8.3	5.3	2.27	1.195
Yr 8/9 Female	20.5	16.5	29.8	15.5	17.7	2.94	1.359

Yr 8/9 Government	28.1	16.6	32.3	11.8	11.3	2.62	1308
Yr 8/9 Independent	32.7	18.1	27.8	10.8	10.6	2.49	1.326
102. I like to wear a shirt in PE swimming classes.	SD	D	N	A	SA	M	Sd
All Yr 8/9	29.3	24.0	24.4	12.2	10.0	2.49	1.297
Yr 8	30.0	23.0	25.1	11.3	10.6	2.49	1.309
Yr 9	28.4	25.5	23.5	13.5	9.1	2.49	1.280
Yr 8/9 Male	31.0	21.4	24.5	13.1	9.9	2.5	1.316
Yr 8/9 Female	27.6	27.6	24.2	10.7	9.9	2.48	1.270
Yr 8/9 Government	28.1	21.1	25.8	14.0	11.0	2.59	1.322
Yr 8/9 Independent	32.1	30.5	21.5	8.2	7.7	2.29	1.216
103. Only slim people enjoy PE swimming classes.	SD	D	N	A	SA	M	Sd
All Yr 8/9	37.1	26.0	24.2	6.5	6.2	2.19	1.183
Yr 8	39.7	25.0	23.9	5.2	6.1	2.13	1.176
Yr 9	33.2	27.4	24.7	8.3	6.3	2.27	1.188
Yr 8/9 Male	33.8	24.2	27.3	7.8	6.8	2.3	1.206
Yr 8/9 Female	41.6	28.3	19.9	5.1	5.2	2.02	1.135
Yr 8/9 Government	36.0	24.4	25.7	7.5	6.4	2.24	1.198
Yr 8/9 Independent	39.6	29.5	20.9	4.2	5.9	2.07	1.141
Q 104. PE swimming is embarrassing for me.	SD	D	N	A	SA	M	Sd
All Yr 8/9	42.5	25.1	20.5	6.7	5.3	2.07	1.169
Yr 8	44.1	25.6	20.5	4.9	4.9	2.01	1.133
Yr 9	40.1	24.3	20.5	9.3	5.8	2.16	1.216
Yr 8/9 Male	43.9	22.7	21.8	6.7	4.9	2.06	1.170
Yr 8/9 Female	41.2	27.8	18.6	6.7	2.6	2.08	1.171
Yr 8/9 Government	41.8	23.7	21.3	6.9	6.2	2.12	1.207
Yr 8/9 Independent	44.1	28.2	18.5	6.2	3.1	1.96	1.073