

2000

## An evaluation of teachers and students in high schools: knowledge of first aid and resuscitation

Catherine Abbott  
*University of Wollongong*

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**An Evaluation of Teachers and Students  
in High Schools  
Knowledge of First Aid and  
Resuscitation.**

A Thesis submitted in fulfilment of the requirements for the award of the  
degree

**Masters of Nursing (Hons)  
University of Wollongong**

by

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2000

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# BOY DROWNS DURING TRIP

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Page 6

Friday, 6 November 1992

SECTION. News and Features.

A seven-year-old boy drowned while swimming on a school excursion at the Central Coast yesterday.

A police spokesman said the boy, from Wyong, was in a class of 20 students swimming in a fenced pool at the Hidden Valley Recreational Centre at Ourimbah about noon.

Students alerted the teacher at 12.15 p.m. when they noticed the boy on the bottom of the pool.

The teacher pulled the child out and began mouth-to-mouth resuscitation while an ambulance was called.

Paramedics arrived and continued treating the boy, who was taken to Gosford Local Hospital, where he was pronounced dead. Police had not released his name last night.

# ABSTRACT

The aim of this study was twofold. Firstly, to investigate the number of teachers with Resuscitation training and secondly, to identify how many students are receiving Resuscitation instruction while at school. Presently, there is no uniformity in the method of First Aid and Resuscitation instruction for students in New South Wales High Schools. Current epidemiological data suggest that the selected region examined in this study is representative of the state of New South Wales. The author posits Resuscitation skills as an essential part of schooling and daily living. The teacher/student relationship is such that the teacher is under a duty of care requiring, among other things, that the teacher knows Resuscitation skills in case of an emergency.

Ninety four percent of teacher respondents had received Resuscitation and First Aid instruction, most having learnt in the last two years and nineteen percent have recently learnt for the first time. Over ninety one percent of responses indicated that the teachers found the training to be beneficial with over ninety nine percent saying Resuscitation and First Aid was important to know.

The average age of student respondents was sixteen years and fifty four percent had recently learnt First Aid for the first time.

Although a large number of students and teachers demonstrated an interest in knowledge of First Aid/Resuscitation, there is a need to introduce more training in schools. The expectation that 100% of teachers would know First Aid and Resuscitation was not realised in practice.

The findings led to two main recommendations:

- (1) That all teachers are retrained annually, and;
- (2) First Aid be introduced as a compulsory part of the high school curriculum.

# SUMMARY OF RECOMMENDATIONS

- It is recommended that all teachers are taught First Aid and their skills are practised by way of an annual refresher course.
- It is recommended that consideration be given to making some forms of traumatic injury notifiable conditions as has occurred in some states of the United States of America, ie, drowning and near-drowning, spinal cord injury, head injury and burns.
- It is recommended that the coding of hospital admissions resulting from injury at school or on a school excursion be introduced in New South Wales as a pilot study for the Australian Injury Surveillance Program.
- It is recommended that First Aid and Resuscitation become a core teaching subject in secondary schools, to ensure all students are taught these basic skills while at school.

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# **Chapter One**

## **An Introduction**



# **Chapter 1: An Introduction**

## **1.1 Introduction.**

Knowledge of Resuscitation is becoming an essential component of everyday life (Moore, Plotnikoff and Preston 1992: 17). Time lost waiting for emergency personnel significantly increases morbidity and mortality (Sigsbee and Geden 1990: 665) by up to 20 per cent (Pearn, Dawson, Leditschke and Petrie 1980: 602). Survival information suggests that the ability to resuscitate is a function of time, type and sequence of therapy (Eisenberg, Horwood, Cummins, Reynolds-Haertle and Hearne 1990: 183).

Schools are the logical place to commence Resuscitation instruction and First Aid training (Moore et al 1992: 17). Teaching children is important as it is only whilst children are at school under social control and part of a captive population that such education is usually possible (Vimpani and Parry 1989: 491). Indeed, the efficacy of teachers trained in Resuscitation imparting that knowledge to their students is well documented (Van Kerschaver, Delooz and Moens 1989: 212). However, at present there is a decided lack of uniformity in the method of First Aid and Resuscitation instruction in NSW High Schools.

Following the death of a New South Wales school student while on excursion, a directive was issued by the Director General of School Education (Boston 1993: April 14) requiring that at least one teacher accompanying students off site (for example, excursions and sporting activities) be trained in Resuscitation.

## 1.2 Background.

The American Heart Association and American Red Cross have taught Cardiopulmonary Resuscitation (CPR) courses for over twenty years. As a result, the survival rate has increased because of this pre-hospital aid (Ambrose and Stratton 1993: 63). The high incidence of cardiopulmonary arrest and life threatening emergencies indicates a dramatic need for widespread CPR instruction (Winkelmen 1977: 108). Significant research has shown that CPR performed by bystanders can be effective in survival and neurological outlook of patients in out-of-hospital arrests (Goldberg 1989: 25; Korttila, Vertio and Savolainen 1979: 235; Longstreth, Cobb, Fahrenburch and Copass 1990: 2110; Moore et al 1992: 17; Pearn et a 1980: 602; Miller, Jahnigen, Gorbien and Simbastl 1992: 578; Moser and Coleman 1992: 372).

The first few minutes will determine the adverse effects on the patient in any emergency situation (Livingston and Passaro 1991: 117). Therefore, CPR should be taught to the majority of the lay population (Van Kerschaver, Delooz and Moens 1989: 211), so they are able to call for help and initiate CPR (Becker, Ostrander, Barrett and Kondos 1991: 359).

Proper training techniques and equipment are important, but even their use does not guarantee that an adequate level of CPR performance will be attained by all laypersons if their skills are not refreshed (Kortilla et al 1979: 235). Kortilla et al, (1979: 235) found that laypersons could perform adequate CPR and remember a useful amount for six months or more. Van Kerschaver et al, (1989: 212), have demonstrated that training large portions of the general public is possible; up to 80 percent of the public can adequately reproduce CPR. In real emergencies, trained laypersons do not commit important errors (Van Kerschaver et al 1989: 212). CPR is a lifesaving medical intervention in the appropriate circumstance. On the other hand, when indiscriminately applied, CPR can lead to undue suffering and unnecessary costs. This may be manifested by a victim suffering from injuries such as fractured ribs or cerebral hypoxia as a result of incorrect positioning or poor technique. Meaningful application of this technology requires a comprehensive effort involving ongoing education (Miller et al 1992: 582).

Knowledge of Resuscitation is becoming an essential component of everyday life (Moore et al 1992: 17). However, skill retention is consistently poor (Moser and Coleman 1992: 374) regardless of population tested, even among the highly motivated and those most likely to use CPR, for example, nurses (Ibid 1992: 374). Courses of First Aid and CPR specially tailored to high-risk groups and those responsible for minors are to be encouraged, ie, electrical linemen, railway workers, teachers, mining companies and others (Pearn et al

1980: 602; Baskett 1992: 448). The first person at the scene of an emergency in a school situation would be a fellow student or a teacher (Baker 1990: 21).

People who have done First Aid are already convinced of the need for these skills (Pearn et al 1980: 602) and often feel that these skills are the most important ones acquired (Baker 1990: 22).

Children over eight years should be competent in basic First Aid skills (Pearn et al 1980: 602) according to the Australian Resuscitation Council. The most effective way to educate the school population is to include CPR instruction in the education program (Van Kerschaver et al 1989: 212).

Repeated training, regardless of age, shows significant improvement of skills (Ibid 1989: 211) especially after the second training course (Ibid 1989: 220). However, there is no doubt that the skills and knowledge retention increases with the age of the students (Ibid 1989: 220).

Van Kerschaver et al, (1989: 220), demonstrate that CPR training of school students by laypersons, themselves instructed by experts, is effective, feasible and adequate. Consistency of method can be useful for motivation and theory, as can mannequins for practical training.

### **1.3 Coroner's Recommendations - Response of the Director-General of School Education.**

Prior to 1993, there were no regulations regarding First Aid skills for teachers who accompanied students on excursions. Following a Memorandum issued by the NSW Director General of School Education on 14th April 1993 (Appendix A) at least one of the teachers accompanying school students on school excursions must possess current First Aid qualifications. This directive was a result of a Coronial Inquest into the drowning of a student on a school excursion where the teachers were not prepared for such an emergency.

#### **1.3.1 Coroner's Recommendations**

The Coroner's Recommendations were twofold:

**'1. That the Department of Education provide departmental guidelines to ensure that parental consent forms issued by schools in respect of school excursions, include in that form provision for information about whether or not the child can swim and or any special requirements for that child if swimming is included as an activity in the excursion.**

**2. That the Department of Education require each school to provide a teacher holding a current First Aid certificate to be present on each and every excursion conducted by that school.'**

### **1.3.2 Response of the Director-General of School Education**

Memorandum to Principals (93/063) pertaining to Educational Excursions -14 September 1993 (Boston 1993: 15).

#### **'(ii) Requirements for First Aid and Training**

**From the beginning of Term II, 1994 school year, all excursions and sports activities involving swimming/water activities and all overnight excursions must be accompanied by an employee of the Department of School Education with current training in cardiopulmonary resuscitation and emergency care. All other excursions are to be accompanied by a member of staff who has undertaken emergency care training.**

**The requirements described in the paragraph above are the minimum training requirements. Schools are encouraged, however, to support staff involved in excursions and sport to undertake full First Aid training.'**

#### **1.4 Statement of the Problem**

This thesis research is unique in N.S.W. and is a Level One Inquiry (Wilson 1989: 230). A Level One Inquiry indicates research which provides a basis upon which further research can be undertaken. In other words it is 'platform' research to be built on by others.

Presently, there is no uniformity in the method of First Aid and Resuscitation instruction for students in N.S.W. High Schools. There are at least three options available:

- (i) A First Aid and Resuscitation awareness course taught to students by Physical Education teachers
- (ii) Physical Education teachers instruct students in First Aid and Resuscitation, with an external instructor for examination, and
- (iii) External instructors teach and examine students.

Consequently, this study is predicated on a series of questions:

1. Are principals ensuring teachers have current First Aid and emergency care certificates when accompanying students on excursions, swimming activities, or overnight camps?
2. Do qualified teachers/instructors teach students First Aid and Resuscitation adequately?
3. Do the teachers/instructors hold current certificates in First Aid and Resuscitation and attend annual refresher courses?



4. Do all students learn First Aid while at school?
  
5. Do all teachers indicate a readiness/confidence in using the emergency skills gained after receiving First Aid and emergency care instruction?

To hold an expectation that all teachers should know Resuscitation skills and emergency care is perhaps unrealistic, although seen by the author as ideal. This expectation appears unrealistic if considered in terms of cost and time involved in training. The 'out of hours' time for training and then renewal every twelve months, necessitated by the Australian Resuscitation Council (1989), elevates the cost and time commitment. The logistics of annual training for the large number in the teaching workforce add to the cost and time.

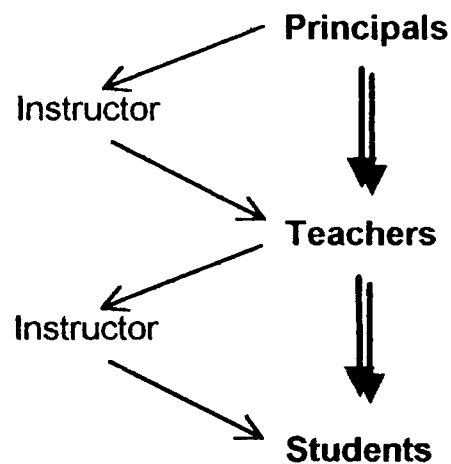
A review of the school curriculum revealed where and when First Aid instruction is implemented and the length of time allocated for this module. It is unlikely that all school students are taught Resuscitation and First Aid while at school. Comprehensive Resuscitation and First Aid instruction of all students is considered the ideal.

As teachers are expected to know Resuscitation skills and emergency care, their preparedness in the case of an emergency is essential. Following a course in First Aid and emergency care, it is expected that teachers will be more prepared for such a situation.

It is also expected that all instructors of CPR and First Aid attend refresher courses and update annually.

The author holds Resuscitation to be an essential element of school learning and daily living. Allied to this, teachers have a duty of care to students and therefore must possess Resuscitation skills in case of an emergency, especially while on school excursions.

**Figure 1.1.1** *A diagrammatic representation of the chain of responsibility with concern for learning First Aid.*



The instructor may or may not play a part in the model with regard to Resuscitation and First Aid instruction. The instructor in this model is not necessarily a school teacher but may be an instructor from an organisation authorised to teach and examine First Aid and Resuscitation. However, a school teacher who is qualified to teach First

Aid and Resuscitation would eliminate the need for an instructor in both places indicated.

External instructors may be from the Royal Life Saving Society (N.S.W. Branch), St John Ambulance, Surf Life Saving Society, City Councils and local Surf Clubs or Regional Departments of School Education.

## **1.5 Aim of the Study**

The aim of this study is twofold. Firstly, to establish the number of teachers with Resuscitation training and secondly, to identify how many students are receiving Resuscitation instruction while at school.

At the outset, the author decided that only high schools would be included in this study, as First Aid and Resuscitation Instruction is included in the Department of Education curriculum. Only Departmental high schools were included in the study in order to facilitate a uniformity of approach. That is, the departmental high schools fell within a single jurisdictional field. The other high schools in the region - Catholic schools, Christian schools, Anglican schools, Special schools and other non-government schools – by definition fell outside the single largest jurisdiction, that encompassed by the NSW Department of Education.

A known feature of the departmental high schools was that the curriculum included First Aid as an elective subject. By excluding the other high schools and their various jurisdictional fields a consistent study was designed allowing for the meaningful production of research data.

## **1.6 Purpose of the Study.**

The objectives of this study are:

1. To establish how many (of approximately 4000) teachers within the target Region in New South Wales:
  - (a) have received Resuscitation instruction;
  - (b) keep up their skills in Resuscitation;
  - (c) feel confident and competent enough to use Resuscitation skills if an emergency arises.
  
2. To identify the proportion of schools within the Region where students receive Resuscitation instruction at least once during their schooling.
  
3. To ascertain how many times each student receives Resuscitation instruction.
  
4. To establish the effectiveness of the Resuscitation instruction taught to students.

This study therefore seeks to examine the method of First Aid and Resuscitation instruction currently practised in Departmental High Schools in a Region of NSW.

## **1.7 Significance of the Study**

The issue of First Aid knowledge and its application in the practical setting potentially affects all members of the community. It is envisaged that the outcome of this research will impact upon many individuals whose lives may be saved by the implementation of First Aid by a bystander in the case of an emergency.

First Aid instruction is not solely a nursing issue but rather impinges on the broader area of public health. An improvement to the curriculum of Health Education in High Schools is expected, namely that, all students are exposed to First Aid training while at school.

The emergent nature of First Aid means that individuals requiring First Aid are reliant on the assistance of others be they bystanders, friends, work colleagues, family members, shop assistants. Were First Aid instruction to become a core teaching subject for all High school students in departmental schools (Syllabus 1991 Personal Development, Health and Physical Education Years 7 – 10; Syllabus 1991 Personal Development, Health and Physical Education, 2/3 Unit Preliminary and HSC Courses Stage 6) a large proportion of the community would be equipped to provide effective First Aid.

## **1.8 Limitations of the Study**

### **1.8.1 Limitations of the Scope of the Study**

The Region selected for this study is one of ten Educational Regions in NSW. The Region covers large areas of farmland and low density urban areas.

### **1.8.2 Limitations of the Geographic Description**

To preserve privacy, the Region selected will not be identified however a brief description of the area within the Region follows.

The area is diverse in character with heavily populated and industrial centres contrasting with the predominantly rural settlements that stretch along 145 kilometres of coastline (New South Wales Health Department 1993: 40). It has a growing population (Farrell and Wraight 1993: 137), with increasing numbers of retired people and young families moving into particular Shires (New South Wales Health Department 1993: 40). The prime farmland is dairy in particular. The Region is a tourist destination popular with retirees (New South Wales Health Department 1993: 73). In contrast, its commercial activity areas have shown limited growth over the past few years (New South Wales Health Department 1993: 75).

### 1.8.3 Limitations of Participation in the Study

Participation by teachers overall was acceptable. A convenience sample was used, as the responses came from participants who were readily available (Brockopp and Hastings-Tolsma 1995:172). Most of those who completed the survey answered all the questions and returned the survey within the requested time:

- 44.7 percent of schools in the Region participated.
- 11.8 percent of all teachers in all schools returned the surveys, an average of 26 percent for each school which participated.

Of the schools that participated, there was a 99 percent response from the student survey. Systematic sampling was instituted for selection of the students. The investigator selected a sample based on an overall number, divided among all schools (Brockopp and Hastings-Tolsma 1995:172). That is, each school was to select ten students to participate in this study.

The percentage of instructors is only an estimate of those in each school.

The Students who took part in this study were selected by a Teacher from each school. It is unlikely that the Teacher would select a Student to complete a survey on First Aid if to their knowledge the Student had not completed a course in First Aid. This presents a bias in the results. However, this is not an easy hurdle to overcome.



Non-probability sampling is a selection process in which the probability that any one individual may be selected is not equal to the probability that another individual may be chosen (Brockopp and Hastings-Tolsma 1995:172). The probability of inclusion and the degree to which the sample represents the population are unknown (Brockopp and Hastings-Tolsma 1995:172).

#### **1.8.4 Financial Limitations**

The author was awarded a research grant of \$5000 by the Edith Cavill Trust of the NSW Nurses Association to assist in this study. Most of this money was used to print and post surveys to the participating schools. The remainder was used to purchase adequate computer programs to analyse the data collected (Microsoft Excel and Microsoft Word). Therefore the budget limited this study to one Educational Region of NSW and to only one survey which asked fundamental questions with no possibility of following up or expanding the questionnaire as appropriate.

## **1.9 Summary of Chapter One**

This study proposes to identify which method of instruction is used most frequently in the region, how many teachers have Resuscitation skills and how many of the high school students are being instructed.

Given a limited budget, a lack of resources and contacts and not being in any position of authority (the linkage of injury surveillance work), detailed research into priority areas had to be limited.

The results of an injury surveillance program frequently point to areas that require further investigation and more detailed studies before national intervention strategies are introduced. Surveillance data provides little information about exposure patterns, for example, uniformity of drowning incidents across the State/Region.

The need to obtain more representative and comprehensive data is recognised.

## **1.10 Structure of Thesis**

Chapter One outlines the aims of the study, identifies the research problems, lists the research questions and documents the significance of the problem.

Chapter Two presents a literature review of surrounding issues related to CPR taught in schools, including previous research into adequate CPR following an incident (for example, drowning). Drowning is one significant health risk that could be prevented by legislation and education. CPR is currently an elective subject taught in high schools.

Chapter Three consists of the research design, hypotheses, sampling design, instrumentation, pilot study data analysis, ethics and limitations of the study.

Chapter Four includes findings from four separate populations: principals, teachers, students and instructors.

Chapter Five contains the discussion of findings based on research questions proposed in this study. Conclusions, recommendations and future research areas are discussed.

## 1.11 Glossary.

**Blood Pressure (BP):** The pressure of the blood as it pulsates through the arteries (Kozier 1998: 1074).

**Cause of Death:** As reported on the medical certificate as cause of death classified by the underlying cause of death according to rules and conventions of the ninth revision of the International Classification of Diseases (q.v.) The underlying cause is the disease which initiated the train of events leading directly to death. Deaths from injury or poisoning are classified according to the circumstances of the violence, which produced the fatal injury, rather than to the nature of the injury (Australian Institute of Health and Welfare 1996(a): 278).

**Central Venous Pressure (CVP):** An indicator of the function and the pumping ability of the right side of the heart. Fluid status is determined by CVP monitoring, as well as determining the ability of the cardiac pump (Fletcher 1983: 238).

**Continuous Positive Airway Pressure (CPAP):** Positive pressure is applied to the airway throughout the respiratory cycle to reduce the work of breathing. Used in patients with spontaneous respirations (Miller and Keane 1983: 263; Fletcher 1983: 168).

**Cardiopulmonary Resuscitation (CPR):** Artificial stimulation of the heart and lungs (Kozier 1998: 1075).

**Drowning:** Death from suffocation resulting from aspiration of water or other substance or fluid. Drowning occurs because the liquid prevents breathing (Miller and Keane 1983: 343).

**Emergency Care:** A two hour course in First Aid and emergency conditions conducted by the Royal Life Saving Society of Australia. This course does not include the demonstration or instruction of Cardiopulmonary Resuscitation (Royal Life Saving Society of Australia, NSW Branch 1992– Manual).

**Epidemiological Surveillance:** The ongoing and systematic collection, analysis and interpretation of health data in the process of describing and monitoring a health event (Vimpani and Hartley 1991: 6).

**Expired Air Resuscitation (EAR):** Mouth to mouth or mouth to nose Resuscitation, administered where there is an absence of breathing (St John Ambulance Australia 1989: 232).

**Fatality (in drowning):** A death in the water, or after rescue because of the direct effects of cerebral anoxia or of respiratory complications (Patrick, Bint, and Pearn 1979: 61).

**First Aid:** The initial care of the sick or injured by people at the scene (St John Ambulance, cited in Pearn 1998: 38)

**Glasgow Coma Score (GCS):** Neurologic assessment of the patient's ability to respond to commands regarding eyes opening, motor movement and verbal answers. The best possible score is 15 and the lowest is 3 points (Stillwell 1994:8).

**Health:** A state of complete physical, mental and social well being and not merely the absence of disease or infirmity. (Abraham, d'Espaignet and Stevenson 1995: 1). It is influenced by family, social, educational, environmental and economic, religious, cultural and biological factors (Australian Health Ministers' Advisory Council 1995: 1-2).

**Health Outcome:** A change in the health of an individual, a group of people or a population as a result of factors such as health services, health promotion programs, aging, the environment, lifestyle factors or programs unrelated to health (New South Wales Health Department 1992: 7 and 47).

**Health Promotion:** Activities to improve health and prevent disease (Australian Institute of Health and Welfare 1996(a): 279).

**Hospital Separation:** Refers to a patient leaving or separating from a hospital or ceasing to be a patient. That is, either discharged, transferred or deceased (New South Wales Health Department 1992: 27).

**Injury:** Bodily harm resulting from a cause of energy or the absence of essential elements to life, which take the body tissues beyond its limits of resilience. Injury may be intentional (assaultive or suicidal) or unintentional (accidental) (New South Wales Health Department 1992: 7 and 27).

**Laypersons:** Those who are not qualified instructors in Resuscitation but have gained a First Aid certificate.

**Mouth to Mouth Resuscitation/Artificial Respiration:** Where the victim's nose is pinched and their mouth is covered by the rescuer's mouth. The rescuer then puffs breaths into the victim, enabling air to be pushed down to the lungs (Miller and Keane 1983: 100).

**Near Drowning:** The term used for non-fatal water related events (DeBoer 1997: 19).

**Positive End Expiratory Pressure (PEEP):** In mechanical ventilation, a positive airway pressure is maintained until the end of expiration (Miller and Keane 1983: 901).

**Public Health:** One of the efforts organised by society to protect, promote and restore the people's health. It is a social institution, a discipline and a practice (Australian Institute of Health and Welfare 1996(b): 281).

**Resuscitation:** The preservation or restoration of life by the establishment and/or maintenance of airway, breathing and circulation; and related emergency care given before definitive hospital care (Australian Resuscitation Council 1983: Policy Statement No. 1.1).

**Saltwater:** Osmolarity is greater than that of human plasma (Patrick, Bint and Pearn 1979: 1, 61).

**Secondary Drowning:** This phenomenon is characterised by a latent period (usually several hours) of apparent relative well-being after Resuscitation followed by rapidly increasing pulmonary oedema, anoxia, tachycardia, and hypotension. It is imperative that any one resuscitated on the beach should be admitted to hospital for surveillance, with a heightened awareness of the danger of this phenomenon (Ibid 1979: 63).

**Survivor:** An individual in whom spontaneous respiration was permanently re-established and who did not die as a direct or indirect result of cerebral anoxia or of respiratory complications (Ibid 1979: 61).

**Ventricular Fibrillation (VF):** A life threatening arrhythmia of the heart that has no measurable rate and is completely irregular and chaotic (Fletcher 1983: 62).



**Years of Potential Life Lost (ypll):** a measure of the relative impact of disease and lethal forces in society highlighting the loss to society as a result of early death. Calculated on the normal Australian life expectancy of 75 years (Commonwealth Department of Human Services and Health 1994, 309).

# **Chapter Two**

## **Literature Review**

## **Chapter 2 Literature Review**

### **2.1 Introduction – Health of Australians**

Australia is one of the healthiest countries in the world with the health of Australians improving in general (Australian Institute of Health and Welfare 1996a: 1).

However, a recent comparison of 42 countries showed Australia to be in the top ten for transport deaths and industrial accidents, and in the middle range for deaths from poisonings, falls, drownings and other accidents (Ministerial Review in Health Promotion / Education 1986: 78). Among other developed countries, Australia has one of the highest overall accidental death rates (Ibid 1986: 78).

Despite reductions in child morbidity and mortality, injury rates have risen worldwide (Vimpani and Parry 1989: 485). Internationally, Australia ranks very highly in terms of mortality from accidents in young people: fourth among 32 countries for males 0-4 years of age and third of 46 countries for males 15 -19 years of age in 1981 (Vimpani and Hartley 1991: 1).

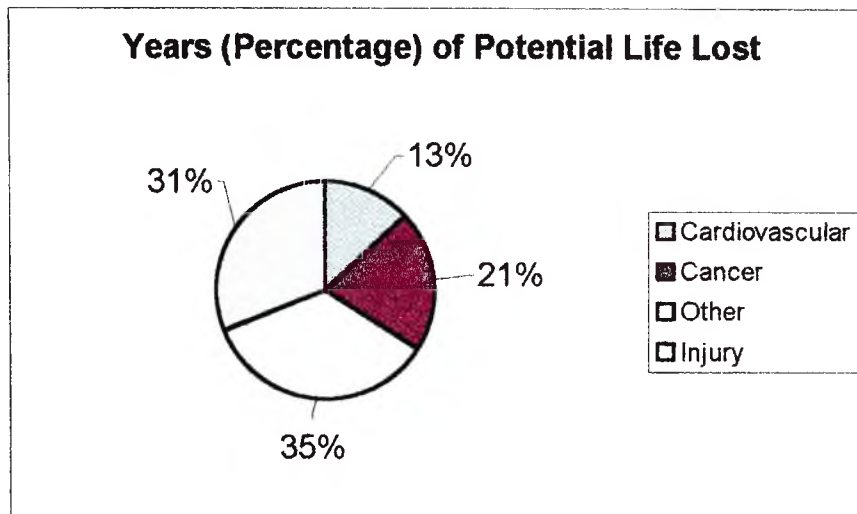
In 1986, the Better Health Commission reported that there were approximately 7600 deaths, 300000 hospital admissions, 2 million hospital bed days and ten million medical treatments a year as a result of injury (Ibid 1991: 1). Although mortality is evenly distributed among

all groups, half of the deaths by injury are aged between 1 and 39 years (Abraham, d'Espaignet and Stevenson 1995: 29). Injuries are a more frequent cause of hospital admission than that of heart disease and cancer combined in the same age range (Commonwealth Department of Human Services and Health 1994: 171) and injury (33 percent) accounts for more years of potential life lost than heart disease (13 percent) and cancer (21 percent) combined (Vimpani and Hartley 1991: 1; Commonwealth Department of Human Services and Health 1994: 170).

Social and environmental factors, as well as knowledge, attitudes, and behaviour of individuals determine the health of individuals and the population (Australian Institute of Health and Welfare 1996(b): 2). The elements of the social environment are seen as important in health, including psychological, cultural, educational and economic factors (Ibid 1996(b): 2).

### Figure 2.1.1 Years of Potential Life Lost

(Commonwealth Department of Human Services and Health 1994: 170)



In 1994, 5.7 percent of deaths (7187 actual) in Australia were from injury (Australian Institute of Health and Welfare 1996(a): 80). By 1995, deaths from injury had risen to 6 percent (New South Wales Injury Expert Panel and Injury Epidemiology Unit of the New South Wales Health Department 1995: 5). The New South Wales figures correspond to the national figures for death by age and by population groupings in Australia (Australian Institute of Health and Welfare 1996(a): 221). These figures are also reflective of the National figures for death by injury and poisoning (Ibid 1996(a): 227).

In 1993 road deaths, child drowning, falls and burns in the elderly, homicide and suicide accounted for 25 percent of male and 80 percent of female injury deaths in Australia. Accidental deaths involving water account for a much smaller proportion of injury deaths than road transport. Drowning is the most common cause of death in 0 – 14 years

of age in Florida, after neonatal mortality and automobile accidents (Fandel and Banacalari 1976: 573). Management of drowning victims has improved due to improved training in CPR (Ibid 1976: 573).

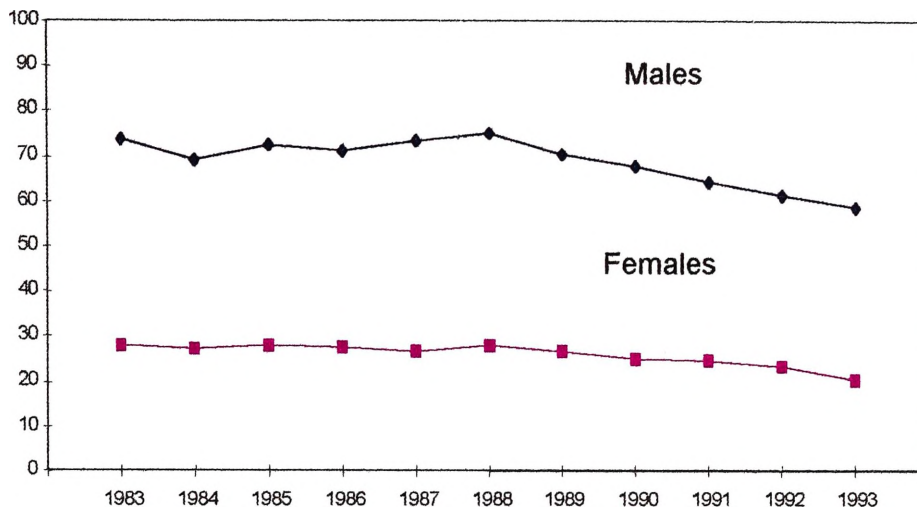
## 2.2 Injury

Injury refers to bodily harm, resulting from some external force or energy acting on a person (New South Wales Health Department 1992: 7). This could take the form of cuts, abrasions, sprains, fractures, stings, burns, electrocution or poisoning. Injury may also be caused by “Bodily harm resulting from the absence of essential elements such as heat or oxygen” (Ibid 1992: 27) including drowning, frostbite, hypothermia, dehydration. Physical harm caused by long term exposure to low levels of energy is also classified as an injury, for example, chronic injuries and back pain. Injury may be either unintentional (accidental) or intentional (assaultive or suicidal) (Ibid 1992: 27).

High-risk groups for all injuries are children, adolescents and young adults and the elderly (Ibid 1992: 8). The major causes of injury death in children are transport, drowning, and suffocation and fire (Ibid 1992: 8). Major causes for children attending emergency departments are falls, transport, sport and chemicals (Ibid 1992: 8).

**Figure 2.2.1** Death Rate for all Causes of Injury per 100,000 Population (Abraham, d'Espaignet and Stevenson 1995:29).

**Death Rate for all Causes of Injury per 100,000.**



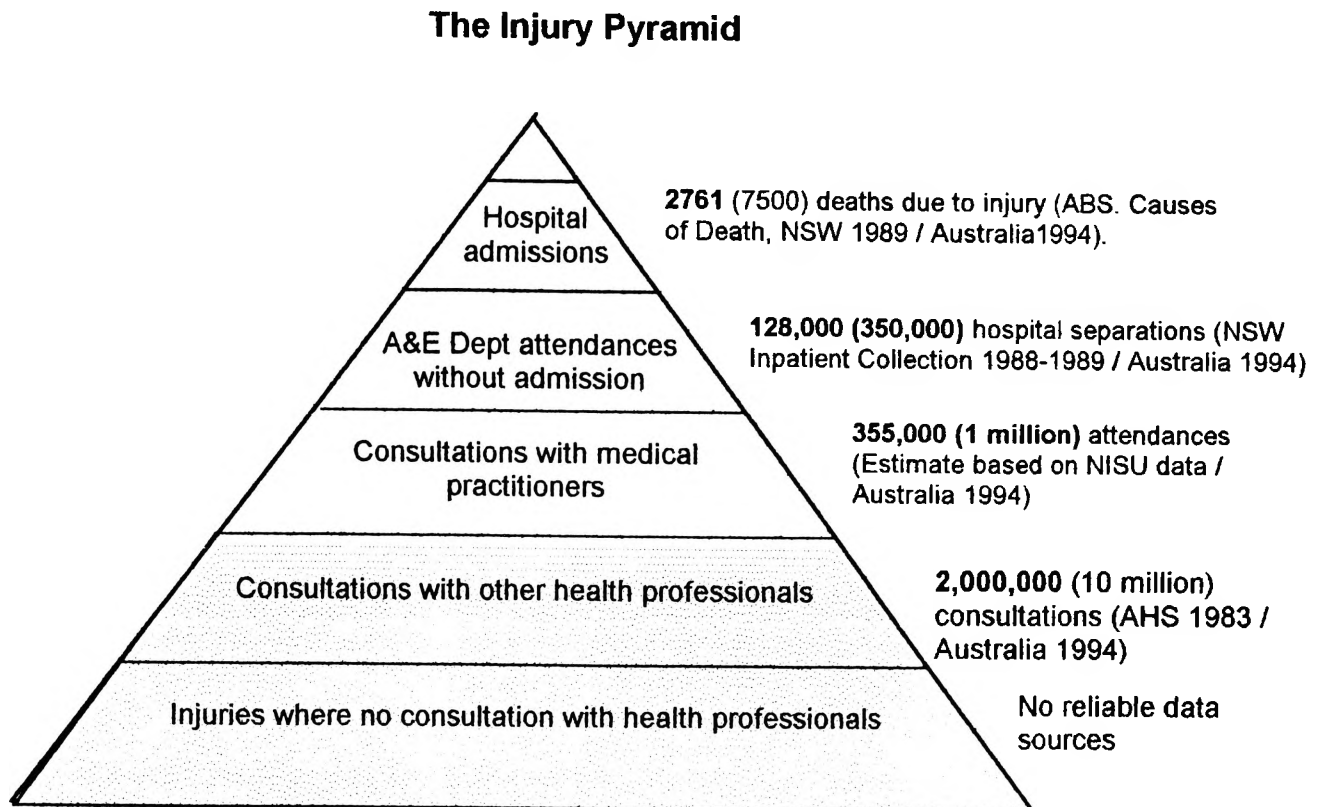
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
<b>Boys</b>	73.8	68.9	72.6	71.2	73.2	75.0	70.4	67.7	64.1	61.3	58.6
<b>Girls</b>	28.0	27.1	27.9	27.6	26.6	28.0	26.9	25.2	24.4	23.3	20.2
<b>Total</b>	50.4	47.6	50.0	49.2	49.6	51.1	48.3	46.1	43.9	42.0	39.0

Note: 1. Injuries are classified according to the International Classification of Diseases (ICD-9) External Cause Codes: E800-E899. Codes referring to medical misadventure, complications of care etc. have been omitted from this table. These include ICD-9 External Cause Codes: E870-E879, E930-E949.

Source: AIHW National Injury Surveillance Unit. (Abraham, d'Espaignet and Stevenson 1995:29)



**Figure 2.2.2** *The Injury Pyramid – Estimated Annual Injury Experience In New South Wales (Australia) (New South Wales Health Department 1992: 7) / (Commonwealth Department of Human Services and Health 1994: 177).*



High rates of injury mortality are experienced in males 15-29 years of age, compared with males of older ages and females in the same range (Moller 1995: 1). The exception to this is in old age (75 years plus) mainly because of falls (14 percent) (Commonwealth Department of Human Services and Health 1994: 8).

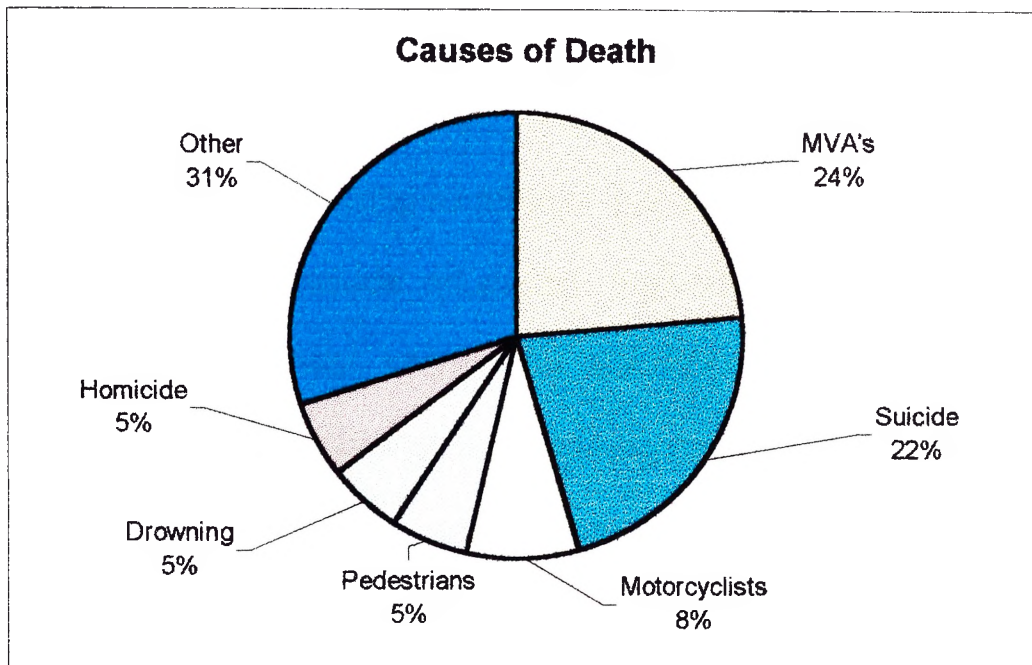
Suicide is the second most common injury-related death: the most frequent form of suicide death is in males (New South Wales Health Department 1992: 8). Road transport injury was the most common form of fatal and serious injury in 1992, but has been declining since 1970 (Australian Institute of Health and Welfare 1996 b: 80; New South

Wales Health Department 1992:8). In 1990, 702 people died on New South Wales roads and 6147 people were seriously injured (Ibid 1992: 8). In 1987, 63840 years of potential life was lost due to injury in New South Wales: 26 percent deaths from motor vehicle accidents, 24 percent from suicide, 9 percent from motorcyclists (Ibid 1992: 8). Pedestrian accidents, drowning and homicide each accounted for six percent years of potential life lost due to injury (Ibid 1992: 8; Abraham, d'Espaignet and Stevenson 1995: 29).

A larger number of accidents are likely to occur to students in a gym class or on athletics teams. However, accidents during physical education classes are likely to be sprains, abrasions, concussion, head or back injuries, eye trauma, bee stings, fainting, and seizures (Kinne 1982: 564).

Many injuries become unduly serious because teachers, coaches and officials are not alert to early signs and symptoms of head or other injury and do not take necessary and timely therapeutic steps. This occurs because of competitive pressures and inadequate training in health status evaluation and emergency care (Waller 1985: 368).

**Figure 2.2.3** Causes of Death 1994 (Abraham, d'Espaignet and Stevenson 1995: 29).

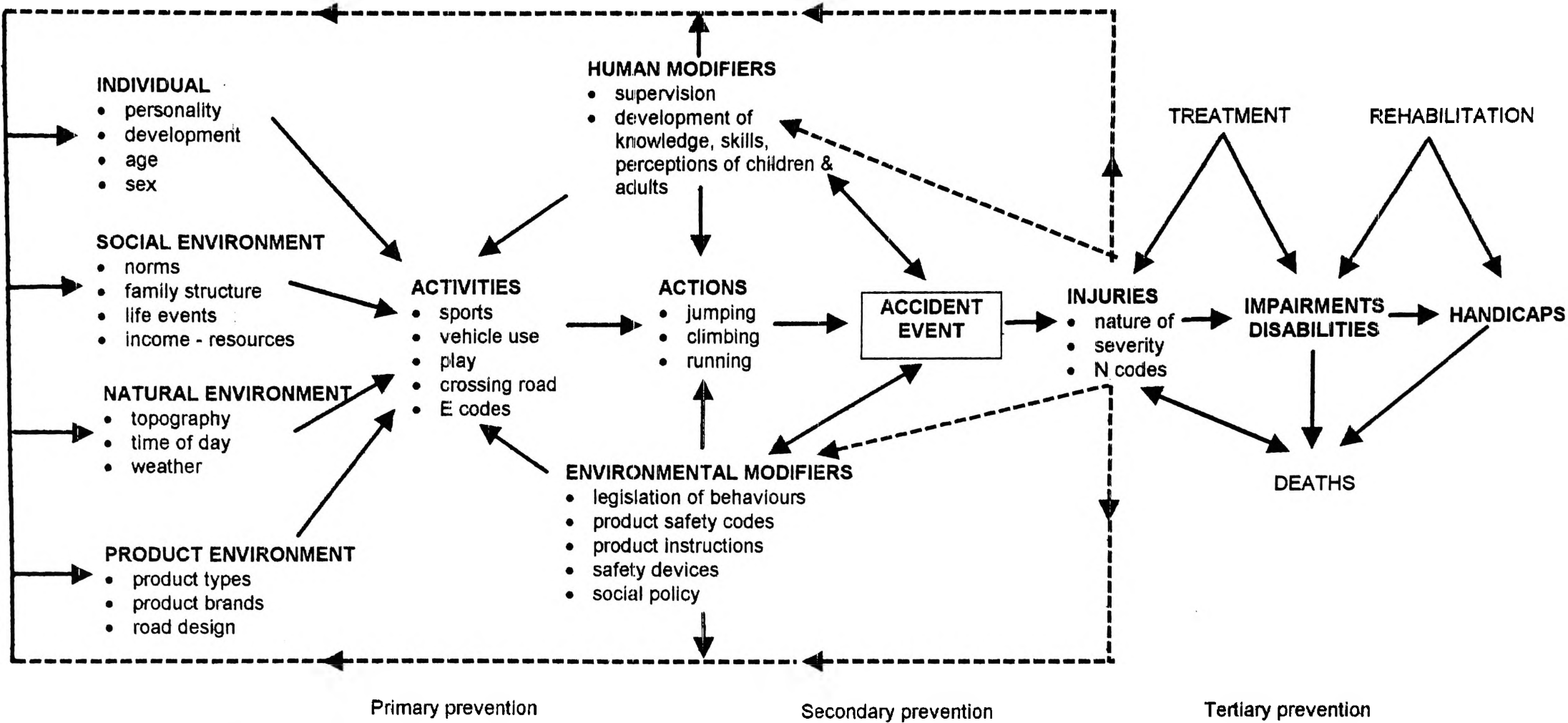


In 1993, young male deaths from injury accounted for 48 percent of years of potential life lost (Moller 1995: 1). From birth to 45 years of age, injuries are the most common cause of death for men and women in Australia (Ministerial Review in Health Promotion / Education 1986: 78). During 1991, 2430 people died due to injury (New South Wales Injury Expert Panel and Injury Epidemiology Unit of the New South Wales Health Department 1995: 5). The most common causes of death between 10-19 years of age in both sexes are accidents, poisoning and violence (Ministerial Review in Health Promotion / Education 1986: 64). Among 15-19 years of age, the rate for these is higher than for all age groups (73 percent) (Moller 1995: 1).

Child and adolescent trauma is a significant public health problem responsible for more years of premature life lost than any other condition (Vimpani and Parry 1989: 485). Due to the increased recognition of injury being a public health problem, injury is no longer a random event but often predictable and preventable (New South Wales Health Department 1992: 7; Vimpani, Pearn and Moller 1986: 115). Management includes acting to prevent the accident from re-occurring. Potential remedies include education, ergonomic improvements and legislation (Pearn 1985: 1450). The Accident / Injury Process (see Figure 2.2.4 pp.37) is a flow chart describing the accident event, dividing it into primary, secondary and tertiary prevention phases. As the accident event occurs in the secondary prevention phase it is logical to conclude that the most efficacious use of resources going to prevention is to be made at the earliest possible time, ie: during the primary prevention phase.

Coaches, trainers, officials and teachers need specific training with periodic refresher courses in identifying and dealing with injuries. All public spectator sports should have at least one independent person on hand trained in health care whose job it is to guide evaluation and treatment (Waller 1985: 368) and who has the ability to act swiftly with First Aid and CPR (Vimpani and Hartley 1991: 80).

**Figure 2.2.4** *The Accident/Injury Process (Ministerial Review in Health Promotion / Education 1986: 82)*



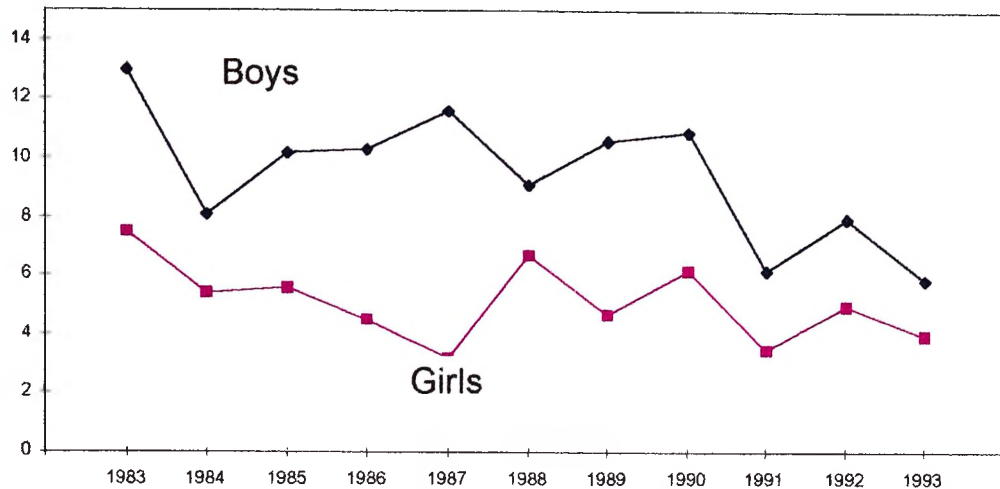
## **2.3 Water Related Injury**

Drowning is the third most common cause of unintentional injury death for all ages. Although the rate of death has decreased by half, most had occurred between 1930-1950 (Baker, O'Neill, Karpf 1984: 155,162). Since the 1940's, Australian drownings have decreased 75 percent, except in the 0-4 year age group. The 0-4 years of age group rate is 7 times higher than the 5-14 age group (National Conference on Injury Prevention and Control 1995: 107) and is one of the leading causes of accidental death (Walker 1996: 99). Australia is the driest continent in the world and has the highest reported incidence of drowning in the world (Mountain 1999: 45). Because of the warmer climate and the high number of domestic pools, water exposure is higher in Australia (Kemp and Silbert 1992: 1145). Accidental drowning is over 200 percent higher for boys (Farrell and Wraight 1996: 47) and is still a major cause of death in people under 30 years of age (Mountain 1999: 45).

Accidental drowning is a preventable cause of death (Abraham, d'Espaignet and Stevenson 1995: 26) and 25 of the 51 cases in 1993 occurred in swimming pools, mostly domestic pools with less than half unfenced (Mountain 1999: 46). Domestic pool covers play a part – designed to prevent heat loss and entry of debris they are often opaque, hug the water surface, and are non-weight bearing (Kemp and Silbert 1992: 1145).

**Figure 2.3.1** *Child health – Drownings. Death rate for accidental drowning per 100 000 children aged 1-4 years.*

### Child Health – Drownings.



	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
Boys	13.0	8.1	10.2	10.3	11.6	9.1	10.6	10.9	6.2	8.0	5.9
Girls	7.5	5.4	5.6	4.5	3.2	6.7	4.7	6.2	3.5	5.0	4.0
<b>Total</b>	<b>10.3</b>	<b>6.8</b>	<b>7.9</b>	<b>7.4</b>	<b>7.5</b>	<b>7.9</b>	<b>7.7</b>	<b>8.6</b>	<b>4.8</b>	<b>6.5</b>	<b>5.0</b>

Note: Accidental drowning is classified according to the International Classification of Diseases (ICD-9) External Cause Code: E910.

Source: AIH-W National Injury Surveillance Unit.  
(Abraham, d'Espaignet and Stevenson 1995:26).

Drownings in school aged children have been reduced by 50 percent since 1982 (Walker 1996: 107). There is a steady decrease in frequency of drowning after the peak age of two, with a second smaller peak in early adolescence. The single biggest number of drownings occurs among toddler aged children in swimming pools (Australian Institute of Health and Welfare 1996(a): 4) but also may occur in bathtubs, buckets and at beaches (Walker 1996: 99). Teaching children to swim would prevent some accidents (Kemp and Silbert 1992: 1145).

**Figure 2.3.2 Water Related Injury – Bodies of Water Causing Drowning**  
*(Australian Department of Human Services and Health 1994: 27).*

**Bodies of Water Causing Drowning.**

Category		Number of Cases
Fell or wandered into:	Private swimming pool	13
	Public swimming pool	0
	Other body of water	21
	Object containing water	4
Swimming in	Private pool	19
	Public pool	5
	Other place	43
Surfing		3
Swept from rocks etc		13
Skin diving		7
Attempting rescue		5
Drowned in bathtub		13
Watercraft submersion:	Motorised craft	25
	Non-motorised craft	4
Other and unspecified circumstances		50
<b>Total (all drownings)</b>		<b>225</b>

An understanding of the demographic characteristics of the population is essential. It is well documented that inequalities in health status and the prevalence of behaviour risk factors are associated with age, sex, socioeconomic factors and ethnicity (Farrell and Wraight 1993: 3).

The near drowning rates are higher among ethnic minorities and economically disadvantaged groups (Mountain 1999: 46). Near drowning is often associated with underlying medical illness (Ibid 1999: 46) and suicide attempts in the elderly (Ibid 1999: 46). In the context of sporting accidents, it is often accompanied by trauma (Ibid 1999: 46).



## 2.4 Risk Factors

According to Dennis Heussner from Surf Life Australia (National Conference on Injury Prevention and Control 1995: 109), there are 7098 surf beaches around Australia, 4000 are accessible by the community, and only 300 have a life-saving presence (volunteer or professional). The ability to “escape the crowd” and travel by car to a secluded beach is easy, inviting and desirable to some. In Australia, no drownings have occurred on a patrolled beach in the last 10 years (Mountain 1999:46).

Cass, Ross and Gratten-Smith (1991: 193-164) found that Saturday was the most frequent day for drownings to occur, late in the afternoon 4pm – 8pm (61 deaths over three years 1987- 1990). 47% of drownings occurred in backyard pools; all but 3 pools were unfenced or inadequately fenced. 96.5 percent of the victims were a member of the household or an invited guest. The study showed the dangers of rivers, dams and surf, where 19 deaths occurred. 43 percent were dead at the scene, 10 percent were dead on arrival (DOA), 22 percent were certified dead in the emergency department and the remainder died after admission to hospital. There is a similar pattern of death in New South Wales to other states, New Zealand, England and the United States of America. Childhood seawater immersion statistics were unaffected by tidal states with half occurring on weekends. But with preschoolers, midweek is a frequent time of drowning mostly playing or standing near water.

Patrick, Bint and Peam (1979: 61) state that more children survive a potentially fatal seawater immersion than do those who lose consciousness in freshwater (67 percent versus 50 percent). Although surf presents special hazards to children, it could be considered safer than other bodies of water.

Most accidents (60 percent) involving young children occur during the period between 3pm and 7pm (Wheatley and Cass 1989: 74). The home is the most hazardous environment for children under 5 years of age (Ibid 1989: 74), with incidents occurring in home pools and bath tubs (Ibid 1989: 74; Peterson 1977: 365). There is a strong correlation between the lack of correct regulation barrier equipment (no fence, or in disrepair, gate left open) (Ibid 1977: 365) or lack of adult supervision and the drowning deaths in children (Kemp and Silbert 1992: 1144).

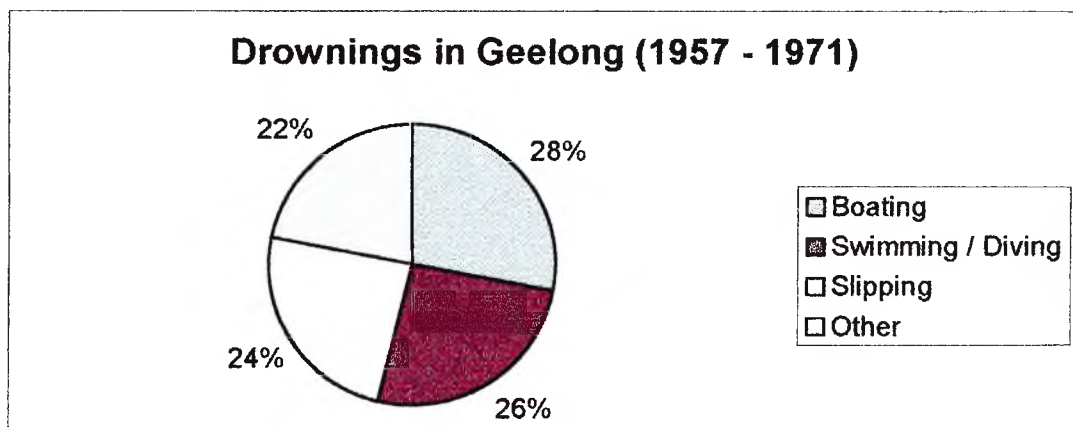
Risk factors for drowning incidents in children include seizure disorders, lack of supervision, swimming in unpatrolled beaches, poor visibility, lack of barriers or fencing near pools and attempted suicide or non-accidental injuries. Baths are particularly dangerous for young children (Mountain 1999: 46). For teenagers and adults alcohol/drug induction, hypothermia, spinal injuries and inability to swim (Walker 1996: 99; Peam 1985: 1447; Vimpani and Hartley 1991: 80) combined with bravado, and often inexperience in the

water, are responsible for up to 50 percent of all adult drownings (Mountain 1999: 46).

The high risk groups are rock fisher people, those who live up to 50 kilometres from the coast (90 percent of the population), tourists and alcohol consumers/ recreational drug users (National Conference on Injury Prevention and Control 1995: 107).

Of 134 drownings in Geelong (1957-1971), 28 percent of cases were related to boating, 26 percent swimming or diving and 24 percent slipping or falling from the shore or pier (Waller 1985: 371; Plueckhahn 1972: 1184; Plueckhahn 1975: 906).

**Figure 2.4.1** *Drownings in Geelong (1957 – 1971) (Waller 1985: 371)*



The greatest rate of decline in accidental drownings and submersions has been in infants and young children though the

rates still remain high (Australian Department of Health Services and Health 1994: 26).

Recreation is an integral part of preferred life style (Waller 1985: 361). The availability and nature of bodies of water are closely related to the frequency and mode of drowning.

## **2.5 First Aid and Resuscitation**

Various strategies are available to reduce the incidence of childhood drownings – measures aimed at increasing the survival rate once consciousness is lost: ie, better Resuscitation (Pearm and Nixon 1977: 616).

It is estimated that for every child drowning there are between four and ten admissions to hospital for near drowning (Commonwealth Department of Human Services and Health 1994: 232). Of these, five to ten percent will suffer neurological damage (Pitt 1986: 683, Commonwealth Department of Human Services and Health 1994: 232).

Children have a better prognosis if advanced Resuscitation is started less than 20 minutes after rescue (Waugh, O'Callaghan and Pitt 1994: 594).

The child's clinical status on arrival in the emergency department should be used for prognosis because it is then that difficult clinical decisions must be made, the first detailed medical examination is carried out and advanced Resuscitation begins (Waugh et al 1994: 598).

Findings suggest that all children in cardiac arrest due to immersion should receive aggressive Resuscitation for at least 25 minutes and

be warmed if hypothermic. Advanced Resuscitation in the field by trained paramedics may improve their outcome. Those who survived a cardiac arrest without major neurological handicap are at risk of developing motor coordination and learning difficulties and therefore warrant long term surveillance (Waugh et al 1994: 599).

CPR can restore breathing and circulation through the combination of artificial respiration and external cardiac compressions. 60 – 70 percent of sudden deaths caused by cardiac arrest occur before hospitalisation, thus demonstrating the need for community participation in CPR programs (Otten 1984: 154).

Survival to hospital discharge has been reported as two percent among 3221 victims of non - traumatic out of hospital cardiac arrest in Chicago (Olson 1992: 2297). The probability of a chronically ill older person surviving to discharge after out of hospital CPR is approximately one percent (Murphy and Matcher 1990: 2103 – 2105). Only three percent were discharged among those whose initial rhythm was ventricular fibrillation (VF). There were nil discharges among 185 people who arrested outside of the hospital and failed attempts at pre-hospital Resuscitation, and nil discharges among 45 residents of long term care facilities who were at least 60 years old (Olson 1992: 2297 – 2298).

A recurring theme expressed by Coronary Care patients when questioned about CPR was of not wanting to live in a "vegetative state". The patients knew that they did not want life-sustaining interventions if such interventions served only to prolong their suffering (Larson 1994: 53 - 58).

The majority of family members of cardiac patients can learn CPR successfully. Most sudden deaths of cardiac patients occur at home with family members present, therefore making family a logical focus of CPR training. Previous research has shown that only a small minority of family members actually learn CPR and that Health Care professionals have failed to recommend CPR training in the population. 81% of subjects in a study by Larson (1994: 53 - 58) successfully learnt CPR. The elderly and the depressed were more likely to be unsuccessful in demonstrating adequate CPR skills. While most physicians agreed that CPR for family members of cardiac patients was important, surprisingly few recommend it in their practice. The reason given was the psychological stress if CPR was required and was unsuccessful (Dracup, Heaney, Taylor, Guzy, Breu 1989: 61).

In spite of concerns about the effectiveness and appropriateness of CPR the Australian Resuscitation Council's Guidelines are useful. They describe the best known treatment for cardiopulmonary arrests. They urge that outcomes be monitored to ensure that optimum

treatment is provided. Most importantly, they suggest when to apply CPR and ways to prevent the need for it (Olson 1992: 2297 – 2298).

There is a need to understand influences upon CPR performance by CPR trainees. One major concern is how comfortable people feel toward CPR (Otten 1984: 154).

Five major anxieties experienced while performing CPR on a human victim in an actual emergency situation were identified as:

- (i) recognition of the need for assistance
- (ii) physical contact
- (iii) skilled application of techniques
- (iv) potential death
- (v) legal / moral considerations.



**Table 2.5.1 Specifications. CPR - Aspects of Discomfort (Otten 1984: 154).**

**A. RECOGNITION OF NEED FOR ASSISTANCE**

1. Identifying/Establishing Unresponsiveness
2. Assessing Breathing
3. Assessing Pulselessness

**B. PHYSICAL CONTACT**

1. Touching/Handling an Unfamiliar Body
2. Placing Mouth over Victims Mouth
3. Removing Clothing

**C. SKILLED APPLICATION OF TECHNIQUE**

1. Ventilation Volume
2. Compression Depth
3. Rate and Ratio

**D. POTENTIAL DEATH**

1. Critical Times
2. Effectiveness of CPR
3. Possible Loss of Victim

**E. LEGAL/MORAL CONSIDERATIONS**

1. Possibility of Lawsuit Due to Negligence
2. Obligations of Continuing CPR Once Started
3. Avoidance of Emergency Situation.

A study by Kellerman, Staves and Hackman (1988: 594) concluded with the following statement: "We believe further investments in training, program development and clinical research should be focused on the optimal provision of prehospital emergency cardiac care, prior to the onset of irreversible deterioration."

A large population study of childhood seawater immersion accidents is reported by Patrick, Bint and Pearn (1979: 62) where forty-nine cases over a 5 year period (1971-1975) in Southeastern Queensland were examined (16 fatalities: 33 survivors). Twenty of 25 cases responded to Resuscitation efforts (Patrick and Bint 1979: 62) and only five cases of attempted Resuscitation were unsuccessful (Patrick, Bint and Pearn 1979: 62). Even untrained persons were effective in Resuscitation (Ibid 1979: 62). Of 13, only two did not respond to attempts of Resuscitation (Ibid 1979: 62). Initial Resuscitation was undertaken by Ambulance officers in 58 percent of the cases, by bystanders in 30 percent and Medical Practitioners in 12 percent. The bystander trained in CPR is better able to provide prompt Resuscitation and the favourable impact of a large scale public education program on mortality from pre-hospital VF arrest has already been clearly demonstrated. The Intensive Care ambulance has had an important impact on pre-hospital management of VF and further advances would follow expansion of the present system as well as public involvement in CPR (Sammel, Taylor, Selig, O'Rourke 1981: 549 –550).

Most people who receive training (65-95 percent) are capable of performing adequate CPR after an initial class (Dracup et al 1989: 61). Investigations have also found that there are no differences between the abilities of lay persons and of health care workers to learn CPR, and that both the handicapped and secondary school

students can learn and adequately perform CPR. Age did not distinguish good or poor learners. Gender and lower body weight did not have a negative impact on CPR performance ability in secondary school (Ibid 1989: 61).

Mortality and morbidity in the cardiac arrest victim are directly affected by the ability of lay persons and health professionals to apply CPR knowledge and skills when the situation arises. Training must ensure the ability to remember and physically perform life support skills effectively when the need arises (Coleman Dracup, Moser 1991: 82).

Australians are fortunate that there is a greater than one in four chance that the rescuer will have had First Aid training. 250,000 people are trained each year in First Aid, and 400,000 lives have been saved on beaches by expert rescue and Resuscitation. 70 percent of urgent calls to '000' have a less than ten minute ambulance response time in capital cities (Pearn 1998: 38).

Modern First Aid dates from the 19<sup>th</sup> Century when the caring skills of military stretcher bearers were taught to civilians (Stubbings 1992: 3). The Royal Life Saving Society of Australia (RLSSA) had its origins in England, with branches formed in all Australian states by 1912 (Pearn 1998: 40), primarily for rescue from still water environments. The Australian Red Cross was founded in 1914

(Stubbings 1992: 5; Pearn 1998:40) with advocacy for international humanitarian law protection of refugees, the provision of food and shelter to civilians in wartime, and teaching of First Aid. The Surf Life Saving Association began in 1907 (Ibid 1998: 40) and was influential in promoting First Aid, and responding to a number of drownings in the surf. The St John civilian state-based salaried ambulance began in Melbourne 1883 (Stubbings 1992: 20), Brisbane 1892 (Ibid 1992: 20), and in all states by 1900, (Ibid 1992: 20, Pearn 1998: 40) but with volunteers in country areas (Stubbings 1992: 21).

According to Lord Brassey "(First Aid) does not come in substitution for the skilled administrations of the trained practitioners. What is proposed to be taught to the masses of the community is simply the art of relieving pain and treating a wound until medical aid can be obtained" (Pearn 1998: 40).

## **2.6 Drowning**

### **2.6.1 Pathophysiology of Drowning**

Despite the statistics, a study conducted by Pearn in 1985 showed that half of all children who appear lifeless in fresh water would survive. Three percent of all survivors remain in a vegetative state and two percent have chronic hypertonic quadriplegia and other neurological complications (Pearn 1985: 1447). A study conducted by Lavelle and Shaw (1993: 372) reported 37 percent of near drowning victims had unreactive pupils at some point in their post drowning recovery treatment.

### **2.6.2 Definition and Causative Factors**

By definition, all drownings are fatal (DeBoer 1997: 19). Near drowning is the term used for non-fatal events (Ibid 1997: 19).

Near drowning has low survival rates (Pearn 1985: 1447). Drowning is the third most common cause of accidental death in children (Wheatley and Cass 1989: 72; Walker 1996: 99) and a major cause of morbidity (Lavelle and Shaw 1993: 368).

Drowning is death from suffocation resulting from the aspiration of water or other substance or fluid (Mountain 1999: 45). Drowning occurs because the liquid prevents breathing (Miller and Keane 1983: 343). The lungs of a drowned person contain very little water or other liquid (Peterson 1977: 365; Kemp and Silbert 1992: 1144).

Post mortem results show a finding of death by severe cerebral hypoxia (Connors, Frewen, Kissoon, Kronick, Sommerauer, Lee, Singh, Tiffin and Brown 1992: 841), laryngeal spasm (10-20 percent) (Fandel and Banacalari 1976: 575), and vagally mediated cardiac arrest (Connors et al 1992: 841). Less than 10 percent of the lung volume is filled with water in most drownings (Mountain 1999:46), however no two drowning incidents are the same (Pearm 1985: 1447).

### **2.6.3 The Drowning Scenario**

Initially there would be a period of voluntary apnoea after submersion causing apnoea, bradycardia, intense peripheral vasoconstriction and blood shunting to heart and brain (especially in children and adults immersed in icy water) (Oh 1997: 617; Mountain 1999: 46). Adults tend to panic and struggle, whereas children remain still and sink (Ibid 1999: 46). Voluntary apnoea then reaches breakpoint leading to involuntary inspiration. The victim would experience hypocarbia set off by the hypoxic drive. Water enters the lungs usually in gasps, laryngeal spasm may occur, increasing airway resistance with reflex pulmonary vasoconstriction, decreasing surfactant supplies and lung compliance (Oh 1997: 617). Airway pressures rise and there is bronchoconstriction and pulmonary hypertension (Mountain 1999: 46). The water would then shift from the alveoli into the circulation. The victim would be swallowing, vomiting and aspirating (Oh 1997: 617; Fandel and Banacalari 1976:

576). In up to 20 percent of cases, laryngeal spasm prevents further aspiration and a plug of mucus and foam forms. This is known as 'dry drowning' (Mountain 1999: 46).

Secondary apnoea follows within seconds of immersion causing further gasping and then loss of consciousness. Respiratory arrest is imminent with cardiac arrhythmias preceding death (Oh 1997: 617).

Most victims who survive (four out of five children and most adults) will make a first gasp within five minutes of rescue (Pearn 1985: 1447), but this time may be up to 20 minutes for children (Ibid 1985: 1447). Fixed dilated pupils are a bad sign, as is a Glasgow Coma Score (GCS) of less than five (Lavelle and Shaw 1993: 368). The respiratory pressure for expired air resuscitation (EAR) is greater than that required for a VF (Ventricular Fibrillation) arrest, as the lung compliance is reduced after aspiration of water (Pearn 1985: 1445). First CPR compressions often cause a flood of vomit and inhaled waters (Ibid 1985: 1445).

**Table 2.6.1 Conn/Modell Classification Table (Mountain 1999: 47).**

CLASSIFICATION	GCS	RESPIRATORY PATTERN	EXPECTED OUTCOME % NEUROLOGICALLY INTACT	RECOMMENDED INVESTIGATIONS
A) Awake/ alert	14 –15	Normal	100%	CXR + pulse oximetry
B) Blunted	6-13	Normal/ Hyperventilating	98%+	CXR, ABG, UECs, BSL, ECG
C) Comatose				
C1)Decorticate	5	Cheyne-Stokes	>90%	Add LFT, CK, EtOH, CT +/- toxic screen, dipstick UA
C2)Decerebrate	4	Central hyperventilation	>90%	
C3/4)Flaccid Coma or arrest	3	Apneustic/cluster breathing(C3) No respirations (C4)	<20%	

GCS +Glasgow Coma Score

NB: C4 was not originally described by Conn and Modell, but has been used by other authors.

The Conn/Modell classification is based on mental state one to two hours after retrieval from the water. This has been used as a guideline for assessment on arrival in the emergency department, prognosis and investigations.

#### **2.6.4 Differences in Aspirated Fluid**

Osmolarity of water is determined against that of human plasma (Miller and Keane 1983: 809; Patrick, Bint and Pearn 1979: 62). Freshwater has an osmolarity less than that of human plasma and is therefore hypotonic; seawater is greater than that of human plasma and is therefore hypertonic. The normal value for serum osmolarity is 270-300 mOsm / kg (Miller and Keane 1983: 809). Seawater has an osmolarity of three to four times that of blood (Fandel and Banacalari 1976: 576).



Freshwater and seawater cause lung injury by different mechanisms. Freshwater washes out surfactant and damages alveolar cells, while seawater draws in fluid causing a foamy formation. There is little difference clinically and the electrolyte disturbance is minimal and transient (Mountain 1999: 46).

Seawater survival rate is 82 percent compared to 52 percent survival of freshwater accidents (Patrick, Bint and Pearn 1979: 62). The special hazards of seawater include rips and tides, the waves, inability to see underwater, and the changes in the conditions depending upon the weather. Half of the seawater accidents occur on weekends (Ibid 1979: 62). However, seawater presents a number of advantages over fresh water. That is; seawater is a greater distance from home, there is a strong presence of lifeguards and rescue associated facilities, and prominence of beach safety campaigns.

Swimming in the surf and holidays for children are such an entrenched part of Australia's life that it is very comforting to find that the seawater threat is so small largely due to the efforts of members of the Surf Life Saving Association. The use of surfboards is relatively risk free for children (Ibid 1979: 63).

#### **2.6.4.1 Freshwater**

Hypotonic fluid is quickly absorbed into the circulation through the alveoli, causing haemolysis (destruction of red blood cells) and electrolyte abnormalities. Serum electrolytes may indicate a rise in serum potassium, Central Venous Pressure (CVP) and blood volume, however they are usually transient, insignificant and self-correcting within an hour of the event (Oh 1997: 617; Fandel and Banacalari 1976: 576). It is rare for this haemolysis to produce haemoglobinuria and acute renal failure (Oh 1997: 617).

Surfactant characteristics alter, as the lungs have been “washed out”. Often one or more lobes are collapsed (atelectasis) and there is perfusion but not ventilation (Dottorini, Eslami, Baglioni Fiorenzano and Todisco 1996: 1122-1124). The loss of surfactant alters the surface tension necessary for the gas/fluid exchange, often resulting in pulmonary oedema due to reduced serum osmotic pressure (Miller and Keane 1983: 3550; Dottorini et al 1996: 1123; Fandel and Banacalari 1976: 577; Oh 1997: 617 and Tortora and Grabowski 1996: 727).

Usually young children drown in freshwater (Peterson 1977: 368).

#### **2.6.4.2 Seawater**

Hypertonic fluid pulls the water and plasma proteins from circulation into the alveoli causing haemoconcentration (Fandel and Banacalari 1976: 576; Oh 1997: 617). Pulmonary oedema is caused by the dilution of surfactant and the disruption of the alveolar / capillary membrane. Improvement in respiratory function is more rapid than that of freshwater near drowning, but the hypovolemia may persist for two days, requiring fluid replacement (Fandel and Banacalari 1976:578). With haemoconcentration, high levels are expected for haemoglobin and serum electrolytes and a low blood volume. However, changes of great magnitude are not clinically significant in most cases (Fandel and Banacalari 1976: 576).

Usually older children and adults drown in seawater (Peterson 1977: 386).

#### **2.6.5 Clinical Management**

##### **2.6.5.1 Hospital Management**

The immediate Resuscitation priorities of airway, breathing, and circulation (ABC) continue once at hospital. Once monitoring such as cardiac rhythm, blood pressure, pulse oximetry, core temperature and glucose levels are established, stabilisation of the parameters is essential. Management in the hospital setting is determined by a number of factors. However, the facts surrounding the incident can change some of the treatment processes: estimated time of accident,

type of fluid, temperature of the fluid, degree of fluid contamination, duration of submersion, rescue and First Aid, training of first aider, vomiting, spontaneous gasp, health history.

Airway management may require positioning and suctioning of the airway, with supplementary oxygen via a non-rebreather mask or continuous positive airway pressure (CPAP) for the alert patient. For the comatose victim, endotracheal intubation and positive end expiratory pressure (PEEP) ventilation are indicated (Mountain 1999:47), with a nasogastric tube to prevent gastric aspiration. If capnography is available it is to be used to continuously monitor PaCO<sub>2</sub> levels. Ideal PaCO<sub>2</sub> levels are 35 – 40 mmHg (Ibid 1999:47), obtained by adjusting the oxygen and PEEP settings.

Cardiac problems are to be managed according to standard treatment protocol. The exception to this would be if the patient has a core temperature of less than 33 degrees. These patients need to be rewarmed to above 34 degrees before arrhythmias are treated (Ibid 1999: 47).

Should the patient be hypotensive, inotropes and fluids are indicated. Where a patient receives inotropes, for example, adrenaline, invasive monitoring is indicated and a central venous catheter is used to administer the inotrope.

### **2.6.5.2 Investigations and Ongoing Management**

Clinical investigations conducted are dictated by the clinical status of the patient (Ibid 1999: 47). If there is a suspected head or neck injury, a hard collar is required and a head and neck CT Scan (Computerised Tomography) is indicated. If a patient begins to have seizures they are to be controlled with an anticonvulsant agent (Ibid 1999: 47). Pneumonia may develop as a result of contaminated water and is a contributing factor to the onset of Adult Respiratory Distress Syndrome (ARDS). Any one or more complications delays the recovery of the patient.

### **2.6.5.3 Other Clinical Manifestations**

- Gastrointestinal contents may contribute to an increase in the inflammatory reaction (Oh 1997: 617) and contribute to frequent vomiting and occasional diarrhoea (Mountain 1999: 46).
- Acidosis. Respiratory and metabolic occur initially, but only metabolic acidosis persists once ventilation is controlled (Oh 1997: 617). This is rarely significant.
- Lung injury. Peripheral airway resistance causes widespread atelectasis, pulmonary oedema, severe intra pulmonary shunting, gross ventilation / perfusion mismatch, increased vasoconstriction and decreased compliance leading to hypoxaemia and central nervous system damage (Peterson 1977: 368; Oh 1997: 618; Fandel and Banacalari 1976: 576). The ventilation/perfusion mismatch may take a week to resolve. The cellular injury,

surfactant loss and formation of protein rich exudate lead to a reduction in pulmonary compliance and ARDS (Mountain 1999: 46), taking longer to resolve.

- Cerebral oedema and convulsions caused by hypoxia can have long term cerebral effects such as a persistent vegetative state. Up to 30 percent of children treated in Intensive Care Units after near drowning are reported to have long term psychometric deficits (Ibid 1999: 45).
- Hypothermia is caused by cold water temperatures or prolonged immersion time. Hypothermic patients (less than 33 degrees Celsius as a core temperature reading) with asystole after cold water immersion (water temperature less than 10 degrees Celsius) have a favourable prognosis. Rewarming is important over a period of 6 hours after rescue if the body temperature is below 34 degrees (Pearn 1985: 1450). A temperature of below 28 degrees Celsius causes VF and asystole (Ibid 1985: 1450). CPR and rewarming is important until the body temperature is 34 degrees and cardiac rhythm is maintained. Core chilling can be protective as it spares the brain from hypoxia. Once 34 degrees Celsius has been attained, the patient is slowly rewarmed over 6 hours (Ibid 1985: 1450).
- Haemolysis occurs occasionally in freshwater near-drowning (Mountain 1999: 45).
- Renal impairment is rarely significant (Ibid 1999: 45).

#### **2.6.5.4 Social Implications**

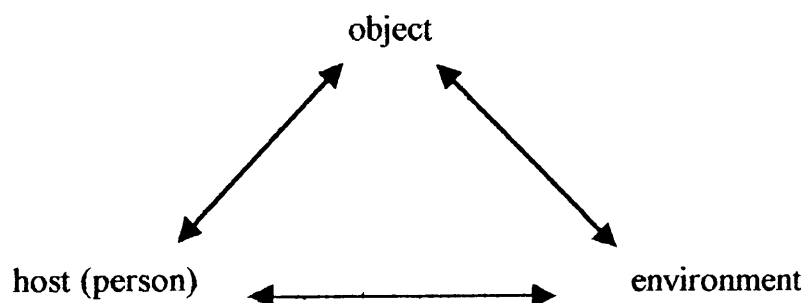
The circumstances of drowning may produce a large amount of stress for the immediate family and those others who were with the victim. They may be experiencing anger or guilt from negligence in their supervision, which may be displayed by crying, absence or their criticism of the nursing staff or the doctor's treatment (Fandel and Banacalari 1976: 578-9). The family's ability to deal with stress depends on their coping skills. Talking and touching the patient should be encouraged as should discussion of the family situation with staff (Kozier 1998: 694). The resuscitators and rescuers at the scene (if different from those mentioned above) would also be experiencing stress. All involved will need referral to Social Workers and/or other counsellors to encourage, strengthen and provide services to the family.

## 2.7 Prevention

The home is the most hazardous environment for children under 5 years of age (Wheatley and Cass 1989: 74) where incidents occur in home pools and bath tubs (Ibid 1989: 74; Peterson 1977: 365).

Intervention strategies aim to prevent the previously stable environment from breaking down. The most fundamental act in this model would be to prevent the child from swimming. This may be relevant in certain circumstances, for example, where one element is unpredictable, like a rip or a disabled child unsupervised.

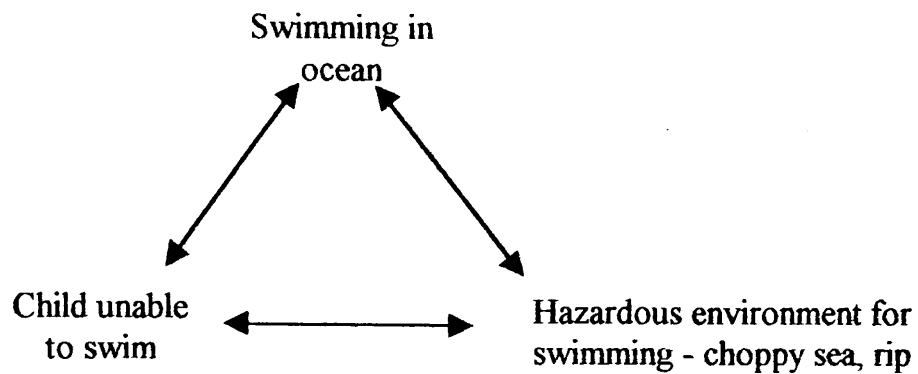
**Figure 2.7.1** *A Model of Injury Prevention*  
(New South Wales Health Department 1992: 27).



More commonly, interactions within a system can be modified either by education, causing a behavioural change or a technological change (Vimpani and Hartley 1991: 21).



**Figure 2.7.2** *Adaptation of 'Model of Injury Prevention' for Drowning.*



An example of technological change could be constant supervision or fences around pools. If it were possible to reinforce both of these system modifications by the enforcement of legislation, a penalty would be required for breaching these requirements.

Town planning practice has generally ensured that toddlers live more than 50 meters from the water's edge (Patrick, Bint and Pearn 1979: 62). A road, dune strip and beach separate most surfing beaches from residential houses. As the major component of mortality comprises toddlers, the fact that this seawater hazard is relatively distant offers considerable security.

Children themselves play a very important preventative role in immersion incidents. Child bystanders or the victim's playmates have been responsible for raising the alarm in approximately one quarter of the cases. In one sixth of non-bath tub immersion incidents, children themselves were responsible for initiating or continuing Resuscitation (Pearn and Nixon 1977: 617).

## **2.8 Legislation**

Home swimming pools are not becoming intrinsically more dangerous to children. The data suggests that effective pool legislation will prevent drowning in spite of increasing trends in home pool ownership (Pearn and Nixon 1977: 702; Pitt 1986: 685).

Safety legislation must be accompanied by education. Without education, awareness and supervision by responsible persons there is no guarantee of safety if an older child circumvents the interest of safety regulations. Legislation has no effect without reinforcement (Vimpani and Parry 1989: 495). Public education and council inspection must support legislation if the full benefit of isolation fencing is to be realised (Cass et al 1991: 163). Legislation is effective in the reduction of childhood injuries but the price is individual liberty and is not always applicable (Vimpani and Parry 1989: 488; Commonwealth Department of Human Services and Health 1994: 232).

### **2.8.1 Home Pools**

Young children and home pools were involved in most of the near drowning accidents (Peterson 1977: 365 - 369). Peterson (1977: 369) suggests that the major attack on the problem must be prevention, fencing, licensing of pool owners, necessitating basic knowledge of treatment of water accidents, and education of the public.

Home pools were the cause of near drowning incidents in over 90 percent of victims in a study conducted by Pitt and Balanda (1991: 664). Eighty percent of these victims were on the property with permission (Ibid 1991: 664). Queensland and New South Wales have implemented effective pool fencing legislation for new and existing pools. The most reliable preventative measure is a four sided pool fence and a pool gate maintained in good working condition and kept shut (Ibid 1991: 664; Swimming Pools Act 1992).

In addition to childproof swimming pools, drowning prevention involves a variety of other strategies. Training in water survival should include not only swimming, floating and boating skills but also the use of essential equipment (Baker, O'Neill and Karpf 1984: 164).

Many of the flotation devices sold for children and adults are quite inadequate for the task. Failure of devices features in 5 percent of child immersions. A false sense of security by parents and supervisors, thinking devices reduce the requirement for their own vigilance was a factor (Waller 1985: 374).

Lack of ability to swim or to remain afloat with face up has been emphasised repeatedly as a factor in drowning (Ibid 1985: 372).

Safety education aimed at children is important, particularly for older children, also those under 8-10 years of age. Education alone

cannot be expected to be the sole injury reduction stratagem. Parents often have unrealistic expectations of the effectiveness of child discipline (Vimpani and Parry 1989: 490).

## **2.8.2 Public Pools**

Public swimming pools provide an important venue for many forms of water sport, fitness and recreational activities (Department of Local Government Act 1993 New South Wales, Practice Note No 10, 1994: 2). The Local Government Act 1993 does not currently prescribe minimum requirements regarding dangers associated with water (Ibid 1994: 2). After consulting with industry experts, the Department of Local Government and Co-operatives have provided guidelines as an assistance to councils (Ibid 1994: 2). These guidelines include legislative provision, management, emergency life saving, and general pool operation requirements.

The minimum requirement for the standard of staff training is listed:

1. Water rescue; a bronze medallion (RLSSA, Surf Life) or equivalent,
2. First Aid; a current senior First Aid certificate (Australian Red Cross, St. John Ambulance) or equivalent,
3. Oxygen Resuscitation; a current advanced resuscitation certificate (Red Cross, RLSSA, St. John Ambulance Surf Life) or equivalent (Ibid 1994: 4).

The Royal Life Saving Society Australia advocates a ratio of 1 trained staff member per 100 patrons and two trained persons on

duty at the facility at all times (Ibid 1994: 5). These trained staff members need to be adequately resourced to deal with emergencies should they arise. A list of basic items of equipment regarded as essential include: rescue aids, First Aid rooms, First Aid kit, and bag-valve-mask oxygen resuscitation equipment (Ibid 1994: 5).

Factors such as average attendance numbers, line of sight, the size and shape of pools, and the inclusion of diving towers are relevant considerations (Ibid 1994: 5) dependent on the circumstances at each pool. There are fewer incidences of drowning in public pools but there is more exposure to them (Kemp and Silbert 1992: 1145).

## **2.9 Education**

### **2.9.1 Education of the Public**

Education may not be a particularly effective strategy. A review in Victoria (Ministerial Review in Health Promotion / Education 1986: 80) concluded that those most at risk of drowning are those least receptive to educational programs (Pearn et al 1980: 605).

Community involvement is essential to successful injury prevention activity (Rivara 1985: 462). It provides broad-based reference groups for activities at a state level and improves the chances that priorities and strategies will be relevant to the recipients. It also ensures wide involvement in the program implementation and renders objectives more likely to be achieved. Outcomes are more likely to be long term and sustainable because the community has been involved in setting the objectives (Preventing Injury in New South Wales 1992: 24; Injury Epidemiology Unit of the New South Wales Health Department 1996: 6).

Most parents believe that accidents cannot be prevented (Ministerial Review in Health Promotion / Education 1986: 80). Often a minority special interest group is formed after an accident has occurred. Reduction in death rates from injury requires a concerted effort from many sectors in the community (Vimpani and Parry 1989: 485).

The PATCH Model (Vimpani and Hartley 1991:22) is based on the recognition that actions to improve the health of communities must be founded on a response by the community to its perceived problems and carried out in a way that is acceptable to them and supported by an adequate infrastructure.

This model, based on sound management and community organisational principles and experiences, assumes that:

- Community participation is essential,
- Local health authorities are an integral part of health promotion, and
- Intervention programs need clear targets and goals.

Firstly, it represents an acceptance of the magnitude of the problem by society and, secondly it offers a vigorous attitudinal approach that accidents of this nature are preventable (Pearn and Nixon 1977: 617). Resources at a local level are likely to be scarce and creative solutions will be necessary.

In a study of predominantly primary care practitioners (Stross 1983: 3341), it was concluded that periodic reinforcement was necessary if initial gains were to be maintained. Most learning requires repetition and reinforcement through repeated exposures.

Two different interventions were used in the study by Stross (1983: 3340) to attempt to reinforce knowledge and skills. Both were moderately successful in improving knowledge related to the management of dysrhythmias but neither were useful in maintaining motor skills. Problem solving and reading were shown to be inexpensive yet effective methods of reinforcing learning. Maintaining skills is far more difficult. 'Hands on' is the best method of reinforcement. It was demonstrated that retraining and certification every two years is adequate for some but for others annually is not sufficient (Ibid 1983: 3341).

### **2.9.2 Education of School Students**

Several local councils in the Hunter Region of New South Wales have been involved in the training of children through council operated EAR schemes. Research with high school students and with 11 and 12 year olds in primary schools reveals that school students can be trained in CPR (Willgoose 1977: 35). Delayed testing showed performance decline in knowledge and skills, regardless of scholastic ability and gender. However, they were able to learn adequately, perform and retain knowledge and skills. The group who received EAR training had retained a substantial amount of information, demonstrating ventilation successfully but with poor backward head tilt and inadequate ventilation. Efforts of EAR trainers working with young adults were validated. Continued EAR instruction in upper primary school, with refresher courses offered to



reinforce skills and knowledge and allowing adequate practice were recommended (Moore, Plotnikoff and Preston 1992: 24).

Performance declines quite markedly over a period of five months after training in 11 and 12 year old students (Plotnikoff and Moore 1989: 296). Schools are a logical place to commence such instruction. The focus, particularly at the primary school level, has been on expired air Resuscitation. External cardiac compression is not taught to primary school students (Willgoose 1984:75). According to the Australian Resuscitation Council, children who are older than nine years of age have the capacity to administer expired air Resuscitation but the teaching of external cardiac compression should be left until 15 years of age. High school students have been trained in CPR with varying degrees of success. The results suggest that such training is more successful with older students. It is also clear that there is a decline in cardiopulmonary resuscitative performance over time. Early exposure to CPR, followed by continual, short refresher courses, should increase the probability of an automatic response in situations that require CPR. Over-learning can be effective (Ibid 1989; 296).

Practice and skills need to be integrated into health studies programs in late primary school and secondary school. The aim is to produce individuals who are capable of applying their knowledge of

and skills in CPR effectively in a range of different contexts (Plotnikoff and Moore 1989: 296).

A short article by Shaw (1991: 18) described the setting up of a First Aid club at school during recess and lunch breaks for students who were interested in learning. She found most students keen and interested however time and other pressures did not permit this idea to succeed. The author would like to see First Aid become a part of every school timetable as it is considered to be the most important and useful skill for life (Ibid 1991: 18).

Teaching children mouth to mouth Resuscitation should begin with children in primary school ( Plotnikoff 1986: 37; Waller 1985: 489). First Aid should be compulsory for all children 8 years and over (Pearn and Nixon 1977:617). Repeated training regardless of age results in significant improvement of skills especially after the second training course. However, there was no doubt that skills and knowledge retention increased with the age of the students (Van Kerschaver et al 1989: 220).

The fear of applying CPR increased with the age of the students. The fear also increased significantly after one training session and does not significantly lower after more training. This fear seems to affect some individuals, with no correlation with age, theoretical knowledge or practical skills. Such fear may not affect attitude or

performance when confronted with an emergency – there is no way of knowing (Ibid 1989: 215).

It has been demonstrated that CPR training of school students by laymen, themselves instructed by experts, is effective, feasible and adequate (Ibid 1989: 220). Consistency of method is essential for theory and mannequins are useful for practical training and motivation (Ibid 1989: 211).

Abrasions, lacerations, sprains, fractures, concussion, head or back injuries, eye injuries, bee stings, fainting and seizures were the most common accidents among school aged children (Kinne 1982: 564).

Public information programs, ie, radio, TV, posters, generally have disappointing results in changing safety practices (Waller 1985: 141). Traditionally, education and guidance of parents has usually been viewed as the primary (and only) countermeasure option (Ibid 1985: 478).

### **2.9.3 Learn to Swim**

There is little unanimity of opinion on the age at which all children can be expected to be able to swim (Pearn and Nixon 1977: 617). Competency in swimming is a most effective measure to prevent drowning. Effective swimming skills can be learnt by 3 years of age. “Drown proofing” methods, for example, learning to float on your

back, testing the depth of the water, and familiarity of the water are popular preventative measures (Ibid 1977: 617).

AUSTSWIM's objective was to develop a sound educational base for the teaching of swimming and water safety (National Conference on Injury Prevention and Control 1995: 108). Increasing opportunities for all Australians to learn to swim and learn water survival techniques to promote water safety is available throughout Australia with AUSTSWIM. No CPR is taught in these courses (National Conference on Injury Prevention and Control 1995: 108).

The early 1980's saw a dramatic decrease in the number of drownings, particularly in the 5 – 14 age group (50 percent reduction by 1982). Two important events occurred at this time: the introduction in Victoria and the Northern Territory in 1978 of the RLSSA Swim and Survival Program (with national introduction in 1982) and the formation of AUSTSWIM.

## 2.10 Duty of Care

There is no general duty at common law to assist anyone in peril, although once rescue is attempted, a duty of care may arise on the part of the rescuer (CCH Australia 18,353).

This was the case in *Hargrave v Goldman* (1963) 110 CLR 40 (CCH Australia 18 353) where a fire began on the defendant's property after lightning struck a tree. Although he was not responsible for the creation of the fire he was considered to owe a duty to his neighbour to take responsible care in relation to the risk created by virtue of the fire burning on his property.

In *Horsley v MacLaren* (1971) 22 DLR (3d) 545: (1971) (the 'Ogopogo') the defendant owned a pleasure boat and was out with two guests. One guest fell overboard through no fault of the defendant but the defendant dived in to attempt a rescue. The rescue attempt was unsuccessful, so the second guest dived in to attempt to rescue the first guest. Both guests drowned. An action brought against the defendant in respect to the death of the second guest failed, the majority of the Canadian Supreme Court holding that the defendant's unsuccessful rescue attempt created no "*new situation of peril*".

The rationale underlying this approach is that the potential rescuer should not be dissuaded for fear of incurring liability. The

undesirability of stringently applying the law of negligence to rescue cases has been recognised in the United States where, in response to the reluctance of Doctors to come to the aid of motor accident victims, legislation has been enacted in many states which relieves medical practitioners and nurses from tortious liability for their conduct at the scene of an accident, except in cases of “*gross negligence*” (CCH Australia 18 354).

This approach has been followed in some Australian jurisdictions. In Queensland, the *Law Reform Act 1995* provides that a Medical Practitioner or Nurse shall not incur liability in respect of acts or omissions done in the course of rendering medical assistance in circumstances of emergency if the act or omission is done “*in good faith and without gross negligence and is not performed for fear or reward*” (Ibid 18 381).

In New South Wales, the *Ambulance Services Act 1990* (section 26) provides that an Ambulance officer “*is not liable for any injury or damage caused by him in the carrying out, in good faith, of any of his duties relating to: (i) the provision of ambulance services or; (ii) the protection of persons from injury or death, whether or not those persons are or were sick or injured*” (Ibid 18 381).

A duty of care that is owed to the rescuer is an independent duty that must arise by the application of the general principles of proximity

and foreseeability (Ibid 18 302). It is necessary to identify the relevant risk of injury to the rescuer. *"The right of the rescuer is an independent right and is not derived from that of the victim"* (Videauv British Transport Commission (1963) ZQB650) (Ibid 18,321).

In the Department of Education's *"Code of Conduct"* (New South Wales Department of School Education 1995) there is a Special Duty of Care owed to the Students by the Teachers. The *Code of Conduct of the New South Wales Department of Education* states:

*" 1.1 As members of the department we are accountable to the Parliament and to the community at large for the effective education of the students, and for the efficient use of the significant sums of public monies entrusted to the public education system. All staff show a special duty of care toward the students in the public education system."*

AND

*"3.1 (1) In performing their duties all staff should: be conscious of this special duty of care to the students of the New South Wales public education system."*

All students in schools are protected by the "special duty of care" whether on school grounds or on a school excursion. As all students less than 16 years of age are minors the special duty of care is especially applicable.

## 2.11 National Policies for Injury Prevention

In developing the national goals, targets and implementation strategies, those areas of injury which impose the greatest burden on the Australian community measured in terms of death (years of potential life lost (ypll) ); illness and the use of hospital and medical services are most significant (Commonwealth Department of Human Services and Health 1994: 171). Governments are often in the best position to play a leading role in change (Ibid 1994:172).

The implementation of the strategies outlined in the report by the New South Wales Health Department (1992:172) must make best use of existing structures as well as developing new ones.

Among the strategies for child drowning:

1992 State campaigns regarding risk factors undertaken;

1993 Lobbying for enforcing pool fencing legislation;

1995 90 percent of pools are fenced (New South Wales Health Department 1992: 32).

The recommendations for change focus on the development of goals, targets and strategies to improve injury outcome through the better directed use of existing funds (Commonwealth Department of Human Services and Health 1994: 172).

Successful injury prevention programs typically involve intersectorial collaboration between the many organisations which are committed



to injury prevention and which are directing resources into various programs (New South Wales Health Department 1992: 25).

Components of an injury prevention program are

- 1: Identify the injury problem,
- 2: Goal (statement),
- 3: Targets (objectives),
- 4: Interventions,
- 5: Evaluation (New South Wales Health Department 1992: 22)

Priority areas for strategy development include:

Social justice

Transport related injury

Work related injury

Falls in elderly and children

Sports and recreation injury

Intentional injury - interpersonal violence

Customer safety

Burns and scalds

Poisoning in children

Water safety

Post injury management - trauma and care, rehabilitation and long term care.

According to Maralyn Wise, Deputy Director of National Centre for Health Promotion (National Conference on Injury Prevention and

Control 1995: 49) there are reasons for the health sector to work with others to prevent injury:

- (i) It is more effective than the health sector working alone; it enables active involvement from those affected and policies and practices are implemented across a greater proportion of population,
- (ii) It uses limited resources more effectively,
- (iii) Appropriate action to improve equity is ensured, and
- (iv) It ensures that change is sustained.

Intervention strategies relevant to injury prevention include education environmental change, policy making and legislation (Vimpani and Hartley 1991: 21).

The overall goals and targets for all injury of the New South Wales Injury Expert Panel and Injury Epidemiology Unit (NEW SOUTH WALES Health Department 1995: 6) are:

The Goal:

- To reduce death and disability due to injury and poisoning in NEW SOUTH WALES.

The Targets:

- By the year 2000, to reduce the death rate for poisoning and injury by 15 percent (Ibid 1995: 6).

- By the year 2000, to reduce the hospital separation rate for poisoning and injury by 10 percent (Ibid 1995: 6).
- By the year 2000, to increase the capacity of community to participate in Injury Prevention (Ibid 1995: 6).

The Children's Injury Target: To reduce by the year 2001 the annual death rate of drowning in the 1-4 year age group from 6.5 per 100 000 (1985-1987) to 2 per 100 000 (New South Wales Health Department 1992: 13).

For Water Related Injury the Goal is:

- (i) To reduce the rate of drowning.
- (ii) To reduce the rate of near drowning and the associated morbidity.
- (iii) To reduce the injury caused by diving into shallow water (Commonwealth Department of Human Services and Health 1994: 230).

The Indicators for Water Related Injury are:

- (i) The mortality rate from near drowning (all ages and children 0 – 4 years).
- (ii) Hospital admission rates from near drownings (all ages and children aged 0 – 4 years).
- (iii) The number of States and Territories requiring separation of domestic pools from houses

- (iv) The proportion of domestic pools with approved child resistant fences, gates and barriers.
- (v) The proportion of children and young people aged 10 – 16 years who have successfully completed a water safety and life saving course.
- (vi) The proportion of young people and adults who can swim at least 50 metres (Commonwealth Department of Human Services and Health 1994: 230, 231).

The Targets for Water Related Injury are:

- (i) To reduce deaths from drowning in people of all ages.
- (ii) To reduce death from drowning in children 0 - 4 years of age by 50 percent.
- (iii) To reduce the rate of near drowning in children 0 - 4 by 30 percent (Injury Epidemiology Unit of New South Wales Health Department 1996: 11, 40; New South Wales Health Department 1995: 25; 51).

The concept of setting National goals and targets, endorsed by the Health Minister, is a means of making significant improvements in the health status of Australians.

The development of strategies based on these targets was a process that incorporated suggestions from the community and

consultation from expert opinion. The following are basic principles of strategy development:

- Primary prevention offers the best opportunity for gains.
- Evidence based assessment of cost effectiveness is the basis for specifying strategies.
- Strategies need to be realistically achievable within a time available and acceptable to both the community and the government (First National Conference on Injury Prevention and Control 1995: 12).

### **2.11.1 The Role of the Media**

Television, radio and the print media have a large and attentive audience which are used widely for advertising health promotion campaigns. Unfortunately, accident prevention does not dominate like accident reporting.

The media can be actively involved in two ways in accident prevention:

- Informally by using existing forms of personal opinions, for example, letters to the editor, talk back radio, television interviews; and
- Formally by using airtime or print space to advertise awareness programs.

The guidelines for advertising are:

- Keep message short
- Persistence
- Make a statement before needing to respond to a conflict situation
- Use real examples
- Find a specialist reporter
- Promote a spokesman for the cause as an authority (Ministerial Review in Health Promotion / Education 1986: 158).

Media campaigns play a complementary role with safety legislation (Vimpani and Parry 1989: 488). Public information programs, ie, radio and television commercials and posters, generally have disappointing results (Waller 1985: 141).

## **2.12 Injury Surveillance Systems**

The purpose of investigating accidents is to develop a description of the accident process so that problems can be identified and lessons can be learnt that will improve safety (Hendrick and Benner 1987: 195). Recommendations should be firmly grounded in the events that occurred during the accident process. Recommendations are developed to correct those problems that make the accident/risk unacceptable and so improve safety and the planned processes for increased effectiveness and efficiency (Hendrick and Benner 1987: 196).

Injury surveillance does contribute to injury reduction (Vimpani and Heartley 1991: 7). The National Injury Surveillance and Prevention Project (NISPP) has deliberately focused on obtaining basic information which is likely to be relevant to primary and secondary prevention, that is, data about the pre-event and event phase of the occurrence of injuries, rather than post-event circumstances. Thus, gathering information about the location of the injury as well as details of personal characteristics and the nature of injuries sustained has been stressed. Less emphasis has been placed on obtaining information about outcomes other than the nature of treatment required, including whether or not admission to hospital took place (Ibid 1991: 15).

Regular reporting is necessary of the occurrence, causes and outcome, age, sex, ethnicity, aboriginality, occupation, and geography to monitor trends (New South Wales Health Department 1992: 20). The commitment to injury prevention must continue in order to enhance the effectiveness of programs. The disciplines of health promotion and of epidemiology should take a leading role in ensuring that injury prevention remains a priority in New South Wales (New South Wales Health Department 1992: 21).

The coronial process potentially provides a rich source of information not currently accessible due to inadequate data storage and retrieval systems (Australian Institute of Health and Welfare 1996: 198). A national coronial information system would offer significant benefits to many users through the production of more timely and detailed data on deaths occurring as a result of external cause. It would contribute significantly to planning the prevention of deaths and injury (Selby 1992: 106) and has the potential to produce major reductions in the cost of injury to Australian society.

Five intervention strategies are suggested:

1. Establishment of injury surveillance systems.
2. Development of the infrastructure for injury prevention within the Health System.



3. Development of strategies to reduce death and disability from injury.
4. Development of community ownership and involvement in injury prevention.
5. Development of links with other key organisations responsible for injury prevention (Vimpani and Hartley 1991: 26).

To establish injury surveillance systems, relevant data must be collected and disseminated for the development of prevention programs, including data about person, place of injury activities associated with the injury and the outcome (New South Wales Health Department 1992: 19).

Injury investigations and intermittent surveys of health facilities can provide useful qualitative and quantitative information. These can be performed at an Area level to generate locally relevant data (Ibid 1992: 19).

## **2.13 Previous Research**

It should be noted that published studies on the topic of First Aid taught in schools are scarce. Indeed, the only previous published research materials were undertaken by Pearn, Dawson Leditschke and Petrie (1980) and Van Kerschaver, Delooz and Moens (1989). Pearn et al is an Australian study concentrating on the instruction of EAR in Primary school students, while Van Kerschaver et al is an American Study of College students. The work of both Pearn et al and Van Kerschaver et al has proven extremely useful in the construction of this study.

## **2.14 Conclusion to Chapter Two**

Education, better design and legislative protection form the three cornerstones of injury reduction philosophy (Baker et al 1984:162; Vimpani and Parry 1989: 488).

An informed and enlightened society requires a better design to accept benefits and legislation effective in preventing injuries (Vimpani and Parry 1989: 488). All child health professionals should be concerned with the effective promotion of child safety. Individual and small group teaching (adults) and public advocacy are an inescapable part of the professional's role, whether this be as a Physician, Teacher, Nurse, Social Worker or Parent (Ibid 1989: 489). Child-directed safety teaching could be aimed primarily at reducing dangerous play practices by children themselves or at altering the behaviour of adult carers. Some influences on parents are possible through take home messages by the child.

Safety education aimed at children is important. Education alone cannot be expected to prevent injury. It is important to emphasise the positives, not just the "don't do's". Education can reach large numbers if target groups are identified.

Optimum management for a near drowning episode includes rescue, extraction from water, resuscitation at the scene, transportation to the Emergency Department for further treatment, Intensive Care treatment and realistic predictions of prognosis (Pearm 1985: 1447). Survival is primarily determined by the duration of hypoxia, and Resuscitation at the scene. Cerebral outcome is optimised by maintenance of normothermia, normoglycemia, normovolemia, and normocarbica, seizure control with the avoidance of hypoxia and hypotension. All members of the public can be involved in management – skills gained by a First Aid course and the learning of CPR is of primary importance.

Responsibility for water safety is shared by a number of government, water safety and child safety bodies. The diversity in which drownings occur and the array of responsible bodies indicates the need for a coordinated national water safety strategy to achieve a reduction in drowning statistics (Albany and Kreisfeld 1994: 232).

The development of a well-trained and committed community is considered to be critical to the achievement of drowning reductions. Training and education issues that have been identified as requiring attention include better access to continuing education, more support for skills upgrading, better access to peer group support and stimulation and better access to training facilities. Lack of funding

for education and training and lack of course material also needs to be addressed (Ibid 1994: 232).

# **Chapter Three**

## **Research Methodology**

**3.1 Introduction**

Chapter three consists of the hypotheses, research design, sampling design, instrumentation, pilot study results, ethics and data analysis. The evaluation and results of the pilot study are also examined.

**3.2 Research Hypotheses**

A hypothesis is a statement about the expected relationship between two or more variables (Burns and Grove 1995: 116; LoBiondo-Wood and Haber 1990: 110; Brockopp and Hastings-Tolsma 1995:343). It is a clear explanation of the results expected to be derived from the study (Burns and Grove 1995: 116; Brockopp and Hastings-Tolsma 1995: 343). A hypothesis is made for each subset of the research problem.

The following hypotheses were developed based on previous research by Van Kerschaver, Delooz and Moens, (1989), as discussed in the Literature Review.

**Hypothesis for Principals:** Principals ensure all teachers who accompany students on excursions are in possession of a current First Aid certificate.

**Hypothesis for Instructors:** Instructors within the school education system who teach First Aid are in possession of a current First Aid certificate and attend annual refresher courses.

**Hypothesis for Teachers:** Teachers have received First Aid instruction and attend a refresher course biannually.

**Hypothesis for Students:** All Students are taught First Aid while at school.



### **3.3 The Research Design**

A survey design has the purpose of describing characteristics, opinions, attitudes and behaviours as they currently exist in the population (Wilson 1989: 252; Burns and Grove 1995: 282; Brockopp and Hastings-Tolsma 1995: 160). Non-experimental research is generally present-orientated. It attempts to describe what exists and is used for building a base of knowledge (Ibid 1995: 160). Variables are not manipulated, nor is the setting controlled (Ibid 1995: 160). In this non-experimental design a broad spectrum of information was gathered from subjects giving an overview of each person's abilities, willingness and attitude towards both gaining a knowledge and administering of First Aid, and indicating their understanding of when and where these skills could be used. A cross sectional survey design can answer questions such as this study outlines - the subjects are at different points of an experience but are measured at one time (Burns and Grove 1995: 178).

Evaluation surveys are used to make judgements and to evaluate a program, policy or method. A qualitative, interpretative approach is the design of choice for analysis (Wilson 1989: 252). A survey design in the form of a questionnaire enabled distribution to a large sample, mostly through the mail. The response rate to mailed questionnaires is reputedly lower than response rates to other questionnaires (Roe and Webb 1999: 131). Mailed questionnaires typically have a response of about 25 to 30 percent (Burns and Grove 1995: 282). The answers

tend to have little depth, as the subjects are unable to elaborate on the 'Yes/No' questions. However, the questions are presented in a consistent manner and there is little opportunity for bias (Ibid 1995: 282).

A non-experimental design has many advantages. It is less expensive and time consuming and is able to cater for large numbers simultaneously (Roe and Web 1999: 131). The structured format enhances uniformity of measurements and facilitates computer assisted data analysis (Ibid 1999: 131). It also provides anonymity enabling free and honest responses (Ibid 1999: 131).

There are disadvantages to this design. Accuracy can only be assumed (Roe and Web 1999: 131) and the information collected is relatively superficial (Ibid 1999: 131). There is no opportunity for follow-up as respondents are anonymous (Ibid 1999: 131) and the questions may be misunderstood or ambiguous (Ibid 1999:131).

This study deliberately focused on obtaining basic information that is likely to be relevant to primary prevention, that is, knowledge and experience of First Aid; fear of performing First Aid; and circumstances in which First Aid skills can be used.

### **3.4 Readability**

The data collection form was kept as simple as possible in order to encourage completion. The questionnaire was designed around a study conducted by Van Kerschaver et al, (1989), and the adapted questionnaire was tested on a pilot sample of subjects. It met the researcher's requirements and needed no further adjustments.

This study is an entry level investigation. It is an exploration and description of who has knowledge of First Aid and to what degree. It is descriptive in design (Burns and Grove 1995: 38). An account is drawn of Students, Teachers and Instructors of First Aid and the Principals' overall understanding of this subject. The author seeks to find what exists in terms of First Aid taught to students in high schools and the frequency by which instruction of high school teachers occurs.

### **3.5 Measurements**

Measurement is the term used to assign numbers to the answers received on the questionnaire. The categories used in the questionnaire were:

- (a) Demographic Data;
- (b) Modified Likert Scale;
- (c) Interval Measurement; and
- (d) Nominal Measurement.

#### **3.5.1 Demographic Data**

The demographic data collected in the questionnaires to all three groups contained school, age and gender related questions. The Teachers' and the Instructors' questionnaires included further questions about length of time as a Teacher and the primary teaching subject taught. The data collected on length of time teaching and the subject taught was thought to influence the use, knowledge and importance of First Aid and Resuscitation.

Recent epidemiological data (Eager and Went 1989) suggests that the region reviewed is reasonably representative of the state of NSW. The author expects therefore that the results of the study will be relevant and replicable in other regions of NSW.

Replication of the findings will also provide evidence of the external validity of this study.

### **3.5.2 Modified Likert Scale**

The Likert Scale is used to gather data on opinions or an attitude of a subject (Burns and Grove 1995: 288). In this design it consists of a declarative statement followed by a scale of five categories. Usually values are placed on each response with the value of one being the most negative response and five being the most positive (Ibid 1995: 288; LoBiondo-Wood and Haber 1990: 236). A question was asked followed by a request to rank the importance of First Aid knowledge on a scale of one to five with five being the most important and one being the least important.

### **3.5.3 Interval Measurement**

A scale with equal intervals is an interval measurement (LoBiondo-Wood and Haber 1990: 294; Brockopp and Hastings-Tolsma 1995:184). Increments on the scale can be measured and they are equidistant (Brockopp and Hastings-Tolsma 1995:183). This was used to identify the length of time the subject has been teaching, length of time since they initially learnt First Aid, and the time period since their last First Aid course.

### **3.5.4 Nominal Measurement**

Information was classified into categories using nominal measurement (LoBiondo-Wood and Haber 1990: 293). Nominal implies that categories of people, events and other phenomena are named, are exhaustive in nature and mutually exclusive (Brockopp and Hastings-Tolsma 1995: 180). A number was assigned to the subject normally taught by the Teachers for identification purposes. The numbers are labels only and do not reflect any hierarchy of significance between subjects. They were assigned randomly in the order that they were received and are not used for mathematical calculations. For example, Geography was assigned the number 13 and Languages was assigned the number 7.

Nominal measurement was used for the 'Yes/No' responses where 'Yes' was assigned the number one and 'No' assigned the number two with 'No Answer' or 'Not Applicable' scoring 0. These categories are discrete and non-continuous (Brockopp and Hastings-Tolsma 1995: 180).

The open-ended questions were also assigned a number for the ease and purpose of data analysis.

### 3.6 Coding and Level of Measurement

Frequency distribution is a basic way to organise and analyse data (LoBiondo-Woods and Haber 1990: 296) using the number of times the score is recorded and the frequency that it occurs.

The average of data collected is organised into three groups. The mode measures the most frequently occurring result (Ibid 1990: 297); the median measures the middle score (Ibid 1990:298) and the mean is the arithmetic average of all the scores (Ibid 1990: 299).

Nominal measurement is used in this study for most answers as listed below.

Primary teaching subject:

0	=	Not Known
1	=	Physical Education/Health/Physical Development
2	=	English
3	=	Maths
4	=	Science
5	=	History
6	=	Social Science
7	=	Languages
8	=	Music / Dance
9	=	Agriculture
10	=	Bursar
11	=	Art
12	=	Geography
13	=	Home Economics
14	=	Casual Teacher
15	=	Careers Adviser
16	=	Industrial Arts
17	=	Special Education
18	=	Librarian
19	=	Economics
20	=	Other - Technology and Applied Studies, Aboriginal Studies
21	=	Computer Studies
22	=	Cross Faculty

In the case where two or more subjects were listed, the first was recorded with the main data set and the remainder as extra data. All answers are included in the final analysis presented in tables and graphs. The subjects were assigned a code number randomly. As the questionnaires were received, the first result was assigned the number 1, the next number 2, and so on until all teaching subjects had a code number.

All Yes/No answers were coded as follows:

0	=	No Answer/Not Applicable
1	=	Yes
2	=	No

A simple ABC quiz was put with the answers coded as follows:

0	=	No Answer/Not Applicable
1	=	Correct
2	=	Incorrect

When an answer to a question required a statement or name of an institution, random assignment of a number starting with 1 in order of receipt was as followed:

0	=	Not Applicable/No Answer
1	=	Certified Instructor
2	=	St John Ambulance
3	=	NSW Ambulance Service
4	=	Royal Life Saving Society, Australia
5	=	Colleague/School
6	=	Red Cross
7	=	Non Instructor
8	=	Other
9	=	Surf Life Saving Association
10	=	Unsure/Outside Agencies



'Other' includes the following - Nurse, Swimming Teacher, University, Guides/Scouts, State Emergency Service, Australian Defence Force (Army), Country Women's Association, Department of Education and Department of Sport and Recreation.

Scores assigned for intervals were different for each question, as the differentiation in the numerical value was considered important.

For the question asking the time (in years) of teaching in schools:

1	=	0 - 2 years
2	=	3 - 5 years
3	=	6 - 10 years
4	=	11 - 20 years
5	=	Over 20 years

Length of time since they were last taught Resuscitation:

0	=	Not Applicable/No Answer
1	=	< 12 months
2	=	1 - 2 years
3	=	3 - 5 years

Number of times attended a First Aid Course:

0	=	Not Applicable/No Answer
1	=	1
2	=	2
3	=	3 - 5
4	=	6 - 10
5	=	Over 10

Time (in years) since last course:

0	=	Not Applicable/No Answer
1	=	1 Year
2	=	2 Years
3	=	3 - 5 Years
4	=	6 - 10 Years
5	=	Over 10 Years

Ranking of importance where 1 is least important and 5 is most important:

0	=	No answer/Not applicable
1	=	1
2	=	2
3	=	3
4	=	4
5	=	5

Both the Students and the Teachers were asked where Resuscitation and First Aid skills could be used. The Students were given a list of nine possibilities with a tenth option of "Other". The "Other" was to encourage the students to think of other options.

1	=	Swimming
2	=	Sport
3	=	Shopping
4	=	Car accidents
5	=	Bushwalking
6	=	Visiting grandparents
7	=	Beach
8	=	Holidays
9	=	Youth groups
10	=	Other

Initially these answers were not assigned a number. A simple total of responses made were recorded. For example, a Student ticked five of the possible nine boxes and left "Other" blank. This gave a score of five. In attempting to interpret this data, it was clear that such a result was meaningless. The results were all coded again, assigning a number to each answer, one through ten. Following collection of all student responses the numbering enabled meaningful assessment of each "possibility".

The Teachers were not given any suggestions. The Teachers' answers are recorded in the open-ended questions, as well as grouped and coded for ease of interpretation.

Where could you use these Resuscitation skills?

- 0 = No answer
- 1 = Home/family
- 2 = Workplace/playground
- 3 = Community (on the street, public gatherings, clubs, shopping, where there are people)
- 4 = Parents
- 5 = Pool/water sports
- 6 = Excursions
- 7 = Road accidents
- 8 = Class room/teaching students
- 9 = Emergency situations
- 10 = Anywhere/anytime/everywhere/all situations
- 11 = The elderly/small children
- 12 = Everyday
- 13 = Coaching
- 14 = Beach
- 15 = Recreational activities/leisure/weekends/holidays
- 16 = Driving
- 17 = Accidents (water, electricity, drowning, overdose, asthma, smoke inhalation, heart attack, choking, seizure)
- 18 = School camps
- 19 = Gym
- 20 = Don't know
- 21 = Other (building sites, bushfires).

The school names were coded alphabetically from one to twenty. Ages of all subjects were recorded. Gender was abbreviated to 'F' for Female and 'M' for Male.

A statistician was consulted regarding the best way to code and interpret these results, especially for the Teachers' responses due to the large quantity of data to be interpreted. During the pilot study, a validation study of the coding system and a reliability study of the data collection methods were undertaken.

The statistician suggested a number of programs that would be suitable. The program selected was Microsoft Office '97 (Professional) used on the author's IBM compatible computer. Microsoft Excel program retained all the coded information and created graphs and charts as required. Microsoft Word 4 was used for formatting and word processing.

### **3.7 Variables**

Descriptive studies (of which this study is one) involve the investigation of research variables (Burns and Grove 1995: 124). Research variables are the qualities, properties and characteristics identified in the research questions, which are to be observed in the study. The intention of this study is to observe variables as they exist in a natural setting. Therefore no independent variables are manipulated, and no cause and effect relationships are examined (Ibid 1995: 124).

The dependent variable, which represents the area of interest is the instruction or knowledge of First Aid amongst Students, Teachers and Instructors. The independent variables are the Principals, Students, Teachers, and Instructors themselves, as they reflect the response of instruction and knowledge of First Aid (Brockopp and Hastings-Tolsma 1995: 163).

Extraneous variables are those variables that influence the relationship between the independent and dependent variable and must be controlled throughout research design (Brockopp and Hastings-Tolsma 1995: 167). Extraneous variables in this study are the expectation of knowledge of First Aid from Principals, self motivated First Aid learners and incidents leading them to learn First Aid for themselves.

The Research Variables are:

**3.7.1 Instructors:**

Annual retraining for CPR and First Aid.

Resuscitation and First Aid training received.

Confidence in using First Aid and Resuscitation.

Use of First Aid and Resuscitation.

Fear of the use of Resuscitation and First Aid.

The need and importance of First Aid and Resuscitation.

**3.7.2 Students:**

Annual retraining for CPR and First Aid.

Resuscitation and First Aid training received.

Confidence in using First Aid and Resuscitation.

Use of First Aid and Resuscitation.

Fear of the use of Resuscitation and First Aid.

The need and importance of First Aid and Resuscitation.

### **3.7.3**

#### **Teachers:**

Annual retraining for CPR and First Aid.

Resuscitation and First Aid training received.

Confidence in using First Aid and Resuscitation.

Use of First Aid and Resuscitation.

Fear of the use of Resuscitation and First Aid.

The need and importance of First Aid and

Resuscitation.

### **3.7.4**

#### **Principals:**

Implementation of the Director General of School

Education's Policy regarding emergency care.

The need and importance of First Aid and

Resuscitation.

Percentage of Students in the school who receive First

Aid and Resuscitation training.

Organisations used to teach First Aid and

Resuscitation.

As this study is in a natural setting, the extraneous variables are difficult to control. They were composed of factors in the settings where the study was conducted (Ibid 1995: 125), for example, school, resources, family, class group and learning environment and the expectation of First Aid knowledge.

Demographic variables are collected to describe the sample and include age, geographic location or school name, subject of teaching and gender. Additional data relating to respondents' ethnicity and socio-economic status would have been useful in the context of a widely ranging study. However, questions on these topics were deliberately excluded on the grounds that some respondents might have found them intrusive.



### **3.8 Validity**

Validity is a determination of the extent to which the survey actually reflects what is being examined (Burns and Grove 1995: 261; Brockopp and Hastings-Tolsma 1995: 190) and validity is shown by evidence for predicting future events (Burns and Grove 1995: 263). The validity of a questionnaire relates both to the individual questions and the process through which it is administered (Roe and Web 1999: 161). Future performance and attitudes towards First Aid and Resuscitation, as based on these study results will potentially change practices and attitudes of Teachers and the compulsory teaching of CPR to all Students in high schools.

Concurrent validity accurately identifies a difference in the present (Brockopp and Hastings-Tolsma 1995: 191). That is, the different First Aid courses offered to Students, the length and the content of the course, and the organisation involved in the instruction. Successive verification is also proof of validity (Ibid 1995: 263). Van Kerschaver, Delooz and Moens (1989), based the core data set required for knowledge of CPR on previous research in a similar field of research. After reviewing research documented in a similar field, it was adapted to this particular study. Content validity studies had been tested previously and have been judged as a valid instrument. The validity of an instrument is essential to the success of any research (Brockopp and Hastings-Tolsma 1995: 191).

### **3.9 Reliability**

Reliability of an instrument reflects its stability and consistency within a given context (Brockopp and Hastings-Tolsma 1995: 191). Testing and re-testing was difficult given the scale of the population.

Reliability in this study can only be tested on the coding in terms of standardisation of answers received (Burns and Grove 1995: 260). There is not sufficient information on which to judge the adequacy of measurement reliability for the answers on the individual surveys (Ibid 1995: 261).

Proof of instrument reliability is consistency over time (Brockopp and Hastings-Tolsma 1995: 193). That is, to retest using the instrument again with a similar population.

Often there is no way to know whether the answers are true. However, the responses received on the questionnaires represent a favourable response for the researcher. This is called 'social desirability' (LoBiondo-Wood and Haber 1990: 236) and the researcher is to assume that the responses are the truth (Ibid 1990: 236).

### **3.10 Pilot Study**

A pilot study is a smaller version of the proposed study. It is conducted to develop and refine the research methodology for the study (Burns and Grove 1995: 560). A pilot study is also necessary to ensure the answers received are what the author requires and to verify that this will indeed be a valid study. Each question needs to be considered to ensure standardisation of answers received (Cormack 1996: 286) and to determine that the language and the intention of the question are appropriate (Ibid 1996: 62). A pilot study is also useful as the results provide evidence of the likely response rate (Ibid 1996: 62). This study is based on a study by Van Kerschaver, Delooz and Moens (1989) and is therefore a validated instrument. Adaptation of questionnaires from the Van Kerschaver et al (1989) study was required to suit the subjects in this study. This pilot study contains details of the method with main findings succinctly presented.

### **3.11 The Data Analysis of the Pilot High School**

The Principal and the Physical Education Coordinator of the Pilot High School were made aware of the proposed study. After Regional Department of Education and Wollongong University Ethics Committee approval had been granted, the Principal was approached formally for permission to conduct a pilot study at the Pilot High School.

Pilot High School is a comprehensive high school, consisting of 850 Students and 65 Teachers. Pilot High is competitive academically, with international excellence achieved in music and the arts.

Pilot High School's boundaries encompass established and new housing sub-divisions.

#### **3.11.1 Principal's Pilot Study**

The Principal was asked to provide consent for the conduct of the study. Consent was given. The Principal was then asked to answer a questionnaire about First Aid taught in the school. Do any Students receive First Aid and Resuscitation instruction while at school? The answer for Pilot High was 'yes' but not all Students are taught. Who are the Instructors of First Aid and Resuscitation? Pilot High has a qualified Instructor whose primary teaching role is Science. This Instructor is an Examiner with the Royal Life Saving Society of Australia. It was also indicated that the St John Ambulance Association and the Australian Red Cross are active in the school.

Concerning the Teachers, the Principal indicated that all the teachers at Pilot High had received First Aid and Resuscitation instruction as per the Director-General of School Education's directives.

### **3.11.2 Teachers' Pilot Study**

The Teachers themselves completed the questionnaires. Teachers who were employed at Pilot High returned 7 of the 65 forms; the response rate was 10.7 percent.

Only one of the questionnaires was returned incomplete where some answers were missing, excluding the "please explain" open ended questions.

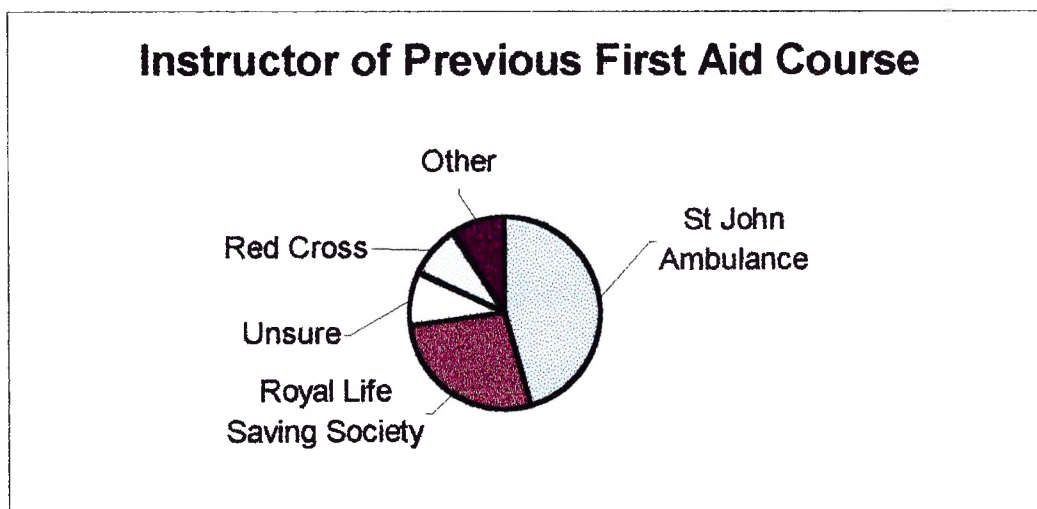
Of the seven Teachers who responded in the pilot study, three were male and four were female, ranging in age from 27 years to 52 years.

Of the respondents two teach Physical Education/Health/Physical Development (PE/H/PD), two teach Science, one Art, one Geography and one Careers.

Five of the seven have been teaching for more than 20 years, one for over 11 years and one for over six years. All except one Teacher have received First Aid instruction; three of these in the last 12 months, two in the last 2 years and one between 3 and 5 years ago.

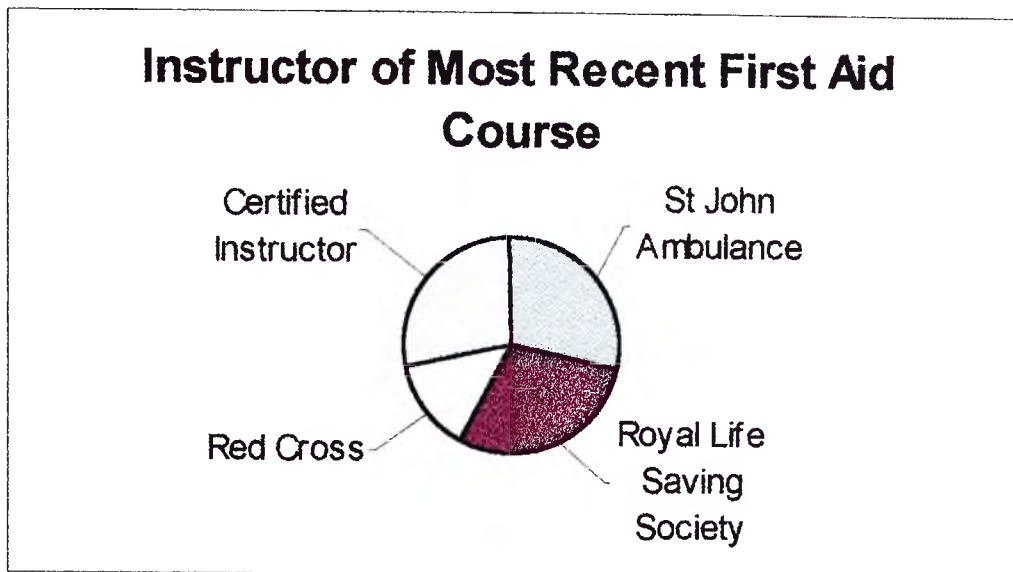
One teacher who received instruction in the last 12 months learnt CPR and First Aid instruction for the first time. The other five had received CPR and First Aid instruction previously from a variety of Instructors (Figure 3.11.1).

**Figure 3.11.1** *Instructors who previously taught Teachers at Pilot High School.*



The seven had been instructed by: St John Ambulance Association (2); Royal Life Saving Society of Australia (RLSSA) (2); Red Cross (1); and other qualified instructors (2) (Figure 3.11.2).

**Figure 3.11.2** *Instructors of the most recent First Aid course for Teachers at Pilot High School.*



Two of the seven Teachers claimed to have not benefited from the recent CPR and First Aid course; one of these had been taught twice before and the other only once.

Only two Teachers had been taught in the last 12 months, one less than 2 years ago, one less than 3 years ago and the remaining three were previously taught 10 years ago.

The questionnaire asked Teachers if they would be scared to help a victim; two replied 'yes' and five said 'no'. The two who were scared to help a victim gave the following reasons: possible legal implications, lack of practice, the responsibility of doing it and lack of confidence.

Despite this, six of the seven were correct in the ABC Quiz where A = Airway, B = Breathing and C = Circulation. This is the correct method of assessing the victim quickly before commencing treatment. One Teacher answered the quiz incorrectly even following three previous episodes of instruction in CPR and First Aid.

All Teachers stated they require more practice and all answered 'yes' to this knowledge being useful in the future. All Teachers in the pilot group escort Students on school excursions but one did not see CPR and First Aid as necessary skills to have for excursions. One other Teacher did not feel confident to use these skills on school excursions. The frequency of escorting Students off the school property is once per year for three Teachers and once per term for the remaining four Teachers.

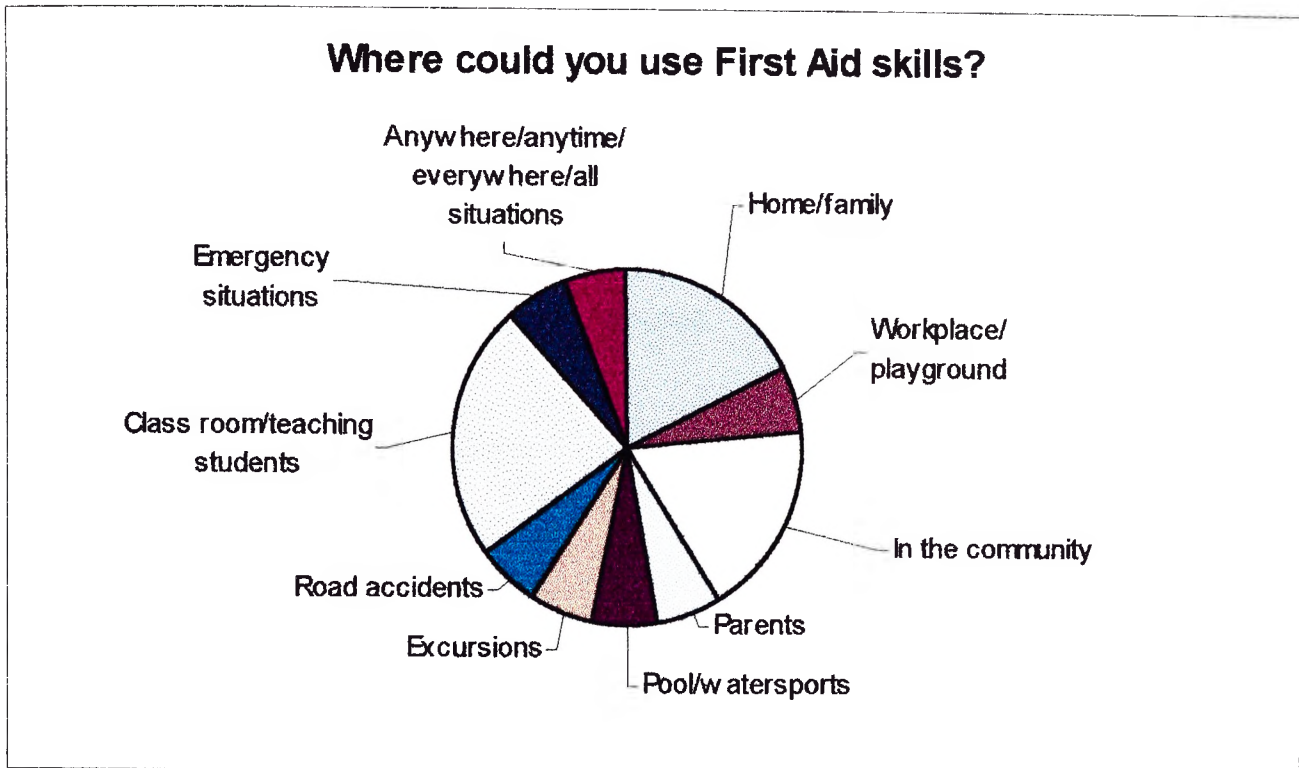
Two of the seven Teachers have used First Aid / CPR skills on an excursion, three of the seven have used these skills outside of school activities and two Teachers have used First Aid skills while at school; one having used CPR skills at school as well as First Aid.

Only one Teacher had attended an emergency situation prior to First Aid and CPR instruction.

There were many suggestions as to where these skills could be used (Figure 3.11.3).



**Figure 3.11.3** Teachers Pilot High School suggestions of where First Aid skills could be used.



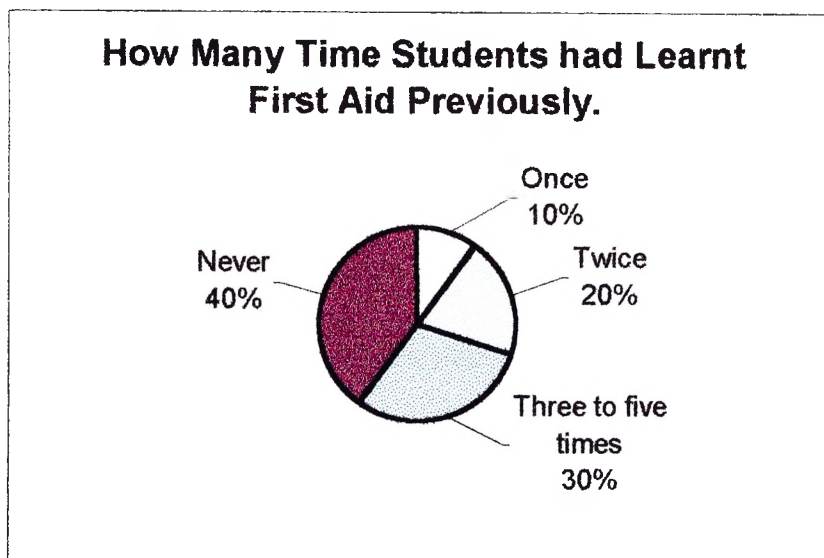
### 3.11.3 Students' Pilot Study

The Head Teacher of PD/H/PE at Pilot High School selected the Students involved in the pilot study. There was a 100 percent response rate which means 10 questionnaires were returned. The Teacher handed them out in class and collected them again before the Students left. Of the 10 Students, three were male and seven female. They ranged in age from 15 to 17 years.

Of these Students, four recently learnt First Aid and CPR for the first time and six had received instruction prior to this recent instruction.

Four had previously been taught within the last twelve months, one had learnt less than two years ago and one had first learnt First Aid and CPR less than three years ago. Three Students had been taught First Aid three times, two Students had learnt twice before and one had learnt once previously (Figure 3.11.4).

**Figure 3.11.4** *How many times Students from Pilot High School had learnt First Aid prior to the last course.*



The Students were faced with the same ABC Quiz as the Teachers. In the pilot study, all Students were correct in their answers.

When asked if they would be scared to use First Aid and CPR skills, seven said 'no' and three 'yes'. The reasons for the 'yes' answers were: lack of confidence and practise, worried about doing it correctly, the responsibility of doing it (3 responses) and one Student had not done it before.

All Students found the course to be informative and all but two would like more practice. These two respondents were Students who had learnt First Aid and CPR three times.

The Students were asked if they thought First Aid and CPR was important to know. 100 percent said “yes”. All of the Students ranked such knowledge as ‘most important’ on the scale provided, where ‘5’ was most important and ‘1’ was least important.

The Students were given a list of places where they might use these skills (Figure 3.11.5). There were nine suggested places of use and one box labelled “Other” in which Students could place their own thoughts. Four ticked all of the boxes except “Other”. Two Students ticked “Other” with no suggestion of another place and four ticked “Other” and wrote the following responses: “Amusement parks/ walking”, “At work”, “Anywhere it is needed”, and “Anywhere because an accident can happen at any time”. One Student ticked only six boxes and one ticked seven.

**Figure 3.11.5** Response from Student Pilot High School to “Where could you use these Skills?”



### **3.11.4 Instructors' Pilot Study**

The questionnaire for Instructors was to be given to those who conduct classes, teach First Aid and Resuscitation or who oversee it. It could be that these Instructors teach the Students, the Teachers, both or nobody at school but instead instruct in community settings. This questionnaire did not seek to ascertain Instructor knowledge or level of skill but the type and length of the course taught.

The Instructors pilot study received only one response from Pilot High. It is not known if this Instructor is the sole Instructor at this school or whether others are able to teach and did not respond to the survey.

However, the latter is suspected as this Instructor is primarily employed to teach Science (Marine Studies and Chemistry).

The Instructor has been teaching for 27 years and instructing in First Aid at school for 25 years. First Aid and CPR were first learnt by this Instructor whilst attending school about 32 years ago. Refresher courses are attended every two years. Courses completed include those conducted by Royal Life Saving Society of Australia (RLSSA) (Senior Resuscitation Update), St John Ambulance (Medallion course), NSW Department of Education, NSW Rugby League (Coaches Certificate) and ASFM (Level 1 trainer).

Over 200 Students have been taught a 'several week' course during sport lessons by the Instructor. The age range of the Students taught First Aid and CPR is 14 to 17 years. This is converted to school years 9, 10 and 11.

An awareness course is taught, as well as an instruction and examination course.

This Instructor is not assisted (by other members) in First Aid and CPR instruction, although it is noted that 4 or 5 other Teachers are qualified with Senior Resuscitation certificates.

### **3.12 Population and Distribution of Questionnaires**

Convenience sampling provides a means of acquiring information in unexplored areas (Burns and Grove 1995: 240). It is therefore proposed that the research population was be derived from each of the public high schools within a Region of NSW.

Each Principal was informed of the study by mail. The letter contained an abstract of the proposed study, a consent form to conduct research in the school, a brief questionnaire and permission for Students to participate in the research. The Principals were able to nominate a member of staff to handle the distribution of questionnaires or they could elect to distribute the questionnaires themselves.

The study is of questionnaire format and the population was be selected from each of the Departmental High Schools. Every school was invited to participate in the study however only 20 of 38 schools responded. Each school received three different questionnaires (i) for those who instruct Students and Teachers in Resuscitation or are First Aid personnel, labelled 'Instructors' (ii) for all Teachers and (iii) for a select number of Students who have completed a Resuscitation course.

Most schools received all questionnaires in one large package through the mail. Each separate bundle was labelled and tied together. Individual questionnaires (one page) were stapled to a postage paid return envelope and a consent form.

Each of these 20 schools responded with 10 surveys from selected Students. The Students who participated in this study were selected by the Principal or nominated other. These Students had recently completed a First Aid and Resuscitation course as part of the curriculum. For those schools that participated there was 100 percent response rate. The Teachers presumably handed them out in class and collected them again before questionnaires were taken out of the room and potentially lost or forgotten. Most were returned in individual envelopes, one school grouped the 10 responses into two envelopes.

Each school invited all Teachers to participate and several methods were used to inform the Teachers. For example, (i) placed a questionnaire, consent form and return envelope (stapled together) in each Teacher's pigeon hole with a cover note from the school contact briefly explaining the study purpose; (ii) another school informed the Teachers at a staff meeting followed by the distribution of the questionnaires.

The contact for the school distributed the 'Instructor' questionnaires to those they thought appropriate. The Instructors were primarily Physical Education Teachers or the First Aid coordinators for the school.

### **3:13 Ethical Considerations**

The Wollongong University Human Research Ethics Committee was in receipt of the brief of intended research and granted their approval to commence the data collection. See *Appendix E* for a copy of this document.

Prior to the commencement of data collection, the Regional Department of School Education was informed of the purpose and intent of this study. Permission was granted to conduct research in all the Departmental High Schools within the Region. See *Appendix E* for a copy of this document. Copies of these letters were sent to each Principal, asking permission for their school to be involved in the study. See *Appendix B* for a copy of this document.

A consent form and a brief outline of the research accompanied each questionnaire distributed. See *Appendix B* for a copy of this document. Participants were not asked to supply their names, only the school name. Each school was then coded to protect the identity of each participant.

Confidentiality was assured and results are available to participants should they wish to inquire. Only grouped data would be reported and summarised, with the intention that recommendations only be reported back to the schools involved in the study.



### **3.14 Benefits / Problems from Pilot Study**

The most significant problem arising from the pilot study was the relatively small number of responses. There was only one pilot study school. A poor response was received from the Teacher population. There were over sixty potential responses from Teachers but only seven were received. Ten Students responded as expected.

Those from the pilot study who did respond had no difficulty in understanding the questions. The responses received were as expected. To the question "Who was your previous Instructor?" one respondent answered with a question mark (ie.?). This anomalous response was interpreted as the answer not being remembered rather than not understanding the question.

Bias is an inherent problem in both qualitative and quantitative research methodologies (Brockopp and Hastings-Tolsma 1995: 253). Bias is a feeling or influence that tends to strongly favour one side or the other in an argument. Absolute objectivity is impossible (Ibid 1995: 254) however anonymity enables free and honest answers. The extent to which bias affects a study is clearly minimised by ensuring the anonymity of respondents.

### **3.15 The Data Analysis**

Following collation of the completed surveys the raw data was processed as follows:

1. Data was coded.
2. Coded data was entered into the computer program (Microsoft Excel) for the purpose of summarising the responses to the questions posed in the questionnaire.
3. Coded data was reproduced graphically as an aid in visual interpretation.
4. Coded data enabled interpretation and discussion of the research findings.

### **3.16 Summary of Chapter 3**

Anthropological research involves the collection and analysis of data about an individual or a group under natural conditions (Brockopp and Hastings-Tolsma 1995: 242). The research design incorporates some of the most important methodology decisions that the researcher can make. Other aspects of the study are incorporated into the design – data collection, sampling, controlling variables and analysis. The research design for this study is as planned for answering the research questions.

The pilot study was conducted to evaluate the strengths and weaknesses of the research questions, methodology and analysis. As this population was to be cross-sectional the questionnaires were to be kept as simple as possible. This was found to be satisfactory following analysis of the pilot study. Therefore, no changes were made to the questionnaires.

There was no sampling as such, as every school was invited to participate. The Principal of each school decided if the school was to participate. Eighteen Principals did not give consent. Therefore, automatic randomisation occurred. This was the case with individual Teachers and Instructors alike. Those schools that wished to participate were sent questionnaires. Not all Teachers from each school returned the questionnaires.

A Teacher selected 10 Students in class to complete the questionnaire. This number was restricted to reduce the potentially enormous response.

Data was analysed using descriptive statistics to evaluate Resuscitation and First Aid skills known and taught in High Schools for Teachers and Students alike.

# **Chapter Four**

## **Findings**

**4.1 Introduction**

This chapter reports the results of this research. The results will be presented in five parts. There are four different questionnaires to be addressed and the discussion of the open-ended questions.

- (a) Response of the Principals.
- (b) Response of the Teachers.
- (c) Response of the Students.
- (d) Response of the Instructors.
- (e) Open-ended Questions.

Each of the four parts (a) through (d) will address the demographics of the population. The hypotheses are discussed to identify the different perceptions and attitudes to First Aid and Resuscitation, given the age of the Teachers, Students and Instructors, experiences and previous instruction. As there is no comparison or measurement between groups, no statistical tests are relevant.

Epidemiological data (Eager and Went 1989) suggests that the Region is representative of the state of NSW. The author posits that the results of the study will be relevant and replicable in other Regions of New South Wales. Replication of the findings will provide evidence of the external validity of this study.

## **4.2 Response of the Principals**

### **4.2.1 Introduction**

All Department of Education High Schools within the Region were invited to participate in this study. A letter was sent to all Principals along with a consent form and a short survey.

The study is in questionnaire format and the survey population was selected from each of the 38 Departmental High Schools. No participants have been excluded. A statistician was consulted prior to the pilot study and again during collation of the pilot study and the study proper, to ensure validity of data collected. Each school received three different questionnaires; (i) for Resuscitation Instructors, (ii) for all Teachers and (iii) for Students who have most recently attended a Resuscitation course.

Of the 38 schools within the Region, 22 Principals (or nominated other) consented to their school participating. 5 of the 22 schools did not return the consent form with their response. These schools were excluded from the 'Principals' Survey' but were included in the study proper. Another 5 returned the consent and the 'Principals' Survey' but failed to return any questionnaires from Teachers, Students or Instructors. This failure to return the questionnaires excluded these schools from the study.

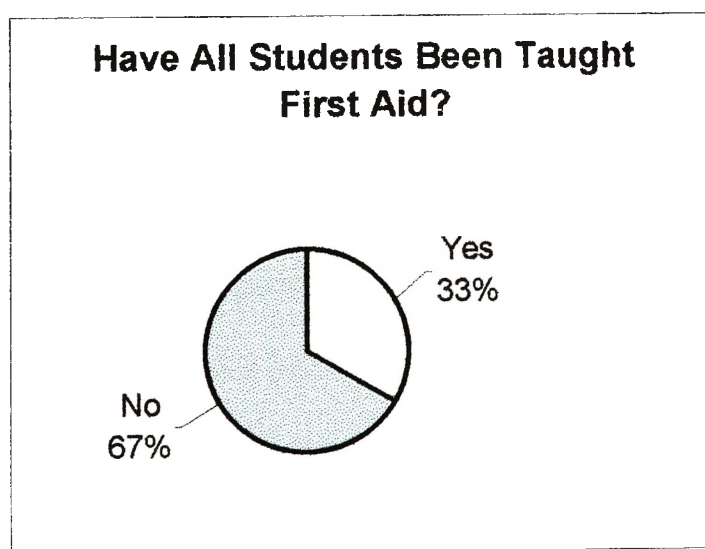
The 'Principals' Survey' questionnaires were sent to the Principals during Term Two of the school year 1996. Following the response of the Principals, the appropriate number of surveys were bundled together for each school. They were then posted to the school at the beginning of Term Three. Most of the questionnaires that were to be returned were received by the end of Term Three. The remainder of the surveys were returned in the first half of Term Four.

#### 4.2.2 Results of the Principals' Questionnaires

*Hypothesis for Students: All Students are taught First Aid while at school.*

All of the schools surveyed teach First Aid and Resuscitation to the Students but only 33 percent (6/17) teach all Students (Figure 4.2.1).

**Figure 4.2.1** *Students who have been taught First Aid.*

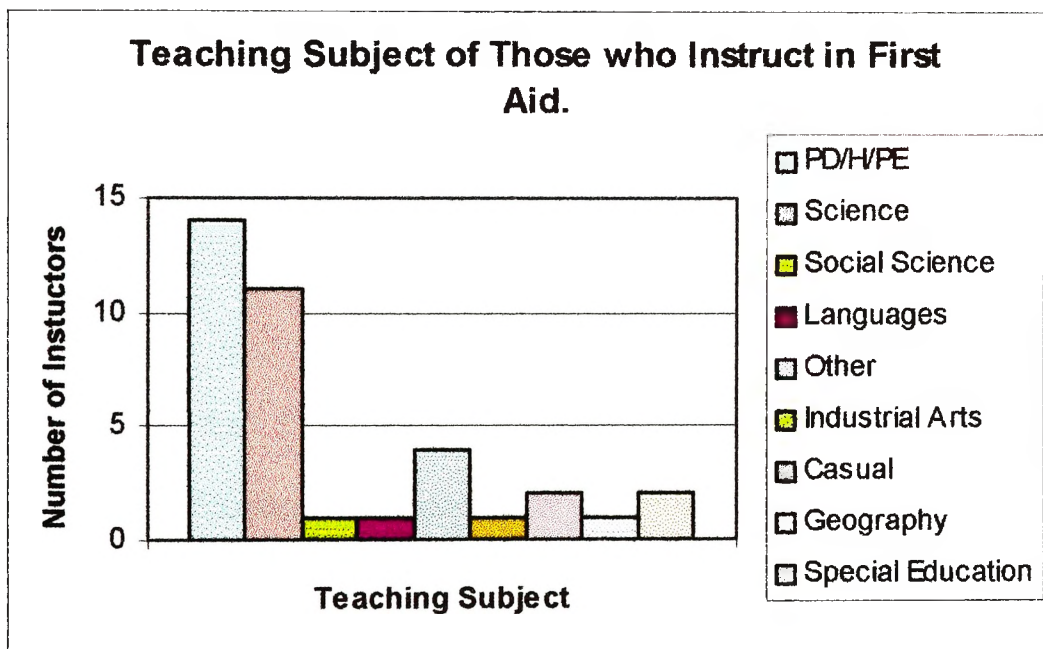




*Hypothesis for Instructors: Instructors within the school education system who teach First Aid are in possession of a current First Aid Certificate and attend annual refresher courses.*

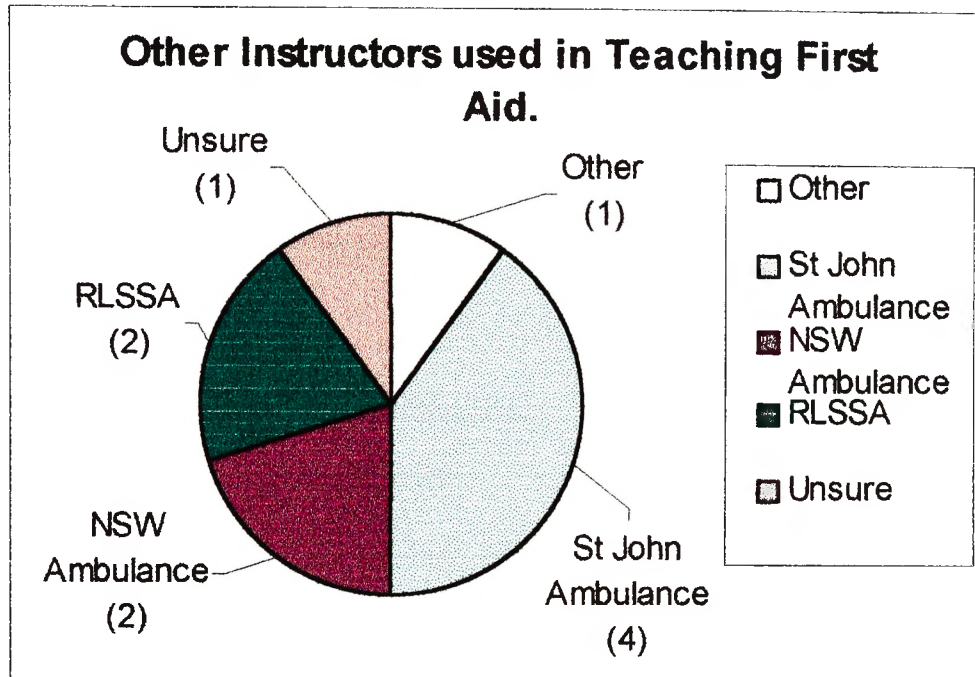
According to the Principals all schools have qualified Instructors. 38 (14/37) percent are Physical Education / Health / Personal Development Teachers.

**Figure 4.2.2 Main Teaching Subject of Instructors.**



External Instructors are used in 10 of the schools in addition to their own Instructors (Figure 4.2.3).

**Figure 4.2.3** External Agencies Used to Assist in First Aid Instruction in Schools.



*Hypothesis for Principals: Principals ensure all Teachers who accompany Students on excursions are in possession of a current First Aid Certificate.*

*Hypothesis for Teachers: Teachers have received First Aid instruction and attend a refresher course biannually.*

The Teachers in all of these schools have received First Aid and Resuscitation instruction. Therefore, all Teachers who accompany students on excursions possess a First Aid Certificate.

## 4.3 Response of the Teachers

### 4.3.1 Introduction

From a possible 38 schools within the Region, responses were obtained from 17 schools, equalling 45 percent. Of the 17 schools that participated, there was a potential for 979 responses. 251 responses were received, representing 25.6 percent or 11.8 percent of the Teacher population for the Region.

**Table 4.3.1** *Summary of Teacher Participation and total of all Schools within the Survey Region.*

No. of Schools	No. of Teachers	No. of Responses
38	2195	251

% of Schools Participating from the Survey Region	% of Teacher Responses from the Survey Region
44.7%	11.4%

**Table 4.3.2** *Teacher Participation of Individual Schools.*

The following Schools participated:

School	No of Teachers*	No of Teacher Responses	% of Teachers
Bls	28	14	50%
Vhs	65	27	41.5%
Uhs	60	34	56.6%
Bws	75	20	26.6%
Chs	55	13	23.6%
Dhs	70	25	35.7%
Isc	36	8	22.2%
Svs	90	17	18.8%
Ehs	55	16	29%
Khs	50	9	18%
Ghs	60	1	1.6%
Mvs	55	7	12.7%
Kks	55	12	21.8%
Mws	55	6	10.9%
Ofs	60	8	13.3%
Nhs	50	19	38%
Wls	60	15	25%
Totals: 17	979	251	25.6%

\*denotes accuracy rounded up to the nearest 5. per school of Teacher numbers.

**Table 4.3.3** *Age Range of Teachers Participating.*

Youngest - 22yrs Female

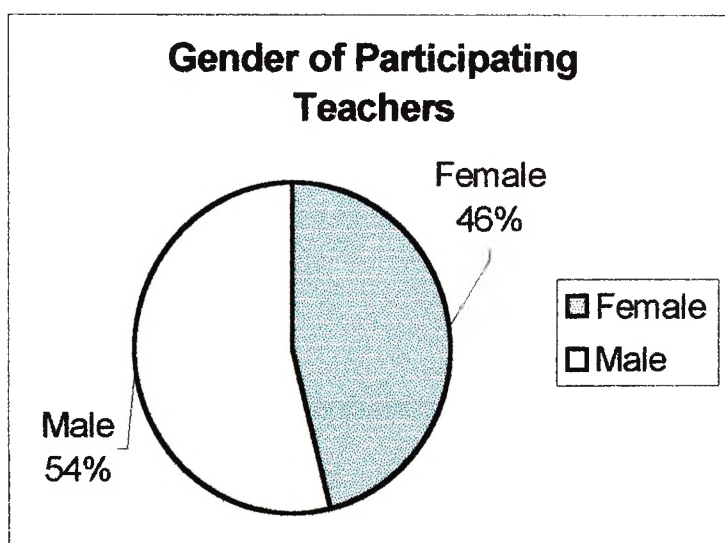
- 24yrs Male

Oldest - 63yrs Female

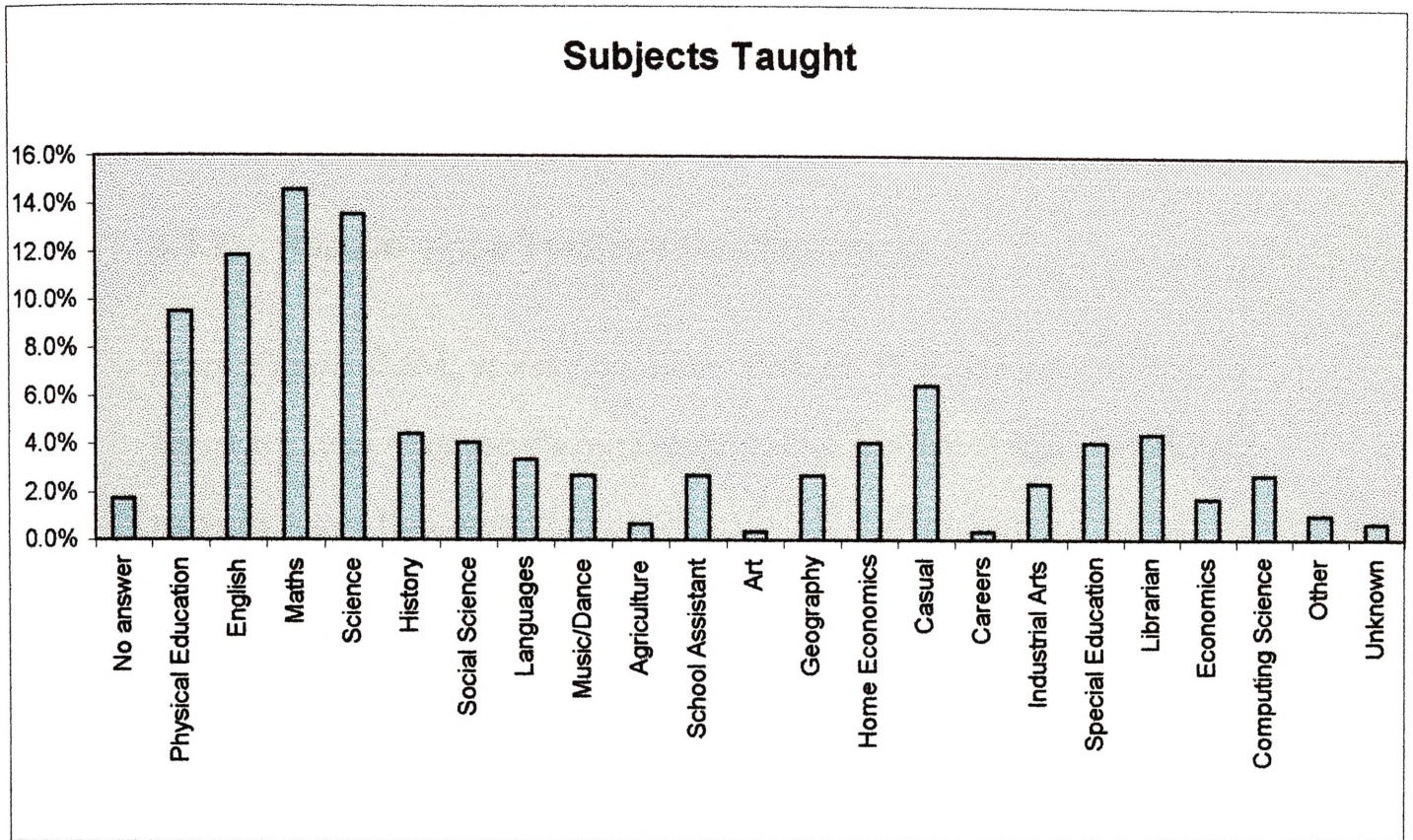
- 58 yrs Male

The age range of respondents from (22 years to 63 years) provides a cross section of the workforce in this Region of Departmental High Schools. 46.2 percent of responses are from female Teachers and 53.8 percent are from male Teachers. The exact ratio of male to female Teachers employed in the Region is unknown.

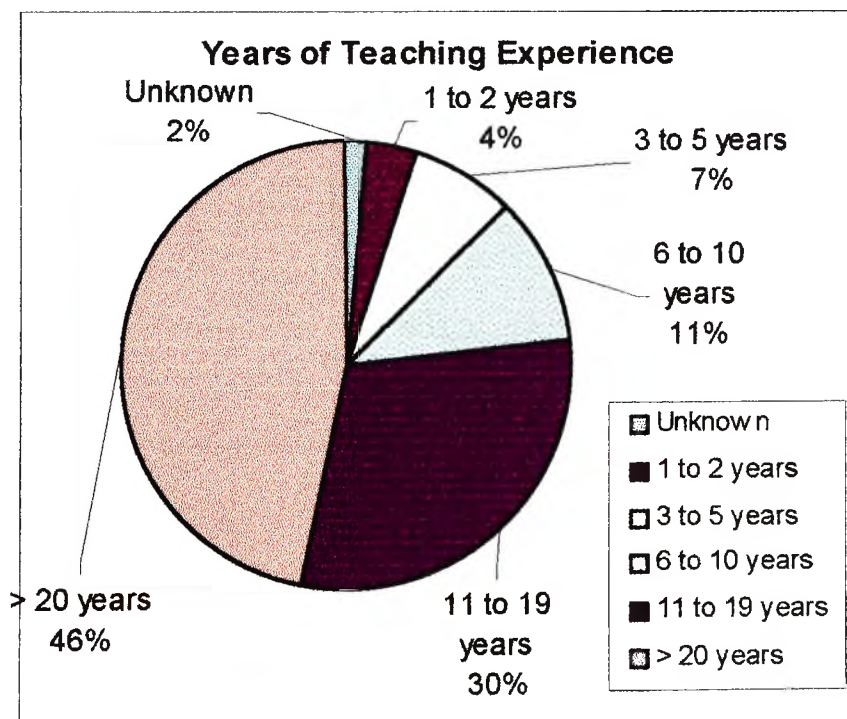
**Figure 4.3.1** *Gender of Teachers Participating in the Study.*



**Figure 4.3.2** *Subjects Taught by Participating Teachers.*



**Figure 4.3.3** *Years of Experience as a Teacher*

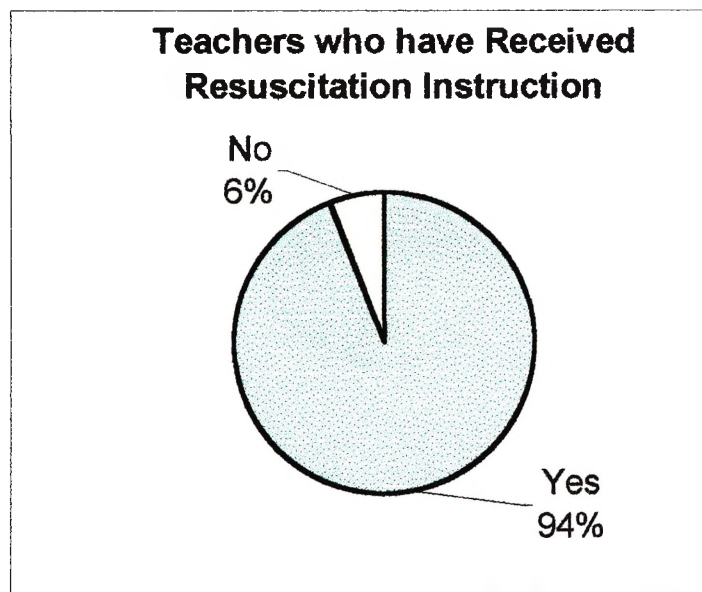


Almost half of the returned surveys (46 percent) were from Teachers who had been teaching for more than 20 years. Another 30 percent had been teaching between 11 and 20 years.

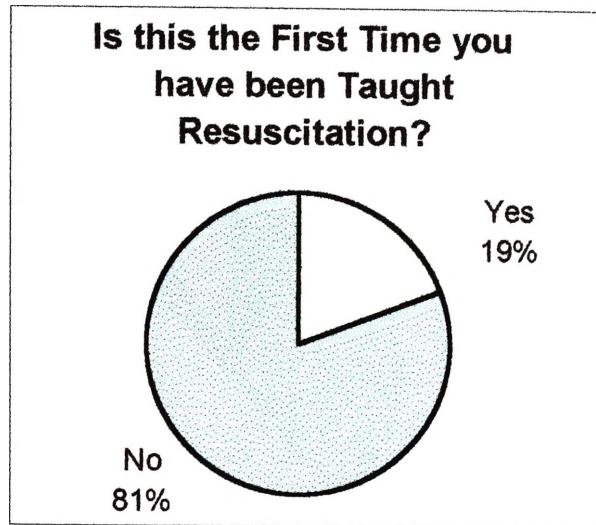
#### 4.3.2 Results of the Teachers Questionnaires

From *Figure 4.3.4*. It can be seen that of 11.8 percent (n=251) of Teachers who returned the questionnaire, 6 percent indicated that they had not learnt Resuscitation.

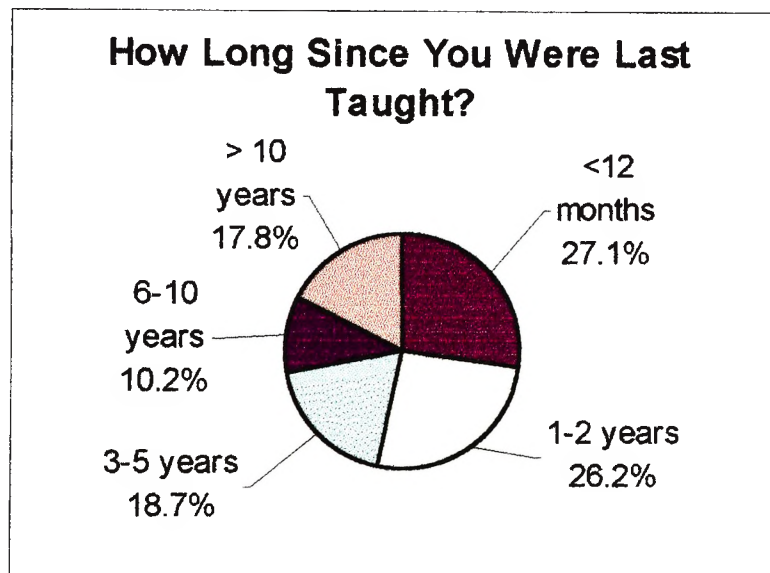
**Figure 4.3.4** *Teachers who have / have not Received First Aid Instruction.*



**Figure 4.3.5** *The First Time Teachers had Learnt First Aid.*



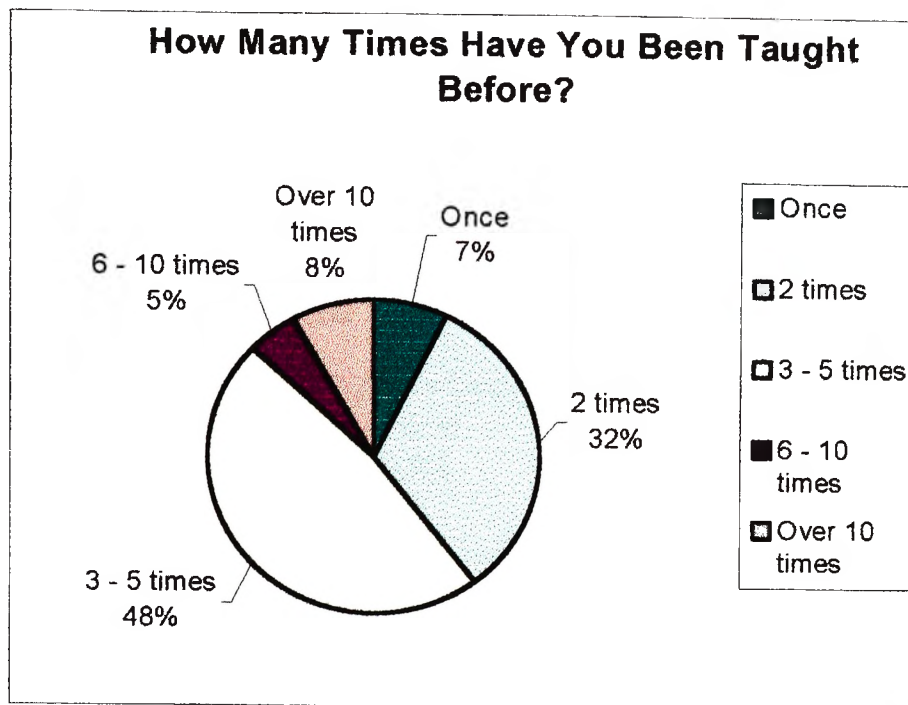
**Figure 4.3.6** *Length of Time Since Last Instruction in First Aid.*



Of the 94 percent who indicated they had been taught, 81 percent had learnt multiple times (Figure 4.3.5). In the last two years, 53.3 percent have received retraining; 28.9 percent in the last ten years and 17.8 percent over ten years ago (Figure 4.3.6).

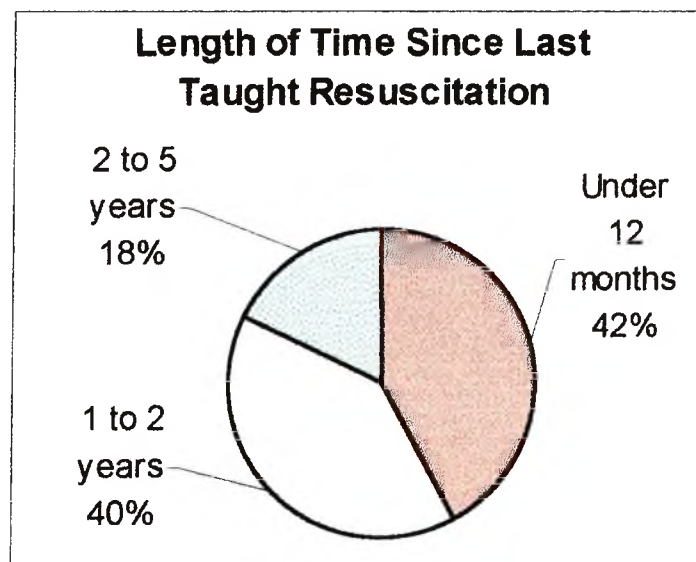


**Figure 4.3.7** *Number of Times Previously Taught.*



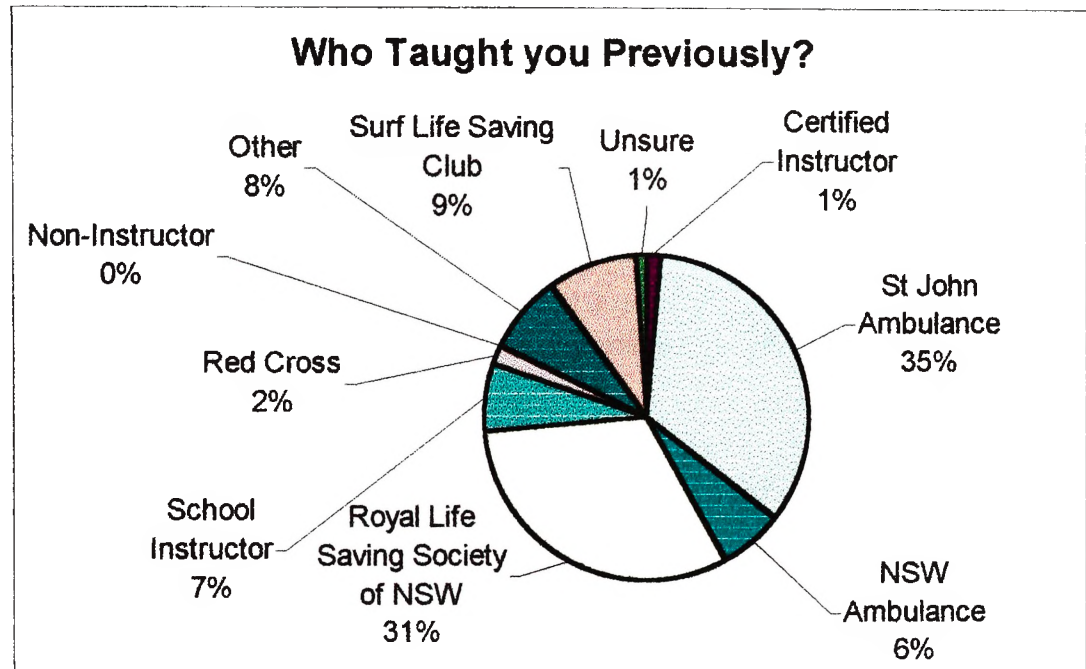
The Instructors varied greatly as did the length of time since they last received instruction / refresher training. Over 50 percent had received instruction / refresher in the last 2 years and over a quarter in the last 12 months (Figure 4.3.8).

**Figure 4.3.8** *Length of Time since Last Taught Resuscitation.*



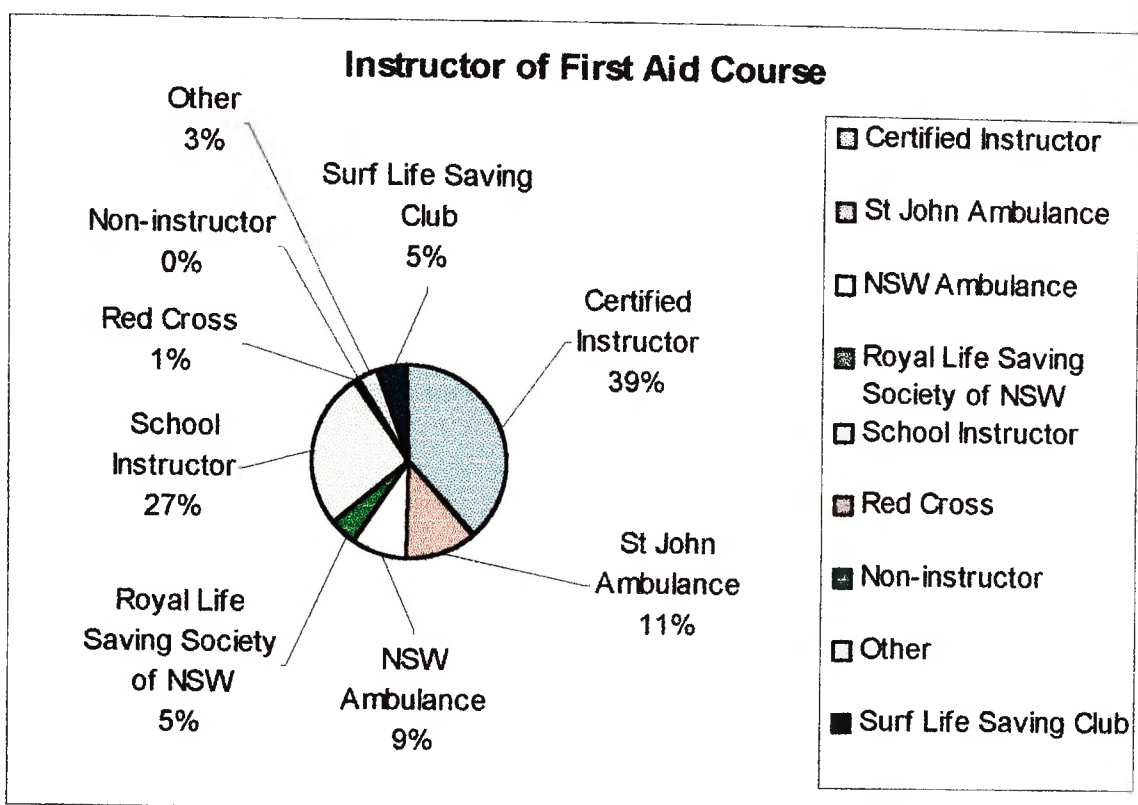
The 80 percent of Teachers who had previously learnt CPR and First Aid were also taught by a variety of Instructors (Figure 4.3.9).

**Figure 4.3.9** *Previous Instructor for Teachers*



40 percent of respondents were unable to nominate the organisation to which the certified Instructor belonged in the most recent training course (Figure 4.3.10).

**Figure 4.3.10** *Instructor of the Most Recent Course.*

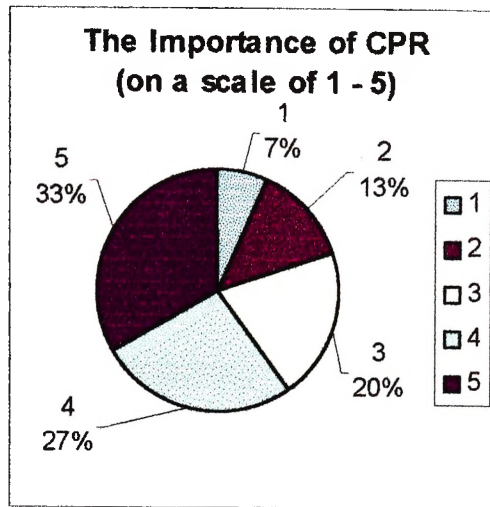


There was an overwhelming response as to the benefits of learning CPR / First Aid. Despite these statistics, 43 percent indicated that they would be scared to help a victim regardless of the positive benefits of their most recent training.

Over 84 percent indicated that more practice would be beneficial. 99.3 percent of Teachers classed First Aid as important to know. More than 95 percent could see the benefits of this knowledge in the future, giving many responses as to the places it could be used.

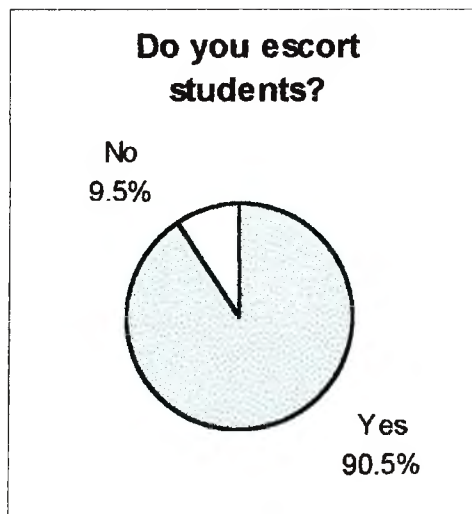
22 percent of Teachers indicated that they had attended to an emergency. 41 percent of those were outside school hours. 81 percent of these teachers felt confident with their response, although they were forthcoming with reasons for their fear of using CPR / First Aid.

**Figure 4.3.11** *The Importance of CPR.*



As Teachers, 94 percent felt that First Aid skills are necessary, with 90 percent having attended to First Aid needs prior to instruction and 9.7 percent having given both First Aid and Resuscitation. Only 1.5 percent of Teachers have used CPR while at school.

**Figure 4.3.12** *Percentage of Teachers that Escort Students on Excursions*



More than 90 percent of the Teachers escort Students on excursions at least once per year. An excursion is defined as “off the school property and in the care of Teachers”. 25 percent of Teachers have used CPR / First Aid skills whilst on an excursion with students.

### **4.3.3 Conclusion to Teachers’ Responses**

A large number of the participating Teachers are experienced Teachers having been in the workforce for more than ten years. Almost all had learnt First Aid and most of these had been taught more than once. The Instructors were many and varied.

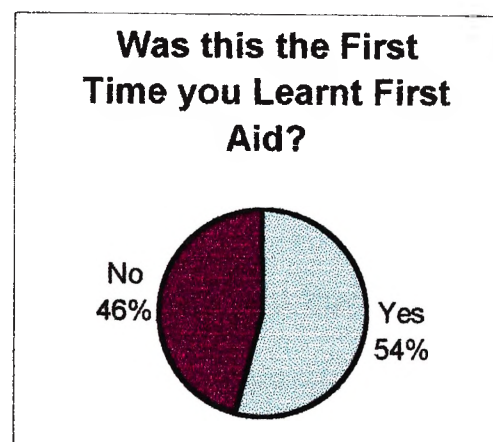
The training and retraining in CPR / First Aid was considered beneficial, however more practice was considered favourable. Despite the years of experience as Teachers and the number of times instructed in First Aid, almost half indicated anxiety in performing it when necessary. The anxiety was dominated by fear of litigation, risk of infection and possible harm rather than good to the victim.

It is very clear from this study that Teachers themselves see First Aid as a very important skill, not only for them but also for the whole community.

#### 4.4.2 Results of the Students' Questionnaire

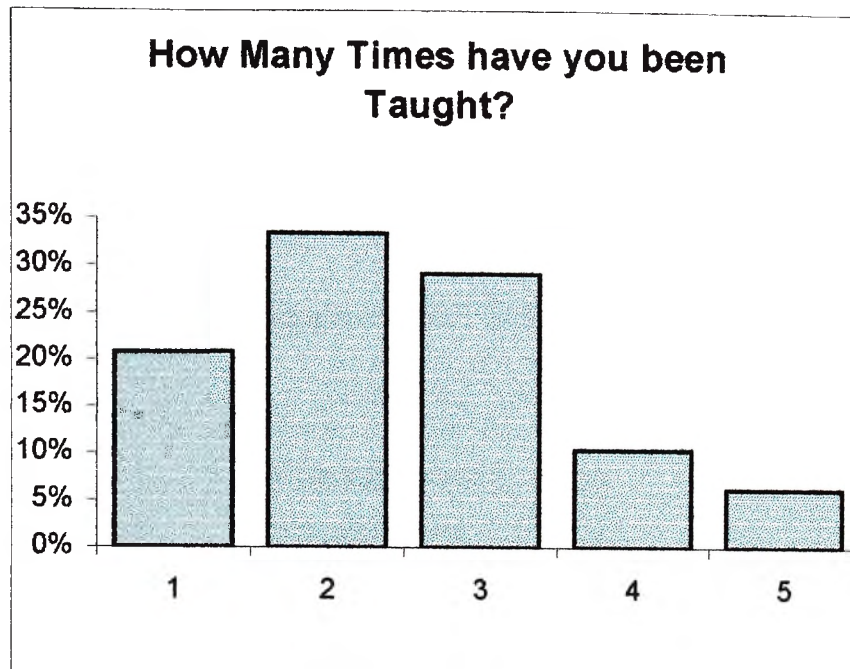
The age range of the Students is 12 to 18 years; a mode of 16 and an average of 16.2. Almost 50 percent of the responses were from male Students (49.52 percent) and slightly more than 50 percent from female Students (50.48 percent).

**Figure 4.4.1** *Number of Students who had Recently Learnt First Aid for the First Time.*



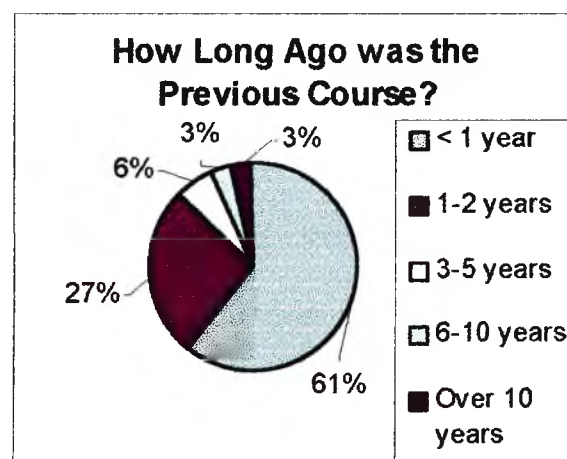
54 percent (n=104) of the Students had recently learnt First Aid for the first time (Figure 4.4.1). Of those taught before (48 percent) 20.8 percent had learnt once, 33.3 percent had been taught twice and 29.2 percent had learnt three times before this course. Another 10.4 percent claim to have learnt up to five times and 6.3 percent had learnt between five and ten times (Figure 4.4.2).

**Figure 4.4.2** *Number of times Students have learnt First Aid.*



86 percent of Students responded that they had learnt more with this last course and 14 percent claimed not to have learnt more.

**Figure 4.4.3** *Length of Time Since the Previous First Aid Course*



Concerning those Students who had previously received instruction, 60.3 percent learnt in the last 12 months, 27 percent in the last 2 years,

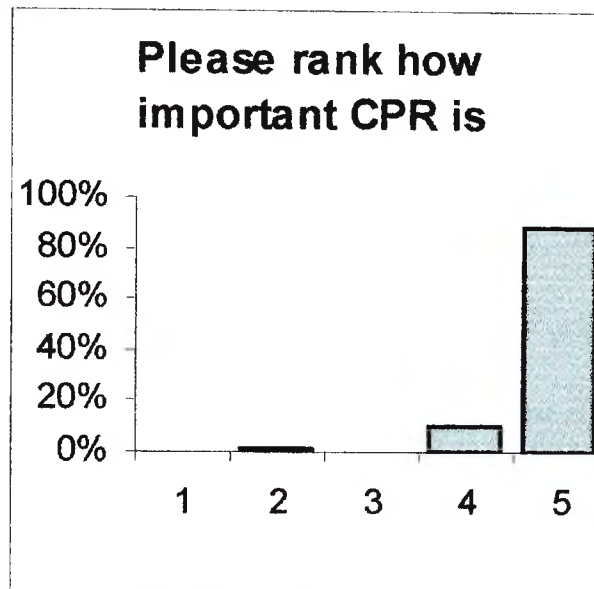
88 percent gave a score of 5.

11 percent gave a score of 4.

1 percent gave a score of 2.

The scores of 1 and 3 did not receive any ranking at all (Figure 4.4.4).

**Figure 4.4.4** *The Importance of CPR Skills.*



#### **4.4.3 Conclusion to the Students' Response**

Over half of the surveyed Students had just finished a First Aid course for the first time. The majority also indicated that they would like more practice. Most of those who had had previous instruction in First Aid had learnt more with the most recent course. Almost half of the Students indicated their fear in using their emergency skills. The greatest fear for the Students was their own lack of confidence in their method.



## 4.5 Response of the Instructors

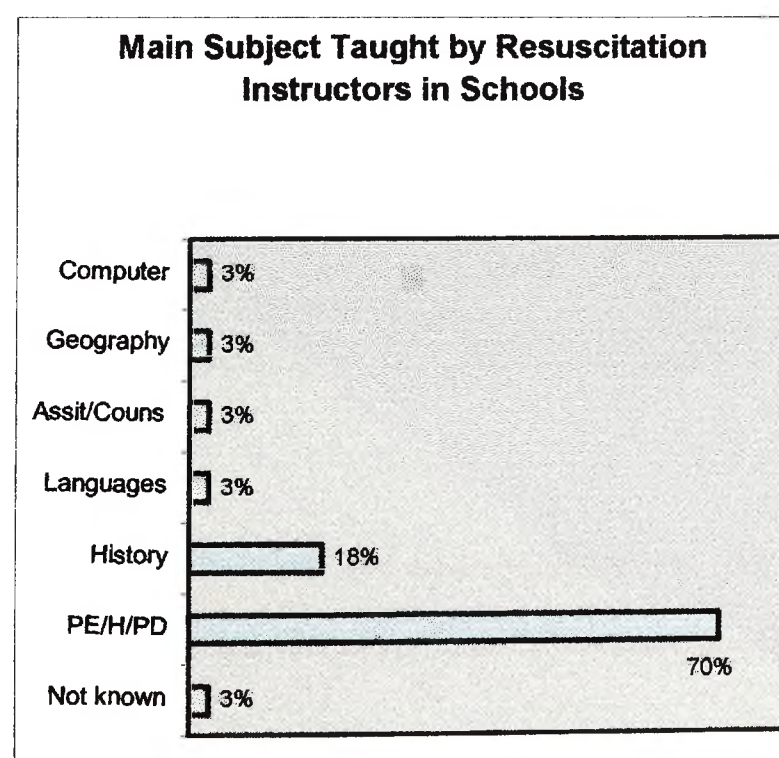
### 4.5.1 Introduction

When a bundle of questionnaires arrived at each school addressed to the nominated person, the covering letter on the Instructors' Questionnaires indicated that these were to be distributed to those who instruct or assist with the teaching of First Aid, Resuscitation and Water Safety. There were five Instructor Surveys sent to each school. There were 40 responses from 12 schools.

### 4.5.2 Results of the Instructors' Questionnaires

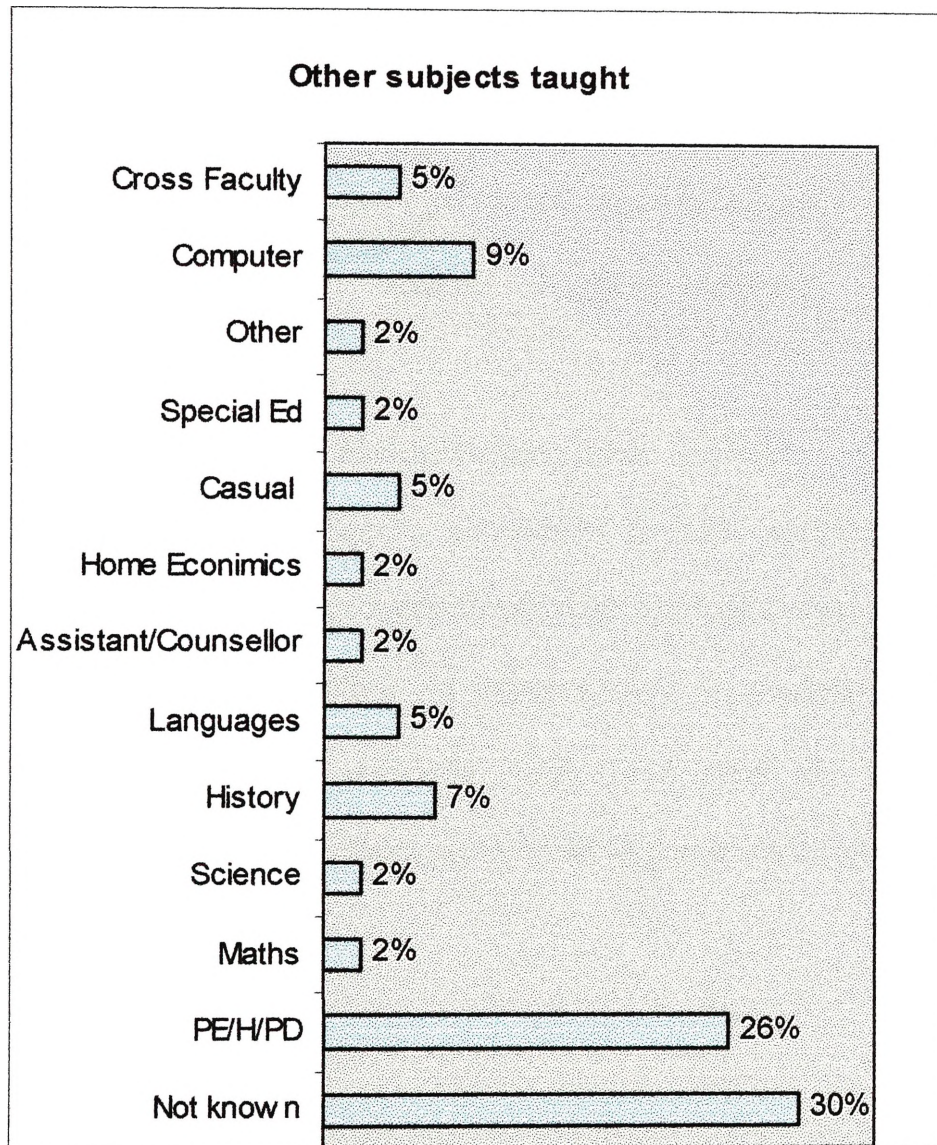
The majority of Teachers who instruct/assist with First Aid / CPR and Water Safety courses are PD/ H/PE Teachers (n=28). However, there were some Teachers from other faculties – most teaching in cross faculties.

**Figure 4.5.1** *Main Teaching Subject for Instructors in the Schools.*



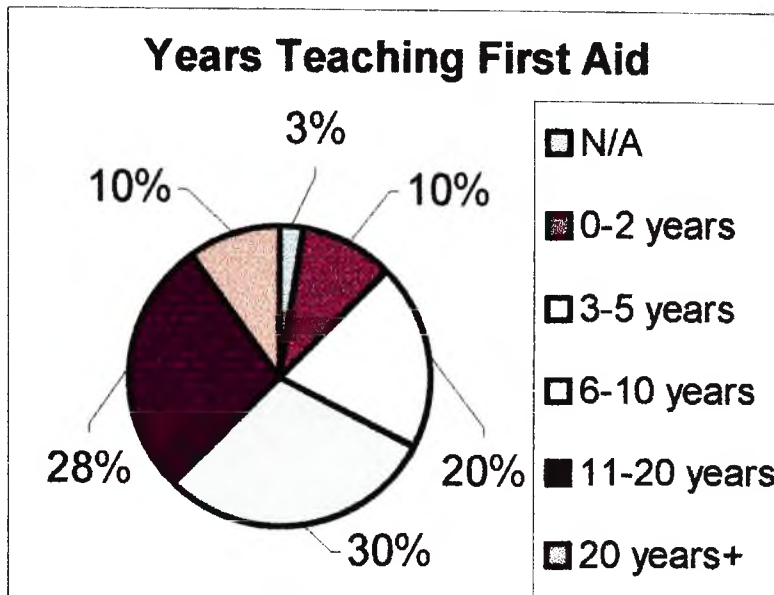
The Instructors were asked what their main teaching subject was (Figure 4.5.1), and then what other subjects they taught (Figure 4.5.2). This was to identify the group of Teachers who were most likely to instruct in First Aid/CPR and Water Safety.

**Figure 4.5.2** *Other Subjects Taught by Instructors in Schools.*



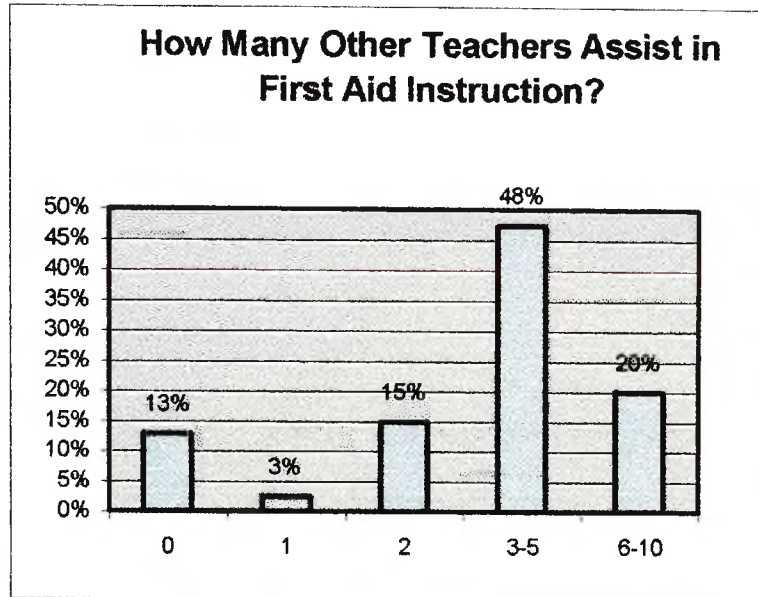
88 percent of the Instructors had been teaching for more than 10 years, with 87 percent teaching First Aid/CPR and Water Safety for 3 years or more.

**Figure 4.5.3** *Years of Teaching First Aid/ CPR and Water Safety in Schools.*



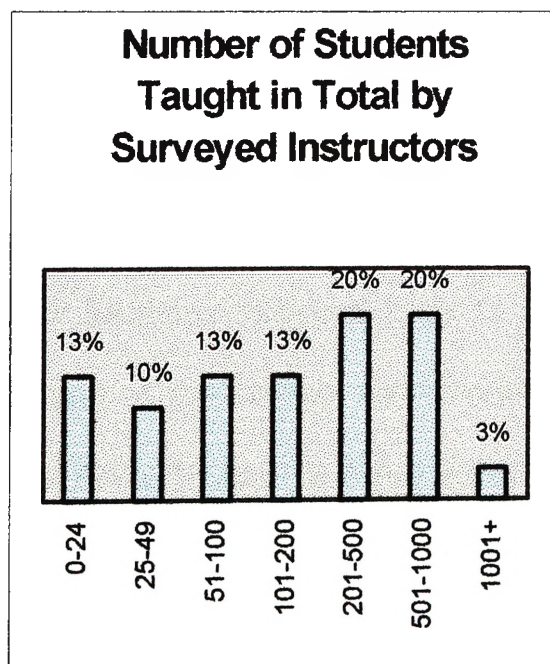
The Instructors were asked how many other Teachers assisted in First Aid/CPR and Water Safety instruction (n=122) (Figure 4.5.4). 48 percent of the Instructors have three other Teachers who assist in First Aid/CPR and Water Safety. 13 percent have no assistance at all. 20 percent of Instructors indicated that there were six to 10 other Teachers able to assist them, but not all of these Teachers assist with each class.

**Figure 4.5.4** *Number of Other Teachers who Assist in First Aid/CPR and Water Safety Instruction.*



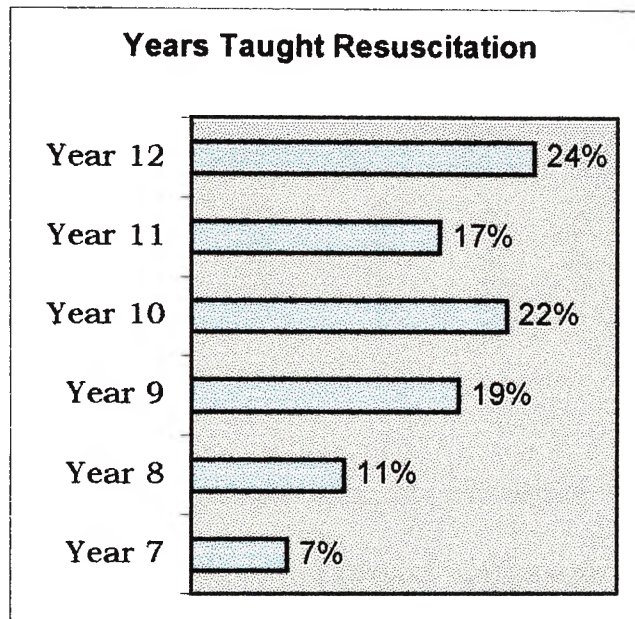
The Instructors were asked how many students they had Instructed in First Aid (Figure 4.5.5).

**Figure 4.5.5** *Number of Students Taught First Aid in Total by Surveyed Instructors.*



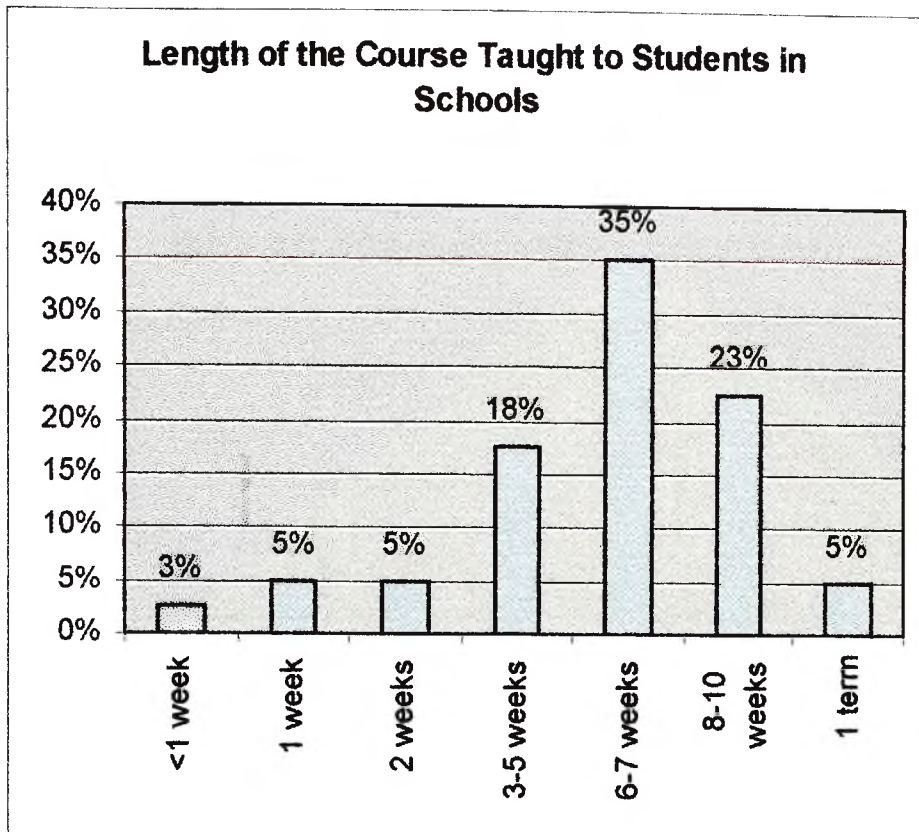
The age of the students who receive First Aid/CPR and Water Safety Instruction span the entire High School (Figure 4.5.6). However, 63 percent are in Years 10, 11 and 12.

**Figure 4.5.6** *Year of Students Instructed in First Aid at School.*



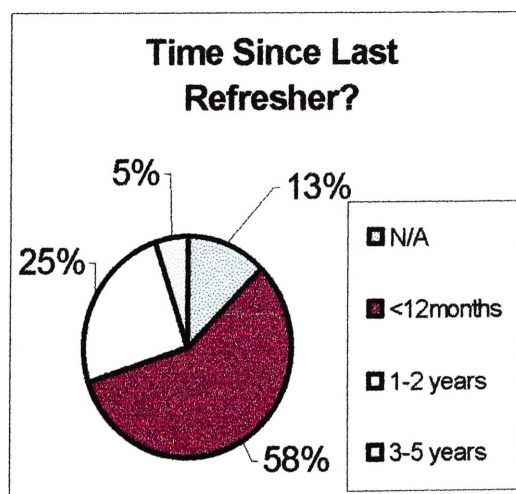
The Instructors were asked to indicate how many weeks the length of the First Aid course was that they taught at school (Figure 4.5.7). 76 percent of Instructors spent three to 10 weeks teaching Students First Aid. 35 percent of Students received a six to seven week course in First Aid. The length of the course varied greatly in the school year taking the course. Years 10 and 12 spent more time than did Years 7, 8 and 9 learning First Aid/CPR and Water Safety.

**Figure 4.5.7** Length of Course Taught to Students in Schools.



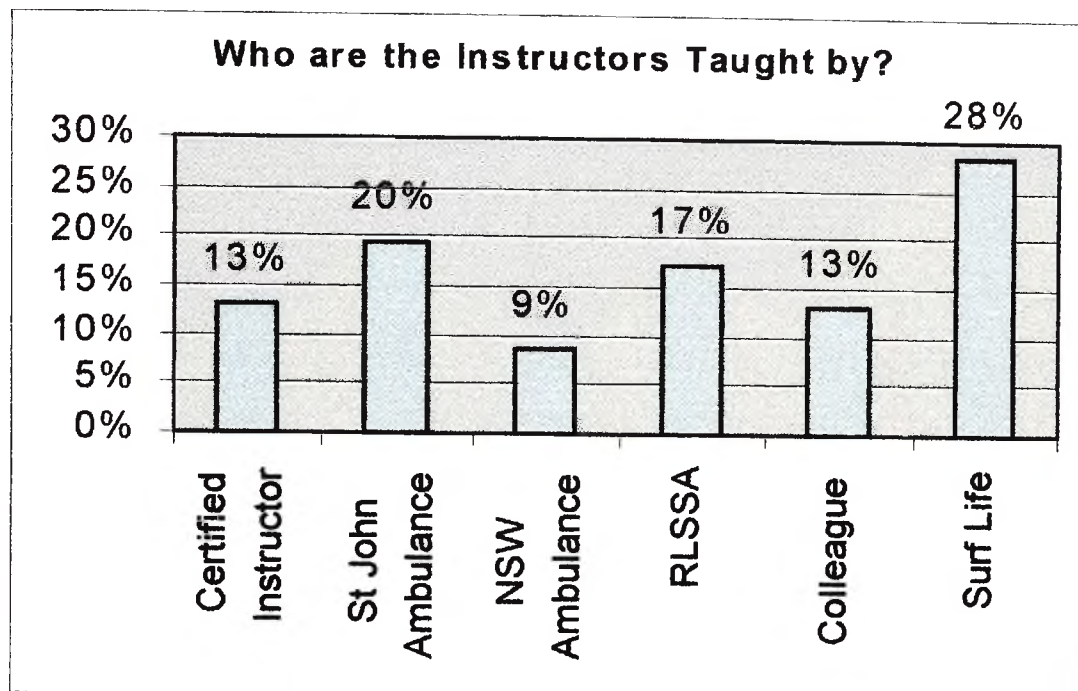
75 percent of the Instructors had received refresher training, with 83 percent in the last 2 years. 55 percent indicated they receive a refresher course every 12 months and 23 percent indicated a refresher course attended every 2 years (Figure 4.5.8).

**Figure 4.5.8** Length of Time Since Last Refresher Course Attended by the Instructors.



They themselves are instructed by a variety of Instructors.

**Figure 4.5.9** *The Instructors of the Instructors.*



These Instructors may also be responsible for the instruction given to other Teachers within the School.

#### **4.5.3 Conclusion to the Instructors' Response**

Most of the First Aid/CPR and Water Safety Instructors within the schools teach Physical Education / Health / Physical Development and most of the Students taught are in Years 10, 11 and 12.

The majority of Instructors ran the First Aid course over a six to eight week period with over half of the Students examined on their First Aid knowledge. Awards were issued to the students from the organisation by which the course was run. Details of Water Safety courses and length of time spent on teaching CPR to Students was not examined.

Refresher courses are attended frequently by the Instructors. External agencies are used mostly for examination of the Students. Some Schools use external agencies for instruction, but only for other Teachers.



## **4.6 Open-ended Questions**

### **4.6.1 Introduction**

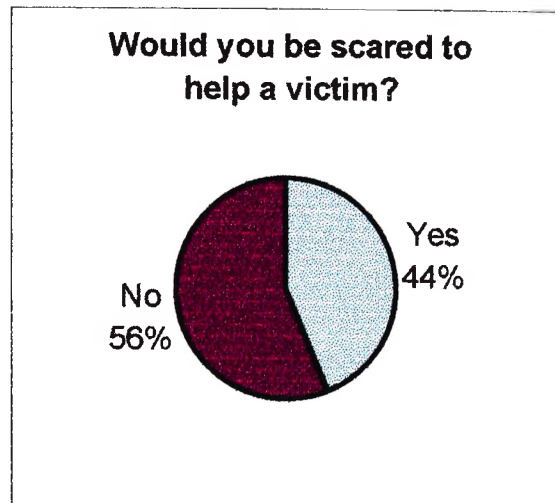
There were open-ended questions on the surveys distributed to Students, Teachers and Instructors. The open-ended questions followed a 'Yes/No' question with "please explain" to enable the participants to say more if they felt the need. The Teachers faced three open-ended questions. More than half chose not to elaborate on the 'Yes/No' answer. The Students faced two open-ended questions and the response received for the questions was 48 percent and 55 percent respectively. The Instructors were only asked one open-ended question with 100 percent of the Instructors making further comments.

### **4.6.2 Question One**

*Would you be scared to help a victim? If YES, please say why?*

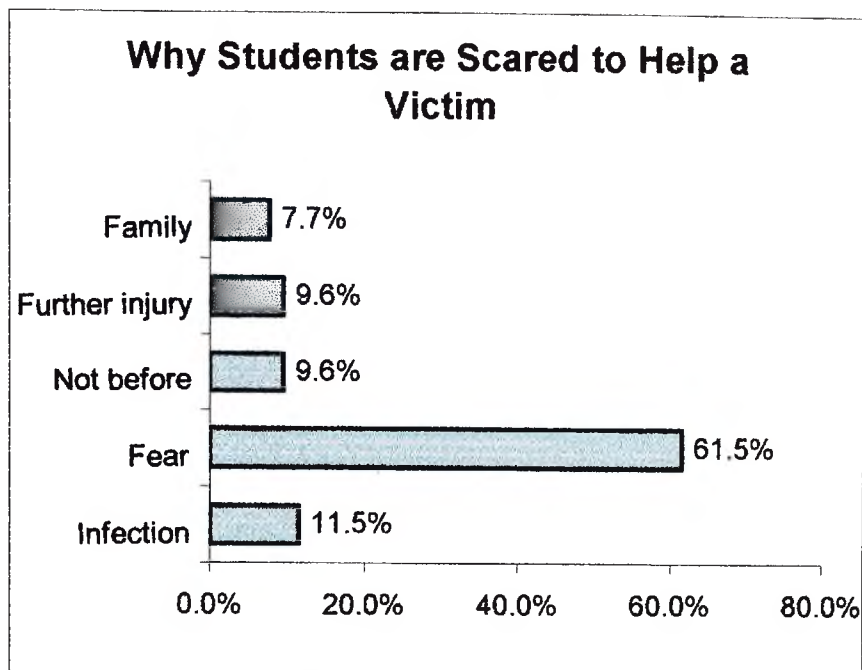
For ease of interpretation, the answers have been categorised. The pie charts shows the different categories and the proportion of answers. Most answers mentioned two concerns or reservations, therefore, they have scored in both fields.

**Figure 4.6.1** *Students who are Scared to Help a Victim.*



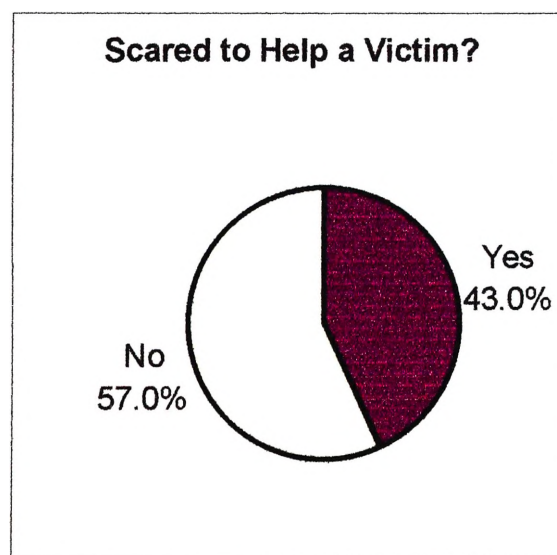
There was a 48 percent (n = 52) response from 105 of the students writing why they were concerned about helping a victim (Figure 4.6.1). Their answers were brief and therefore easy to categorise for interpretation (Figure 4.6.2). There were five categories of responses: a family member who required the assistance; risk of causing further injury; not performed these skills on a person before; fear of doing CPR incorrectly; making some other fatal error; and, the risk of infection. The response which reflected the Students primary concern was the fear of performing it adequately.

**Figure 4.6.2** *Reasons Students gave for being Scared to Help a Victim.*



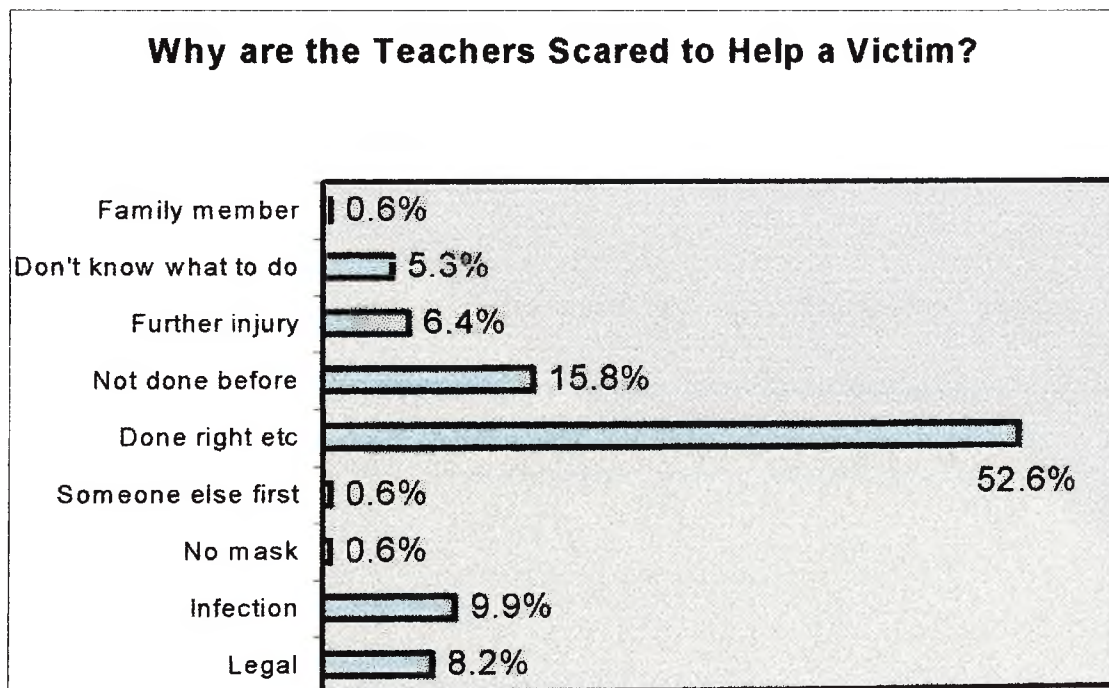
There was a response to the open-ended question from the Teachers on 47 percent of the surveys (n = 279) (Figure 4.6.3).

**Figure 4.6.3** *Teachers who are Scared to Help a Victim.*



The Teachers (n = 171) gave a similar variety of answers to the Students. However the teachers were more articulate about their “fears”. When the Teachers gave a reason for their fear, it was given its own category. For example, fear of litigation was recorded as “Legal” and fear of not performing CPR correctly was recorded as “Done right etc.” And general fear was recorded by the Teachers as “Someone else to do it first”. Despite the training the Teachers have all received, 5.3 percent responded that they “*did not know what to do*”. 0.6 percent of the Teachers stated that they would not help a victim as they did not have a mask. This was recorded independently of the risk of infection because there was a refusal to help a person in need (Figure 4.6.4).

**Figure 4.6.4** *Reasons for Teachers being Scared to Help a Victim.*



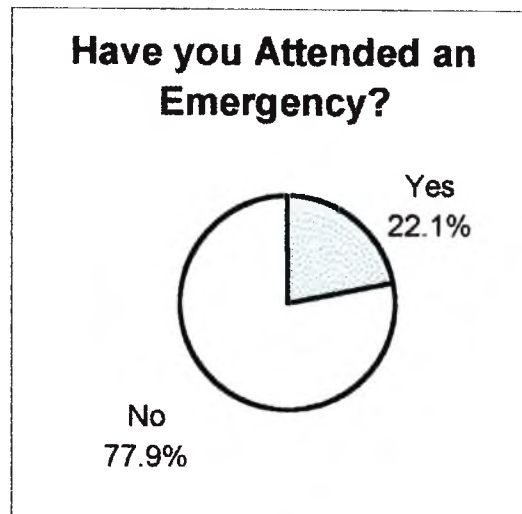
There were very few differences in the answers, however the Students expressed concerns of contamination and risk of infection more than the Teachers. The Teachers mentioned the risk of litigation more frequently than the Students. The risk of failure was a main concern for both; a lack of confidence and fear of making things worse for the victim. Both the Students and the Teachers stated that despite their concerns they would act to the best of their ability. There was a general request for more practice and refresher courses. One Student recognised that their actions may have *“major consequences”* and another *“because it’s someone’s life and (I) would hate to feel responsible for their life. It’s a moment of pressure to perform adequately”*. A Teacher expressed his/her concern of *“insufficient practice of the Resuscitation method to be absolutely sure of the timing and position”*. A Student’s comment was similar: *“I would only be scared because I don’t feel I can remember all the Course and would be scared of treating somebody wrongly and worsening their condition”*.

Many expressed their fear of *“the situation”* and being the person responsible for any action that is to be taken. One Teacher summarised actions taken as...*“Knowing how important it is.... a matter of life and death”*.

### 4.6.3 Question Two

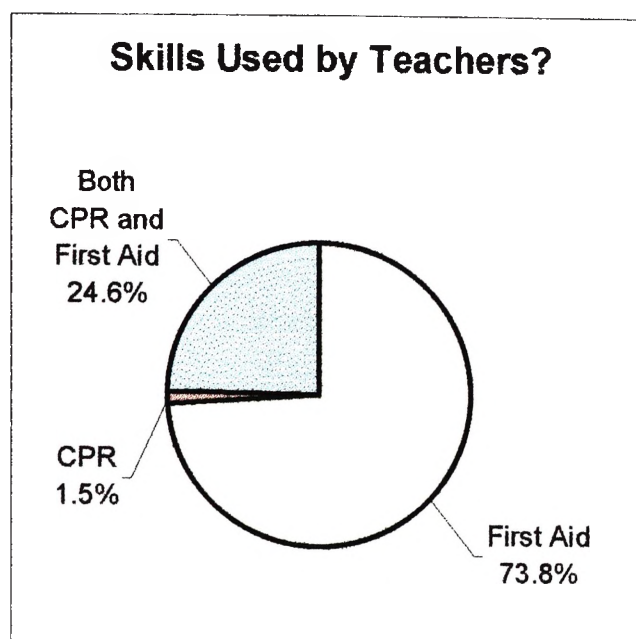
*Had you attended an emergency situation before your training? If YES, please explain.*

**Figure 4.6.5** *The Teachers who had Attended an Emergency Situation.*



The Teachers who had attended an emergency situation (Figure 4.6.5) explained the situation which required attention (n = 272). The answer was then categorised into one of three; First Aid only; CPR; or both CPR and First Aid (Figure 4.6.6). There were no responses for CPR alone. All First Aid responses were categorised by the omission of CPR. For example, cuts and falls, sport injuries, burns, epileptic fit, fainting. Answers which indicated the initiation of CPR were marked as both. For example drowning, heart attack, child stopped breathing, child strangulation.

**Figure 4.6.6 Skills used by Teachers.**



#### **4.6.4 Question Three**

The Teachers were asked a series of questions followed by *"Please explain"*.

*Have you used First Aid or CPR on a school excursion?*

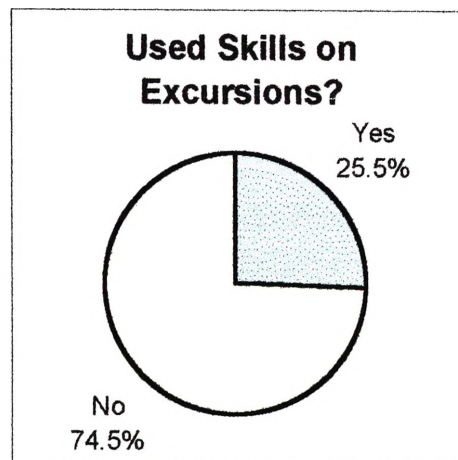
*Have you used First Aid or CPR outside of school activities?*

*Have you used First Aid or CPR at school but not on an excursion? If*

*YES, please explain.*

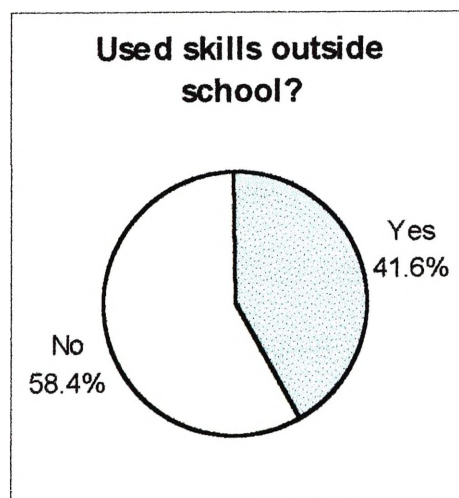
One quarter of Teachers (n = 274) who accompany Students on excursions have had to use their First Aid and CPR skills (Figure 4.6.7).

**Figure 4.6.7** *Have you Used First Aid or CPR on a School Excursion?*



Almost half of the Teachers (n = 274) have used First Aid or CPR skills outside of their school responsibilities (Figure 4.6.8).

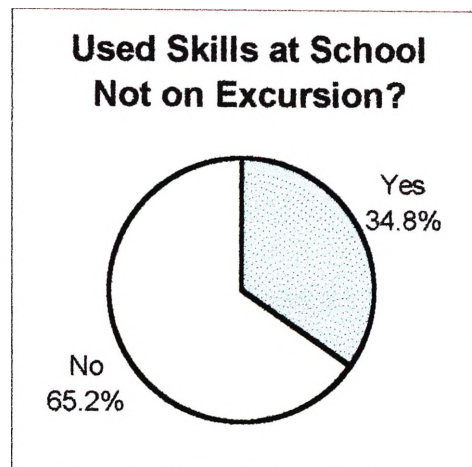
**Figure 4.6.8** *Have you Used First Aid or CPR Outside of School Activities?*





More than one third of the Teachers (n = 273) have had to use their First Aid and CPR skills during their daily activities at school (Figure 4.6.9).

**Figure 4.6.9** *Have you Used First Aid or CPR at School but Not on an Excursion?*



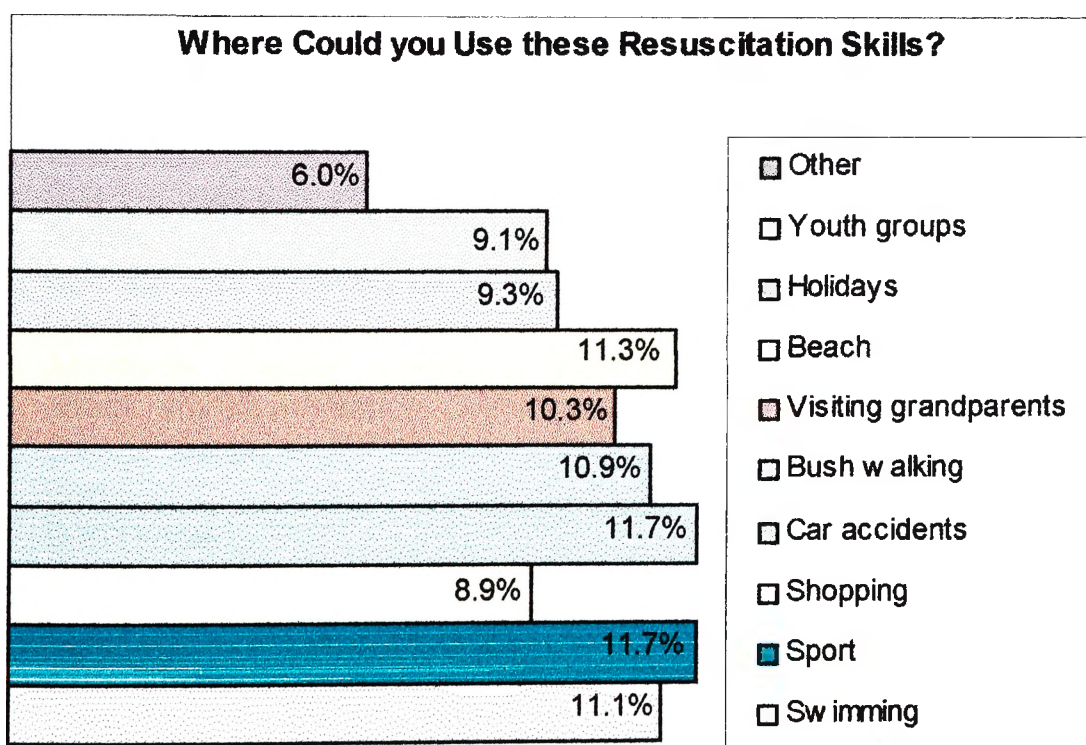
After answering 'yes' or 'no' to the above questions, the Teachers were asked to explain which skills they had used. These were categorised in the same way as the previous question. Only six Teachers had used CPR. One Teacher indicated the use of only CPR, in the surf, outside of school hours and on the next door neighbour. The five remaining responses indicated the use of First Aid in other situations as well as the following CPR performances. One response did not clarify the use of CPR further; the remainder used CPR at school. The CPR performed at school was for colleagues who had suffered from a heart attack. Two victims died, one survived and the outcome to the fourth is unknown.

#### 4.6.5 Question Four

*Where could you use these resuscitation skills?*

The Students were given a list of places where First Aid and CPR skills could be used. It was presented in a way that they could tick up to nine suggested boxes with the tenth listed as "Other" followed by a line for them to place their own suggestions (Figure 4.6.11).

**Figure 4.6.10** *Places where Students could use First Aid and Resuscitation Skills (n = 497).*



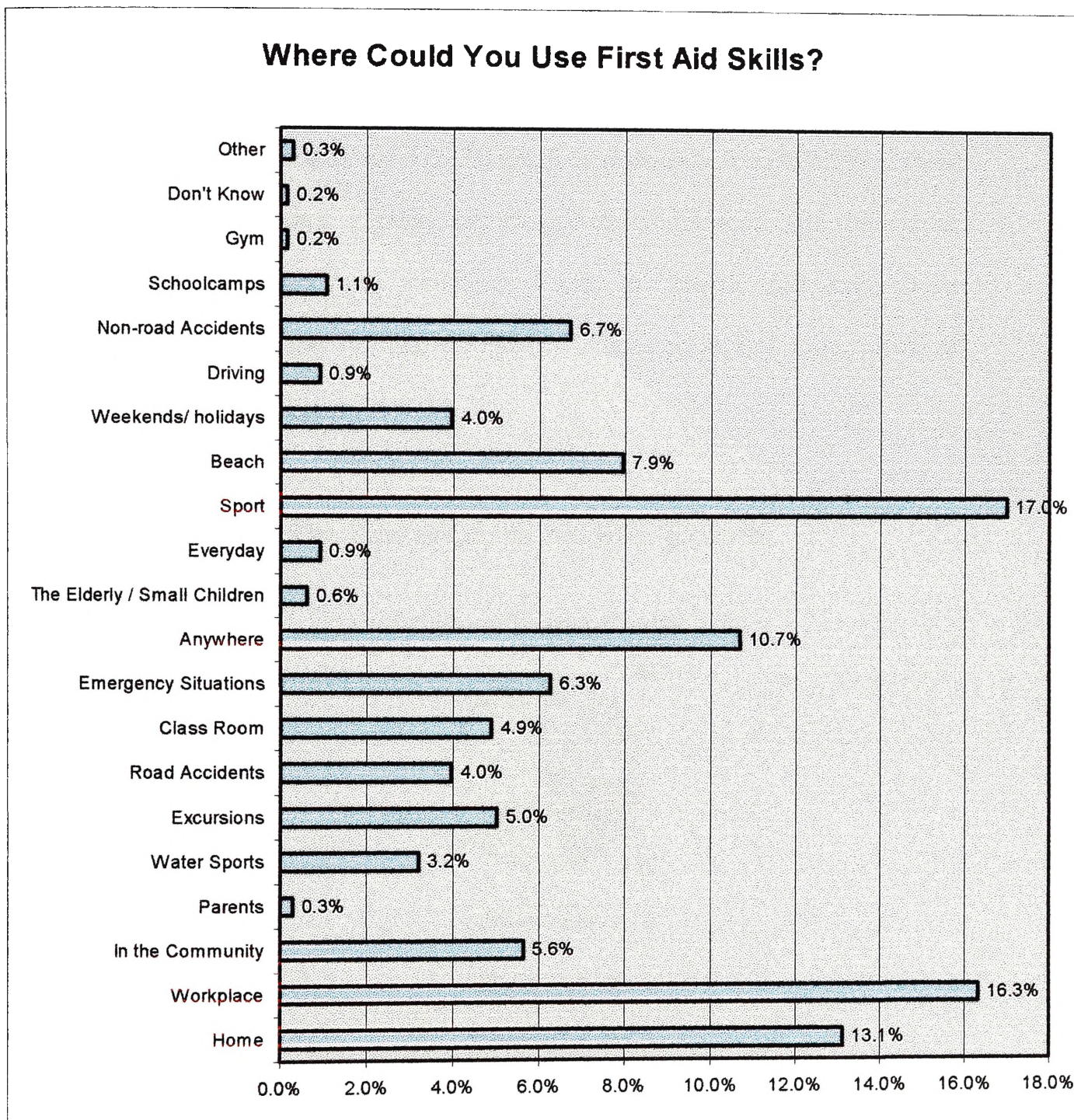
Other suggestions by the Students include: school, everyday life, on a plane, bed, surfing, diving, at home, golf course, horse riding, anywhere there are people and everyday life.

The Teachers were asked the same question, without the suggestion boxes.

Following is a list of suggestions for where CPR/First Aid skills could be used: TEACHERS

- Home/ Family.
- Workplace/ Playground.
- In the Community – on the street, people, public gatherings, clubs, shopping.
- Parents.
- Pool / Water sport.
- Excursions.
- Road accidents.
- Classroom / Teaching students.
- Emergency situations.
- Anywhere/ Anytime/ Everywhere/ All situations.
- Elderly / Small children.
- Everyday.
- Sport – coaching, diving, boating, fishing, and sailing.
- Beach.
- Recreational activities/ Leisure/ Weekends / Holidays.
- Driving.
- Accidents – water, electricity, drowning, overdose, asthma, heart attack, smoke inhalation, choking, seizure.
- School camps.
- Gym.
- Don't know.
- Other – building sites, bushfire brigade.

**Figure 4.6.11 Suggested Places where Teachers could use First Aid and CPR Skills (n = 655).**

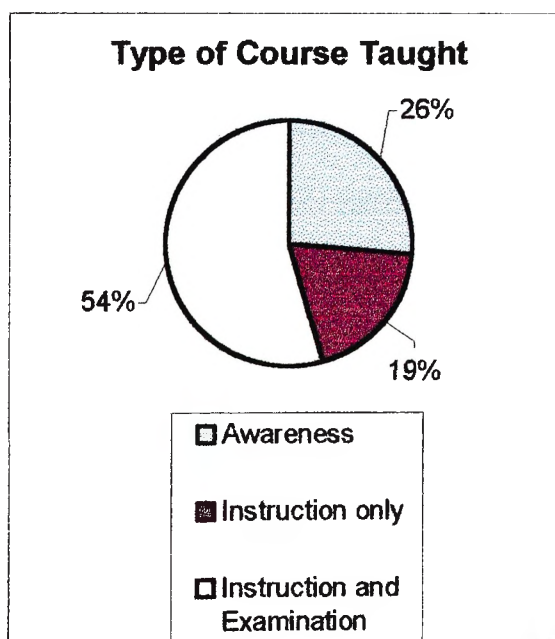


#### 4.6.5 Question Five

*Please explain why you teach this method*

The course offered to Students varies greatly. The length of course ranged from under 1 week to 1 School term. A 6 to 7 week course was taught to 35 percent, an 8 to 10 week course was taught to 23 percent and a 3 to 5 week course was taught to 18 percent. The Instructors were asked how long the course was in “weeks” but there is no accounting for the number of hours or lessons spent each week on teaching this subject ( n = 57).

**Figure 4.6.12** *The Type of Course Taught to Students.*



The Awareness Course is the shortest course offered to Students and is taught when there is limited time. The Instruction Only course is more detailed than the Awareness Course (Figure 4.6.13). CPR is demonstrated and practiced by the Students. As First Aid is an integral part of the Health Program, the students are examined on the theory in classroom tests. Some of the Instructors of this course expressed interest in being Examiners however were not qualified and were unable to maintain their qualifications.

The Instruction and Examination Course was taught in 19 percent of schools (n = 40). Most followed the Royal Life Saving Society of Australia's Award system. The Examination and Award is recognised as an achievement to strive for. Those Instructors who are Examiners found this a flexible arrangement for teaching while others found that an outside Examiner had different expectations and perceptions which helped to achieve a higher standard of performance.

#### **4.7 Summary of Chapter Four**

The study reveals that the Principals are complying with the Director General of School Education's guidelines in relation to training teachers in First Aid. An overwhelming majority of Teachers who participated in this study had received First Aid training.

The Students and the Teachers, the two largest sample groups in this study, represent a cross section of their respective populations. The Students are all High School pupils ranging from Year 7 to Year 12. The Teachers range in age and experience from recently graduated to near retirement age and teach a full range of subjects. Both sample groups are equal in terms of gender representation.

All Students who participated had received instruction in First Aid and most were in their senior years (ie. Years 11 and 12). Over half of the participating students had learnt First Aid for the first time. One fifth of Teachers had recently learnt First Aid for the first time.

The Instructors are primarily PD/H/PE Teachers.

It is evident that First Aid is generally accepted as an important skill. Both the Students and the Teachers indicated that First Aid is a skill applicable in any given situation in everyday life.

Lack of practice and lack of confidence were the main reasons for not using First Aid skills in the case of an emergency. Importantly, these factors engendered the fear of “not doing the right thing” and thereby doing more harm than good. The fear of not doing the right thing was similarly expressed by both the Students and the Teachers. Those Students and Teachers who expressed a fear of attending an emergency situation are most likely to benefit from further instruction.

The subjects who participated in this study and who had attended a First Aid course more than once indicated that each course taught them more and helped to reinforce the knowledge that they already had regarding First Aid techniques.

All surveyed schools have First Aid instructors on staff. A small number of these schools also use external examiners. The majority of the schools teach the Students in First Aid followed by an examination and the receiving of awards.

All participants were able to identify potential situations for the application of their First Aid skills.



# **Chapter Five**

## **Discussion and Conclusion**

## **Chapter 5                      Discussion and Conclusion**

### **5.1            Introduction**

The findings of this study are of particular importance in planning for future CPR and First Aid instruction. The perceptions and attitudes of teachers and students towards CPR and First Aid were viewed on a large scale. A number of important features have emerged which are brought together in this concluding chapter.

It is the authors' thesis that First Aid should become a core teaching subject for all High School Students. Should all the High School Students receive First Aid instruction as part of the curriculum the logical consequence is that the community will benefit from a greater number of trained First Aiders able to provide effective emergency assistance. The net benefit to the community demonstrates that First Aid and CPR instruction provided to an individual Student is not simply an investment of instructional resources (time, money etc.) in the interest of the Student his/herself. Expenditure of community resources into the instruction of High School Students is returned into the community by way of skilled First Aiders.

The method of First Aid and Resuscitation instruction practised in Departmental High Schools in the Region of New South Wales was

examined. Forty four percent of schools in the Region participated, 11 percent of Teachers participated (n=251) 99 percent of Student questionnaires were returned (n=104) and 40 responses were received from Instructors of First Aid.

Each of the five research questions will be discussed in turn, addressing the constraints, objectives, and significance of the study, and conclusions drawn.

## **5.2 Discussion of the Research Questions**

### **5.2.1 Question One**

*Are Principals ensuring Teachers have current First Aid and Emergency Care Certificates when accompanying Students on excursions, swimming activities, or overnight camps?*

The Principals were asked if the teachers in their school had received First Aid and Resuscitation instruction. All Principals answered that the teachers had received instruction. Principals are responsible for ensuring that teachers accompanying students offsite on any school sponsored activity are competent in the performance of First Aid and Resuscitation. It is the Principal who ensures that the guidelines of the Director-General of School Education are adhered to in their school.

The teachers themselves answered questions related to accompanying students on school excursions and camps. All Teachers accompanying Students on excursions indicated that they have received First Aid instruction. Some had recently been taught for the first time.

Refresher training had not been offered to almost half the Teachers who received First Aid training more than two years ago. It must be emphasised to Principals and the Teachers themselves that refresher training every two years is essential for the maintenance of skills. First Aid knowledge and Resuscitation skill levels decline rapidly in the first 12 months following

Instruction. By the time two years has passed since instruction the skills and knowledge level has declined dramatically.

The Teachers were not asked to elaborate on the type of excursions that they accompany Students on. However, they are responsible for the care and welfare of students, be that at school or on excursions. Particular care must be taken when students are involved in swimming activities and overnight camps, especially if such activities are in a remote area and back-up assistance is not close at hand.

Further, a minimum of two Teachers accompanying Students on excursions need to be qualified in First Aid. There are a number of reasons for this. For example, more than one Student may require First Aid assistance at one time, or a two-person rescue may be required in the water or the bush. As effective CPR can only be sustained by one person for approximately 10 minutes, the need for two teachers trained in First Aid / CPR is obvious. As the teachers who participated in this research have received First Aid instruction, question one was satisfactorily answered in the affirmative.

Areas requiring further investigation are as follows:

- follow-up education received by Teachers.
- refresher training offered to Teachers.
- availability of equipment and time for teachers to practice their First Aid skills.

As some of these schools were in remote areas, it is imperative that such schools are not disadvantaged in regard to instruction, refresher training and practicing skills.

A further area for investigation are the type of educational excursions conducted. That is, the length of time away, the places visited by teachers and students, the ratio of students to teachers and the disaster plan in the case of an emergency.

### **5.2.2 Question Two**

*Do qualified Teachers/Instructors teach Students First Aid and Resuscitation adequately?*

The Teachers/Instructors who instruct the students in First Aid are themselves qualified in First Aid. These qualifications have been awarded from many different organisations. The most popular being the Surf Life Saving Society, St John Ambulance and the Royal Life Saving Society of Australia. It is considered that the holding of a current certificate in First Aid by Instructors signifies attainment of adequate training in First Aid. Although these organisations have different instructional techniques, they all have an award system which is based on standards set by the Australian Resuscitation Council.

In light of the fact that First Aid and CPR is included as part of the school curriculum, it is with no surprise that the majority of those Teachers who instruct or assist with First Aid and CPR are Personal Development / Health / Physical Education (PD/H/PE) Teachers. For certain subjects in Years 10, 11 and 12, First Aid and CPR are compulsory learning topics. Years 7, 8 and 9 may be taught First Aid and CPR if the Teacher chooses to teach this elective topic from the PD/H/PE curriculum.

The Instructors are mostly PE/H/PD Teachers, but they also teach other subjects. The majority of Instructors who teach First Aid at school mostly have an outside interest in First Aid and Resuscitation through other

activities, such as coaching, surfing or some other water based leisure activity.

The schools that set their own First Aid courses and examinations follow the guidelines of one of the organisations. Such examinations must adhere to the guidelines set down by the organisation responsible for the giving of awards. Often the organisation will supply the examination questions to the Instructors. These examinations involve a written test, mostly multiple choice questions, on what action to take in a given situation. Students are also asked to demonstrate techniques such as bandaging, positioning of a victim in the coma position, clearing the airway, and CPR if it is required.

The only objective way to assess the adequacy of teaching methods is the receiving of awards by the students. Students are instructed at school by PD/H/PE Teachers. They then either go to an outside organisation for examination, or the examiner comes to the school. When external examiners are used and students receive an award, adequacy of internal instruction is validated. External examiners are used in less than one quarter of the schools in this study.

The Teachers who instruct and examine the Students attend regular refresher courses. This too requires the passing of examinations to remain qualified.



The question that has not been asked of the Instructors concerns those students who do not receive instruction at school. This may be attributed to the students selection of subjects, or it may be the Teachers themselves selecting an alternative to the elective of First Aid.

This is discussed in further detail in Question Four.

### **5.2.3 Question Three**

*Do the Teachers / Instructors hold current certificates in First Aid and Resuscitation and attend annual refresher courses?*

All surveyed Instructors in Departmental high schools who instruct in First Aid / Resuscitation have current certificates. The certificates issued to these Instructors are from many organisations, with the majority from the Surf Life Saving Society, St John Ambulance and Royal Life Saving Society Australia. All instructors indicated that they attend annual refresher courses.

A proportion of the Teachers surveyed have a current First Aid certificate. However, those Teachers who accompany Students on excursions all have a First Aid certificate. The majority of teachers are instructed by the St John Ambulance, Royal Life Saving Society Australia and NSW Ambulance. Most teachers have attended a refresher course in the last two years as per the directive by the Director – General of School Education.

A recommendation that can be made with confidence is that the possession of a current First Aid certificate be considered a pre-requisite or entry requirement into university courses related to teaching and sport. For example, courses such as Bachelor of Education, Diploma of Education and Sports Medicine.

#### **5.2.4 Question Four**

*Do all Students learn First Aid while at school?*

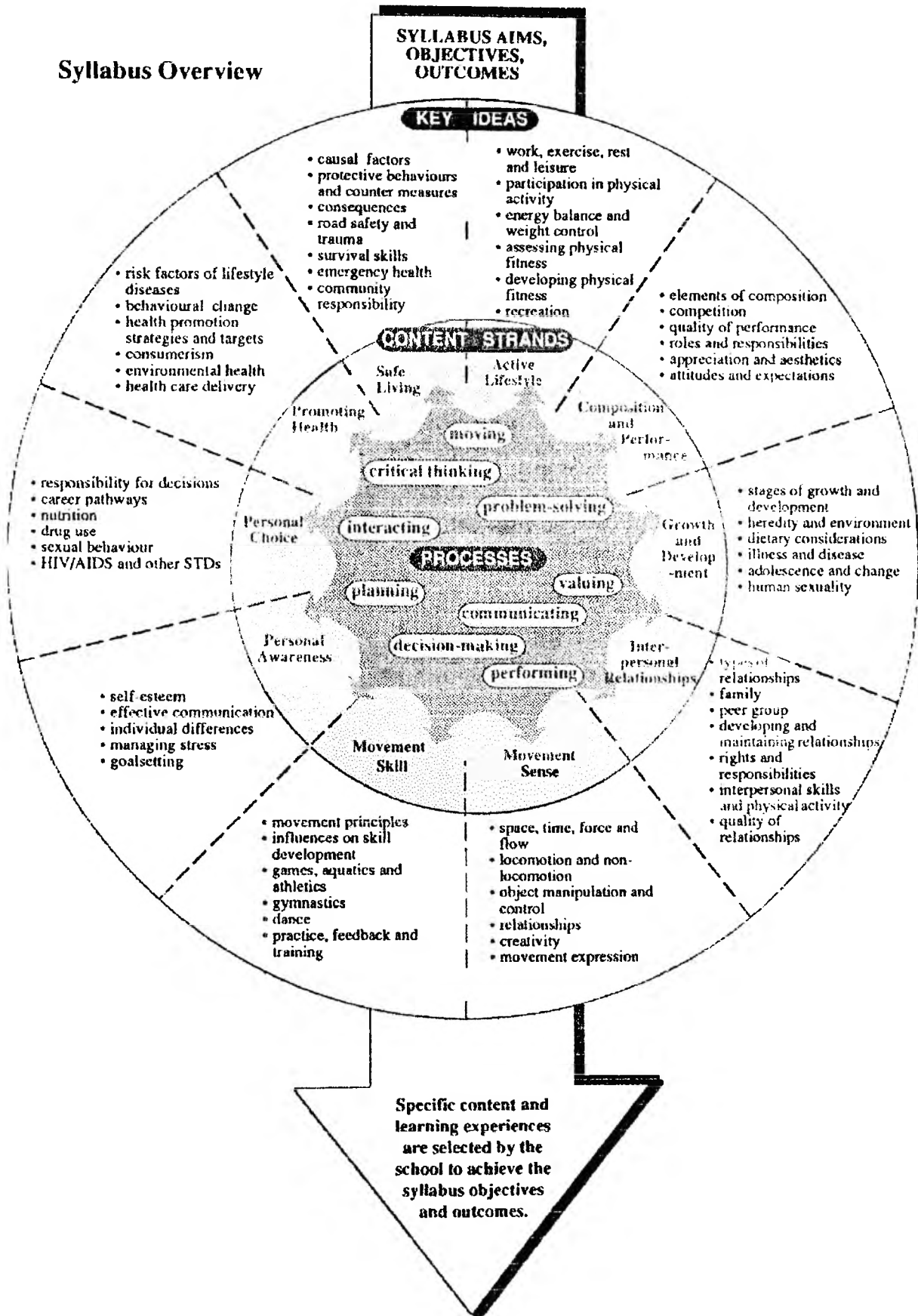
Not all students in each school receive First Aid instruction while at school. Some students may learn once, while others learn several times. Learning of First Aid at school is dependent on the elective subjects selected by the students, and the Teachers themselves.

First Aid is introduced to Students in Years 7 to 10 as part of the 'Safe Living' strand of the PD/H/PE Syllabus (see *Table 5.2.1*). This is one of "Content Strands". The Safe Living strand is broken into seven key ideas. In theory, Students will be taught First Aid once during their schooling. The Year 11 and 12 2/3 Unit PD/H/PE Syllabus has four core modules and nine elective modules (see *Table 5.2.2*). First Aid and Sports Injuries is the fourth of the nine modules and is expected to occupy approximately 20 percent of total course time.

The students taught First Aid span the entire High School years, with higher representation in Year 10 (24 percent) and Year 12 (22 percent). The reason for this is the choosing of an elective subject (Marine Biology or a Sport) where First Aid is a compulsory core topic in the curriculum. The other years learn about First Aid by way of an elective subject chosen by the Teacher on behalf of a particular year/class.

**Table 5.2.1 Year 7 - 10 Syllabus Overview.**

(New South Wales Department of Education. Board of Studies. 1991:15)



**Table 5.2.2 Stage 6 Syllabus 2/3 Unit PD/H/PE Preliminary and HSC Courses.** (New South Wales Department of Education. Board of Studies. 1991:14).

**Year 11 Preliminary Course**

**Core Modules**  
(Both to be completed  
– about 80% of total course time)

<b>Core 1</b> Analysis and management of personal health
<b>Core 2</b> Movement elements and composition



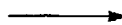
**Option Modules**  
(One to be completed  
– about 20% of total course time)

<b>Option 1</b> Human sexuality	<b>Option 2</b> Movement composition and appreciation
<b>Option 3</b> Outdoor recreation	<b>Option 4</b> First aid and sports injuries

**Year 12 HSC Course**

**Core Modules**  
(Both to be completed  
– about 80% of total course time)

<b>Core 3</b> Analysis and management of community health
<b>Core 4</b> Movement skill and performance



**Option Modules**  
(One to be completed  
– about 20% of total course time)

<b>Option 5</b> Community health issues	<b>Option 6</b> Sociology of games and sport
<b>Option 7</b> Two social health issues: drug use and HIV/AIDS	<b>Option 8</b> Human movement analysis
<b>Option 9</b> The art and science of coaching	

The type of course taught to the Students varied from Awareness, Instruction only, to Instruction and Examination. The Awareness course teaches First Aid without any practical application. There is no CPR

demonstration or instruction in this course and it is as little as two hours in length. The Instruction only course is a First Aid Course with CPR demonstrated. Some teachers will instruct the students in CPR performance, while others allow participation and practise by the students. The time given for this course may vary in length from two hours to 12 hours. The Examination course comprises First Aid and CPR instruction, demonstration and practise. Twelve hours is required to teach this course adequately. The choice of the length of course taught depended on the teachers' qualifications, and the time available to teach First Aid. Some taught First Aid for several weeks, while others only spent a few lessons on this topic. There is no minimum standard for what is taught for the Awareness or Instruction only course.

The study results are a reflection of practise in schools and it was the result expected. However, these results may not be an accurate reflection of what occurs in all schools. As the Students were selected to participate in this study by the Teacher / Instructor, it is unlikely that they would select a Student who had not completed a course in First Aid. Consistent with the hypothesis, the study showed that the students who participated had in fact previously completed a First Aid course.

### **5.2.5 Question Five**

*Do all teachers indicate a readiness / confidence in using the emergency skills gained after receiving First Aid or Emergency Care instruction?*

Forty three percent of the teachers indicated a reluctance to use First Aid skills in the case of an emergency. This was a general response, not pertaining to an emergency at school.

There were multiple reasons for the general reluctance to assist in emergency situations. The majority of these were based on fear. They included fear of litigation, fear of contracting infection, fear of doing the wrong thing or causing further injury to the victim, fear from not having performed First Aid before, and lacking confidence in performing First Aid.

A small group expressed a reluctance to perform First Aid on a family member, and another small group felt that they could not / would not perform CPR without the use of a mask to provide a barrier between the First Aider and the victim.

In light of the Director-General's Directive, the author made the reasonable assumption that Teachers accompanying Students on excursions have current First Aid Certificates with biannual refresher courses. After completing a First Aid course, 92 percent of teachers indicated that the training was helpful and 85 percent of the teachers want more practice. All

of the Teachers said that First Aid is important to know, and most of these indicated that these skills would be useful in the future.

The above findings suggest that the implementation of First Aid training and refresher courses are necessary for Teachers to engender confidence in performing First Aid. Further investigation should be undertaken to determine the best means of implementing First Aid training for Teachers.

Several suggestions might be as follows:

- that Teachers learn First Aid as a part of their undergraduate studies;
- that re-training be conducted on “pupil free” days.



### **5.3 Overall Conclusions**

The specific aim of this study was to investigate at foundational level the knowledge of First Aid and Resuscitation in school Students and Teachers, and to identify those who provide instruction in First Aid and Resuscitation. The author held no preconceptions or expectations about the responses which might be made to the questions asked. It was found that all surveyed participants considered First Aid important to know.

The teachers had all received First Aid instruction but were hesitant to use their skills.

It was found that of the 251 teachers in the Region involved in the study, 94 percent received instruction, 75 percent of these keep up their skills in Resuscitation (by way of refresher course), and 57 percent felt confident and competent enough to use resuscitation skills if an emergency arose.

The findings of this study indicate that there is an important difference in teaching methods and length of the course taught to students. All participating Students had received First Aid instruction at least once while at school. Some students had received Instruction more than once. The mere fact that they participated in this study is indicative of the fact that these Students had received First Aid training.

The teaching specialty of the First Aid Instructors varied but most were PD/H/PE Teachers. The effectiveness of the Instruction provided by the Instructors was established but the Instructors were restricted by their time availability, resources at hand or both.

The results are a validation of First Aid Instruction taught by Teachers and supports previous research in this area. It should be reiterated that previous research has investigated in turn 11 and 12 year olds in Australia and College (university) students in the United States of America. This study represents the first survey of High School Students in Australia and indeed the world. The questionnaire was broad based and covered a large sample. This study demonstrates that the Instructors in schools are adequately teaching First Aid and Resuscitation to Students in this study.

There was consensus amongst the Teachers of the inherent value of First Aid knowledge and the application of this knowledge, not just for Teachers in their duty of care relationship with Students, but as members of the community, neighbours, parents, leisure seekers, etc. They indicated an understanding of the need to be prepared for emergencies and an awareness of the demanding requirements of an already full curriculum and extra curricular activities.

There was no difference overall in attitudes between study groups towards the importance and lifelong usefulness of CPR and First Aid training. The reluctance to assist in emergency situations stemmed from fear. This fear

to perform First Aid and CPR presents a major problem when viewed in the context of a Teacher owing a duty of care to Students. Clearly the fear must be overcome.

Teachers face a number of other difficulties with regard to First Aid including the pressure to keep up to date in First Aid certification, the limited funding available to purchase adequate resources (for example, CPR practice dummies; basic First Aid supplies such as bandages, slings, ice/hot packs), and time availability for Teachers and Students to train and re-train in their First Aid skills.

Research is needed in order to examine the relationship between swimming training, survival skills, perception of swimming ability and likelihood of drowning. Inability to swim or to remain afloat with face up has been emphasised repeatedly as a factor in drowning.

This study reveals that there are a number of areas requiring further investigation.

It is recommended that the Department of School Education considers:

(a) That all Teachers are taught First Aid and their skills are practised by way of a refresher course yearly.

(b) That skills are practised by way of refresher course every two years for Teachers, Principals and Instructors.

(c) That First Aid and Resuscitation become a core teaching subject in secondary schools, in order to ensure that all Students are taught basic skills while at school.

(d) That no less than two Teachers accompanying Students on educational excursions are qualified in First Aid.

(e) That possession of a First Aid certificate be considered a per-requisite to entry into undergraduate degree courses in education and child care.

It is recommended that the Health Department considers:

(a) Making some forms of traumatic injury notifiable conditions as has occurred in some states of the United States of America ie drowning and near-drowning, spinal cord injury, head injury and burns.

(b) The introduction of coding of hospital admissions resulting from injury at school or on a school excursion in NSW as a study for the Australian Injury Surveillance Program.

Jointly, that the Department of School Education and the Health Department consider compulsory First Aid training for all Teachers.

It is recommended that interested parties consider further study into the following areas:

- (a) Whether First Aid refresher training for teachers will improve skills maintenance.
- (b) Whether the risk of death by drowning is reduced by, for example, swimming training, survival skills, or perception of ones swimming ability.
- (c) Whether the investigation into the various scenarios of drowning victims establishes a pattern of causation leading to formulation of prevention policies.
- (d) Whether school accidents are (i) adequately documented (ie. by way of incident report forms) and (ii) dealt with according to departmental incident resolution protocols.

The Findings indicate that the Department of School Education and Health Department need to consider further:

- (a) The educational opportunities and available literature with regard to First Aid.
- (b) The resources needed for First Aid instruction.

- (c) The human resources available to Instruct and assist in First Aid courses for Teachers and Students.
- (d) The funding allocated to First Aid instruction.
- (e) The professional responsibilities of Teachers to their students pertaining to accidents and injuries and their prevention.
- (f) The needs of individual schools and training programs required by each school.

Participation of non-government community organisations is crucial to the achievement of the goals and targets as discussed in this study for the simple reason that in order for community awareness of injury prevention strategies to be raised, such strategies must be seen to originate from a community base. Their involvement is crucial for improving outcomes (Commonwealth Department of Human Services and Health 1994: 172). For example, the Child Accident Prevention Foundation of Australia (Kidsafe), medical, and other health professionals groups and community organisations.

The coronial process provides a potentially rich source of information not currently accessible due to inadequate data storage and retrieval systems (Australian Institute of Health and Welfare 1996: 198). A national coronial information system would offer significant benefits to many users through the production of more timely and detailed data on deaths occurring as a result of external cause. It would contribute significantly to planning the

prevention of deaths and injury (Selby 1992: 106) and has the potential to produce major reductions in the cost of injury to Australian society.

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# **Appendix A**

## **Coroner's Recommendations And Memorandum to Principals**



I, Catherine Abbott, undertake not to disclose the identity of the student who is the subject of the coronial inquest discussed in this thesis (An Evaluation of Teachers and Students in High Schools Knowledge of First Aid and Resuscitation).

-  
20<sup>th</sup> May 2000.

34 Mt Keira Road  
West Wollongong  
N.S.W. 2500  
(042) 281695

Mr. Brian Wilson  
Gosford Courthouse  
Donnison Street  
Gosford  
N.S.W. 2250

Dear Sir,

I write to you to obtain a copy of the transcript and the Coroners findings / recommendations of a Coronial Inquest of [REDACTED] held on [REDACTED] 1993 at Wyong Court.

The reason for my interest in this matter is for my University studies - Honours Masters in Nursing by Research at the University of Wollongong. I am conducting research in the South Coast Region of the Department of School Education (High Schools) with teachers and students, concerning the Instruction of First Aid and Resuscitation Taught in Schools.

I will in no way reveal names or dates which may be identified by readers of my thesis, thus protecting family and those involved in this matter from identification.

Enclosed is a letter from my Supervisor : Mr. W. Janes.

Please contact me if further information is required.

Yours sincerely,

Catherine Abbott  
Registered Nurse.

August 12, 1997

34 Mt Keira Road  
West Wollongong NSW 2500

Department of Courts Administration  
P.O. Box 109  
Wyong NSW 2259

Dear Mr. Lenarduzzi,

My name is Catherine Abbott, a Masters of Nursing (by research) student at the University of Wollongong, under the supervision of Mr. Bill Janes. The topic of research is an Evaluation of teachers knowledge of First Aid and Resuscitation

Recent correspondence between us concerned the copy of the Coroner's Finding and Recommendations regarding the Death of [REDACTED] held at Wyong Coroners Court on [REDACTED] 1993.

Further to this document, I would like to request the Facts concerning the circumstances of the death. Such circumstances as supervision of students, availability of a Public swimming pool to a school group, the condition of the water and the Teachers or supervisors knowledge and attempt at First Aid and Resuscitation.

The transcript of the Findings and Facts of this case will not be included in the Thesis document. Only those bits of relevant and crucial information will be quoted. I intend to include in the Appendix the actual Recommendations, and quote the recommendations in the body of the thesis.



# UNIVERSITY OF WOLLONGONG

DEPARTMENT OF NURSING

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WJ.HT

26th November 1996

TO WHOM IT MAY CONCERN:

Re: Catherine ABBOTT

Catherine Abbott is a Master of Nursing (Honors) candidate with the Department of Nursing, University of Wollongong. She is conducting research associated with Resuscitation and Education in the School System for the Illawarra Region. As part of her background information she is seeking permission to access the findings of Coroners' Cases associated with school children that required resuscitation.

This letter is to confirm that I am the supervisor of Cathy Abbott and she is conducting the research under the approval of the Ethics Committee of the University of Wollongong, and with the approval of the Education authority for the Region. When the results are collected, they remain confidential to the candidate, myself and the Department, and this means there will be no disclosure.

At a later date, when the thesis has been submitted, it is the requirement of the University that a copy is placed in the Thesis Collection in the University Library. It is possible that another student in the future could access this information if they, themselves, are undertaking graduate studies.

Yours sincerely

/ William Janes  
Lecturer.

Department of Courts Administration

Telephone (043) 503010  
Facsimile (043) 503050

Cnr. Anzac Ave & Hely St, Wyong  
P.O. Box 109, Wyong 2259

Court House

**WYONG**

**NEW SOUTH WALES**


---

*Our Ref:* PL:TR.  
*Your Ref:*

31st December, 1996

Ms. Catherine Abbott  
34 Mt. Keira Road,  
WEST WOLLONGONG, 2500.

Dear Madam,

RE: Death of   
-----

Further to your correspondence to Gosford Local Court of 26th September, 1996 I enclose herewith copies of the transcript, the Coroner's Finding & Recommendations made by him regarding the abovementioned deceased.

I apologise for the delay but your letter went through a number of channels before reaching Wyong Court.

Yours faithfully,

P. Lenarduzzi,  
Clerk of the Local Court.

Encls.

# CORONERS ACT, 1980

## INQUEST BEFORE CORONER SITTING ALONE

New South Wales, }  
To Wit. }

INQUEST held at the \_\_\_\_\_ Coroner's Court  
at \_\_\_\_\_ Wyong \_\_\_\_\_ on the \_\_\_\_\_  
day of \_\_\_\_\_ 1993, before me \_\_\_\_\_  
\_\_\_\_\_ John David HALLIDAY \_\_\_\_\_ Coroner, concerning the  
death of \_\_\_\_\_  
(hereinafter called the deceased).

I find that the deceased on the \_\_\_\_\_  
day of \_\_\_\_\_ 1992, at Hidden Valley Recreational Facili  
in the State of New South Wales \*  
was accidentally drowned whilst swimming in the pool at that recreational  
facility.

\* Insert  
Finding

Given under my hand at \_\_\_\_\_ Wyong \_\_\_\_\_ this  
\_\_\_\_\_ day of \_\_\_\_\_ 19 93.

(J.D. HALLIDAY)  
Coroner



DEATH OF [REDACTED]

CORONIAL RECOMMENDATIONS.

1. That the Department of Education provide departmental guidelines to ensure that parental consent forms issued by schools in respect of school excursions, include in that form provision for information about whether or not the child can swim and or any special requirements for that child if swimming is included as an activity in the excursion.

2. That the Department of Education require each school to provide a teacher holding a current First Aid Certificate to be present on each and every excursion conducted by that school.

J.D. Halliday  
Coroner.  
jdh

12/93 U3781 bw-C1

CORONER'S COURT WYONG

CORONER: J HALLIDAY

[REDACTED] 1993

INQUEST TOUCHING THE DEATH OF [REDACTED]

Sergeant C Richards Assisting Coroner  
Mr Freakley for and with Department of Education

---

FORMAL FINDING

CORONER: Well Mr and Mrs [REDACTED] I find it very difficult again once more in my position as Coroner to extend my sympathy to you. I feel for your loss, I have nephews around the same age and I think I speak for everyone within the courtroom here, it is such a terrible, terrible loss. Sergeant Richards and I have been doing coronial matters for quite some time, and just when you think you've hit the worst possible type of scenario, another more tragic one seems to come along to tug at the heart strings and I must admit the full sympathy of the court is extended to you. In some ways in a backhanded fashion I apologise for bringing you here and that same apology extends to the teachers.

However I have a statutory duty at law in my position here as Sergeant Richards has pointed out, to investigate into matters to see if there is any secret homicide or, in the alternative to see if there is criminal negligence that may have been attached to any actions so that the matter may be further dealt with at law.

Now I am satisfied that that is clearly not the case here as rightly pointed out, for teachers there can be no blame apportioned to any single teacher and it seems to me that this is a death by misadventure.

The other function of a coronial enquiry is clearly educational, and as Mr Freakley pointed out in these circumstances, hopefully preventative. I would like to think that this enquiry, what stems from it, may stop any future incidences like this, given the fact as Mr Ferguson clearly points out and rightly so I believe, that no matter how diligent you are, some child will escape observation and accidents will, or may, very well occur with tragic consequences.



From the evidence given to me today, I will start firstly with Doctor Badami. He has given his postmortem report that indicates [REDACTED] died from a cardiorespiratory arrest due to post immersion consistent with drowning and in his evidence in the witness box, he indicated that the pleural cavities were extensively filled with fluid which indicated some time of immersion, something greater than four minutes. Anything beyond that is difficult to ascertain scientifically.

The teachers gave evidence of their observations and their supervisory routes, and their activities during the time immediately preceding the discovery. Now I am at a loss I cannot explain, indeed the answer will never be known why the child wasn't discovered earlier and as Mr Freakley points out, even if all four teachers had CPR related certificates, I do not think it would have made any difference because of the time of immersion.

The point is, it is difficult to reconcile the fact of the observations the time the child was found. I do not have an explanation for it. I certainly do not think there is any criminality or any negligence on the teachers involved, given that they have stated that they walked around. [REDACTED] said she'd walked around the pool. The other teachers such as [REDACTED] said she'd stayed down the shallow end of the pool and did U-shaped observation points round that end of the pool.

What does concern me as Mr Freakley pointed out, is the conditions prevalent at the time. You have a milky coloured water, all the teachers clearly remarked in their evidence and indeed as Exhibit 13 showed, it is difficult to see the torso of children whilst they are in the pool, and one would have felt that observation, normal observation of those children would have been difficult at the best of times.

To complicate matters more, there was some evidence saying that there was wind to give a rippling effect to the surface of the water and when you add that to the fact that certainly the children aren't going to stand still in the pool and the water surface will be choppy, it must've made conditions pretty difficult to adequately in those circumstances observe the children to the fullest.

That is basically all I can say given the evidence here today in respect of the supervisors. As I said before, I will repeat again, I think it is death by misadventure. It is an unexplained accident that the evidence hasn't educed any pointing finger or accusitorial finger toward any one person.

However the circumstances of the Education Department do need to be looked at carefully and I feel strongly in this respect and am prepared to make two recommendations, and the effect of the recommendations by a Coroner are not taken lightly at all, nor can they be taken lightly. There must be some follow-up action by the Department; they can't escape some form of accountability in respect of this. Not that I'm saying or implying in any way that the Education Department is at fault for this tragic accident.

Given the evidence by Mr Ferguson in relation to the consent form which was Exhibit 8, there is no provision on the form for a parent to clearly express whether or not their child can swim, can dogpaddle or in fact is an absolute no hoper in the water. That necessarily involves my first recommendation in that the Education Department formulates some departmental guidelines that each parental consent form used by schools in respect of excursions, include in that particular form such as this one used by the Wyong Public School, provision in it for information about whether or not the child can swim, his degree of capability and whether or not any special arrangements should be made for that particular child if he or she is to be allowed to swim. Alternatively, the parent should indicate that the child is not to go swimming. When I mention special provisions, I simply mean a lifejacket or the accepted Australian standard proof floaties that attach to the arm, that allow the child not to sink to the bottom. They will at least remain on the surface of the water. So that as, I think [REDACTED] discussed in her evidence, evidence of a distressed swimmer will become quite apparent.

The other disturbing point given the evidence, I talk about [REDACTED], I think she said words to the effect "that this is the fourth year that we have been going to Hidden Valley" and I note that [REDACTED] to her credit, gained the St Johns Ambulance Certificate and you are to be commended for that. What does disturb me is, is whether or not in the previous three visits to Hidden Valley, there was a teacher with those same first aid capabilities that were in fact present this time. That is said, notwithstanding the fact that no amount of CPR was successful in this case unfortunately. But notwithstanding it's just swimming. We often hear stories about children getting lost on bushwalks or excursions and Mr Ferguson pointed out that that was part of the curriculum about the Australian bush, so it would be fair to say that it would be a requirement that somebody with first aid knowledge accompany every single excursion and that forms the basis of my second recommendation. And that is that the Education Department requires schools to provide a teacher with a current first aid certificate on each and every excursion conducted by that individual school. Basic rationale of that recommendation is to ensure that the Education Department not only have a first aid officer within the school precincts, but when they take that student body out of those school precincts, that they also provide a competent first aid officer should any emergency arise.

I think that just about sums up what I can possibly say to you in your further grief here today and that simply leaves me to make my formal finding. Mr Freakley I take it that you will pass those recommendations on to the Education Department in a formal manner, or would you wish me to do it through the Police Prosecutor?

FREAKLEY: Well your Worship it always has more weight if it comes from outside. I will certainly put the recommendation through myself but--.

CORONER: Certainly, I will do it in a formal manner and I will also go through the State Coroner to ensure some form of compliance with bureaucratic red tape that I know exists within every single Government department.

FINALLY, THE OFFICIAL FINDING IS THAT ON THE [REDACTED] [REDACTED] AT HIDDEN VALLEY RECREATIONAL FACILITY, [REDACTED] [REDACTED] WAS ACCIDENTALLY DROWNED WHILST SWIMMING IN THE POOL AT THAT RECREATION FACILITY.

oOo

# MEMORANDUM TO PRINCIPALS

93/063 (S.056)

## Educational Excursions

The purpose of this memorandum is to advise schools of changes to procedures in relation to excursions.

The procedures to be followed by principals and staff in relation to educational excursions are set out in Chapter 15.3 of the School Manual on Educational Management.

### (I) PARENT/GUARDIAN INFORMATION AND CONSENT FORM

In addition to the information required by the consent form the following matters are required to be included:

- (1) Details about any swimming/water activities planned for the excursion, including information about the facilities to be used.
- (2) Provision for the parents to indicate whether:-
  - (a) their child is to be permitted to participate in the swimming/water activities;
  - (b) their child is a strong, average, poor or non-swimmer;
  - (c) special requirements are necessary for their child to participate in swimming/water activities, ie, need to use flotation devices;
  - (d) flotation devices will be provided by them.

A revised consent form reflecting these requirements will be provided to schools by the beginning of Term 1, 1994 as part of the updating of the total excursion policy.

Principals may encourage parents to provide any flotation devices necessary for their children but should not insist that parents provide them.

If principals determine that a proper course would be to allocate school funds to provide flotation devices for use by students generally, any devices purchased should be checked to ensure they meet Australian Safety Standards.

If parents indicate their children are poor or non-swimmers and no flotation devices are available for use by the children, principals will need to assess whether such children should participate in the swimming/water activities of the excursion having regard to the potential risks involved. Such assessment should take place irrespective of parents granting permission for their children to participate in the swimming/water activities.

### (II) REQUIREMENTS FOR FIRST AID TRAINING

From the beginning of Term II, 1994 school year, all excursions and sports activities involving swimming/water activities and all overnight excursions must be accompanied by an employee of the Department of School Education with current training in cardio-pulmonary resuscitation and emergency care. All other excursions are to be accompanied by a member of staff who has undertaken emergency care training.

The requirements described in the paragraph above are the minimum training requirements. Schools are encouraged, however, to support staff involved in excursions and sport to undertake full first aid training.

The Department has negotiated with the Royal Life Saving Society of NSW to prepare two training modules for use in schools and clusters. Both modules can be delivered by an appropriately trained member of staff or by a health professional in the local community. An appropriately trained person is someone who has recently undertaken recognised first aid training through an organisation such as St John Ambulance Australia or the Royal Life Saving Society.

**EMERGENCY CARE TRAINING: Presenter's Module**

This module will provide material for a two hour training module in emergency care, including the management of asthma, epileptic fits and bleeding. Copies of the module will be distributed to schools in Term 4, 1993.

**RESUSCITATION TRAINING: Presenter's Module**

This module provides material for an accredited 4,5 hour course in cardio-pulmonary resuscitation. The module will be available from regional offices from Term 4, 1993.

Ken Boston

**DIRECTOR-GENERAL OF SCHOOL EDUCATION**

14 September 1993



# EDUCATION GAZETTE

Published under the authority  
of the Teaching Services  
Act, 1980

ISSN 0155-1094

No 15, 13 October 1993

This publication is issued fortnightly during school terms for the information of officers and employees in the teaching service of the New South Wales Department of School Education and for appropriate action where necessary.

It is the duty of principals to ensure that each member of the staff has an opportunity to peruse a copy not later than five working days after the date of issue.

In addition, one copy is to be placed on the notice-board.

It is essential that a copy also be filed and be available for future reference at any time.

Dr Ken Boston  
Director-General of School Education

## SMOKING IS NOW TOTALLY PROHIBITED IN ALL NSW DEPARTMENT OF SCHOOL EDUCATION PREMISES

### MEMORANDUM

#### Memorandum to all principals of secondary schools and special schools enrolling students with mild and moderate intellectual disability

I have received a request from Dr Gillian Turner, Associate Professor of Medical Genetics at the Prince of Wales Children's Hospital, to continue a screening program concerning the Fragile X Syndrome.

This program, which started in 1986, is designed to identify (X) chromosomal abnormalities among people with disabilities attending sheltered workshops or special schools and classes in regular schools.

Through interviews with the families of these people, Dr. Turner will explain the significance of a positive test. This in turn will lead to family studies and the determination of the carrier status of unaffected family members. It will also provide genetic counselling regarding risks, and information on the availability of antenatal diagnosis early in pregnancy.

Dr Turner will visit all secondary schools and special schools which enrol students with mild and moderate intellectual disability in support classes. It is intended to maintain the screening program in each school every two years.

The screening involves a simple physical examination and the taking of a blood sample. If this is not practical, parents will be asked to attend clinic with the child for the blood sample to be collected.

Screening will be carried out either by Dr Turner or a member of her team from the Fragile X Department at the Prince of Wales Children's Hospital.

A genetic counsellor from the Fragile X Department will approach you, advise you of the procedure and send parents a letter requesting their consent.

I support this program and ask that you provide the appropriate assistance.

Ken Boston

DIRECTOR-GENERAL OF SCHOOL EDUCATION

13 September 1993

### MEMORANDUM TO PRINCIPALS

93/063 (S.056)

#### Educational Excursions

The purpose of this memorandum is to advise schools of changes to procedures in relation to excursions.

The procedures to be followed by principals and staff in relation to educational excursions are set out in Chapter 15.3 of the School Manual on Educational Management.

#### (I) PARENT/GUARDIAN INFORMATION AND CONSENT FORM

In addition to the information required by the consent form the following matters are required to be included:

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(2) Provision for the parents to indicate whether:-

(a) their child is to be permitted to participate in the swimming/water activities;

(b) their child is a strong, average, poor or non-swimmer;

(c) special requirements are necessary for their child to participate in swimming/water activities, ie, need to use flotation devices;

(d) flotation devices will be provided by them.

A revised consent form reflecting these requirements will be provided to schools by the beginning of Term 1, 1994 as part of the updating of the total excursion policy.

Principals may encourage parents to provide any flotation devices necessary for their children but should not insist that parents provide them.

If principals determine that a proper course would be to allocate school funds to provide flotation devices for use by students generally, any devices purchased should be checked to ensure they meet Australian Safety Standards.

If parents indicate their children are poor or non-swimmers and no flotation devices are available for use by the children, principals will need to assess whether such children should participate in the swimming/water activities of the excursion having regard to the potential risks involved. Such assessment should take place irrespective of parents granting permission for their children to participate in the swimming/water activities.

#### (II) REQUIREMENTS FOR FIRST AID TRAINING

From the beginning of Term II, 1994 school year, all excursions and sports activities involving swimming/water activities and all overnight excursions must be accompanied by an employee of the Department of School Education with current training in cardiopulmonary resuscitation and emergency care. All other excursions are to be accompanied by a member of staff who has undertaken emergency care training.



# Department of School Education



City Centre.  
Levels 13 & 14 55 Market Street  
Sydney N.S.W. 2000

Please address all communications to  
N.S.W. Department of School Education  
Box 33, G.P.O., Sydney, N.S.W. 2001  
Telephone: 561 8400  
Fax: 561 8479

Our reference DG93.3142

Your reference:

## RE: MEMORANDUM TO PRINCIPALS 93/063 (S.056) EDUCATIONAL ~~EXCURSIONS~~

I am aware that some of you have concerns which have arisen from my memorandum, in the most recent *School Education News*, altering the procedures relating to educational excursions.

The issue arose from a number of recommendations from the Coroner following an inquest into the death of a student by drowning on a school excursion.

The alterations to the permission notes which he requested seem to be a reasonable and responsible course of action to take.

The Coroner also recommended that all excursions be accompanied by someone with first aid training.

I was conscious of the pressures which imposing such a requirement would place on school training and development funds.

Consequently, it has been decided to require that at least one employee with resuscitation training accompany every excursion involving water activities or where an overnight stay is involved. All other excursions will need a member of staff who has completed a two-hour course in emergency care.

Schools have until term 2, 1994 to comply with this requirement.

A range of training support will be in regions and schools in the very near future. Each school will receive a 2 hour emergency care module and regions will have copies of a 4 1/2 hour course in cardio-pulmonary resuscitation.

All regions have a contact officer who can provide you with further information. ~~A list of these officers is attached.~~ \*

This training can only result in a safer teaching and learning environment for students and staff.

Ken Boston  
DIRECTOR GENERAL OF SCHOOL EDUCATION  
14 October, 1993

New South Wales Government



Department of School Education



**MEMORANDUM TO ASSISTANT DIRECTORS-GENERAL (REGIONS)**

City Centre.  
Levels 13 & 14, 55 Market Street,  
Sydney N.S.W. 2000

Please address all communications to  
N.S.W. Department of School Education  
Box 33, G.P.O., Sydney, N.S.W. 2001.  
Telephone: 561 8400  
Fax: 561 8465

Our reference:

Your reference:

**RE: MEMORANDUM TO PRINCIPALS 93/063 (S.056)  
EDUCATIONAL EXCURSIONS**

It has been brought to my attention that a number of schools will not be able to comply with the requirement for emergency care and resuscitation training as set out in memorandum 93/063 (S.056).

The Director-General has agreed that where a principal can demonstrate that exceptional circumstances exist which will prevent compliance with the requirement by Term 2, 1994, Assistant Directors-General may grant an extension of time.

Under no circumstances will any extension be granted past the end of Term 2, 1994.

Yours sincerely

**Gillian Shadwick**  
Director, Training & Development

7 April 1994



# **Appendix B**

## **Questionnaires and Consent**

# *Principal Consent and Questionnaire*

# Evaluation of First Aid taught in High Schools

Catherine Abbott  
Department of Nursing  
University of Wollongong

## Consent Form

This research project is being conducted as part of a Masters of Nursing, supervised by Bill Janes in the Department of Nursing at the University of Wollongong.

By method of questionnaire, I invite you to answer the attached questions about First Aid. The aim of this research is to evaluate the effectiveness of first aid taught in schools - to both teachers and students.

The information obtained from you will remain confidential, and has been approved by the University of Wollongong Human Research Ethics Committee.

You may withdraw at any time.

The information collected will be used for only this research project, which may include publication in professional journals.

You may contact me at any time for further information by telephone (042) 213767, or by writing to the University of Wollongong, Department of Nursing, Northfields Ave., Wollongong. N.S.W. 2500.

If you have any questions regarding the conduct of this research, please telephone Karen McRae - secretary of Human Research Ethics Committee - on (042) 214457.

If you understand, and agree to the information given, please sign below, complete the questionnaire and return it in the enclosed envelope.

Name and Title \_\_\_\_\_

Name of School \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_/\_\_\_/\_\_\_

## Evaluation of First Aid Training

School:

Date:

Should it be impractical for you personally to distribute the questionnaires to all the teachers and selected students in your school, could you nominate a teacher (s) who I may send the questionnaires to?

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Do any of the students in you school receive Resuscitation and First Aid instruction?

Yes

No

If YES, do **all** the students learn resuscitation and First Aid instruction?

Yes

No

Does the school have qualified instructors?

Yes

No

If YES, what is their primary role (eg. Physical Education teacher)?

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If NO, who is asked to instruct the students (eg. St Johns Ambulance, Royal Life Saving Society, Red Cross)?

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Have the teachers in your school received Resuscitation and First Aid Instruction?

Yes

No

When the questionnaires are sent to your school, could you nominate five students who have recently received Resuscitation and First Aid instruction to complete the questionnaires following parental consent?

Yes

No

Many thanks  
Catherine Abbott

# *Teacher Consent and Questionnaire*

# Evaluation of First Aid taught in High Schools

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Department of Nursing  
University of Wollongong

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(print name) \_\_\_\_\_

(Signature) \_\_\_\_\_ Date \_\_/\_\_/\_\_

# Questionnaire for Teachers

Catherine Abbott: April 1995

## Evaluation of First Aid Training

Age:

Sex:

Date:

School:

\_\_\_\_\_

What is your primary teaching subject? \_\_\_\_\_

How long have you been teaching (years)? \_\_\_\_\_

Have you been taught resuscitation in the last 12 months?

in the last 2 years?

in the last 5 years?

Who was the course run by (eg. a colleague from your school, certified instructor etc.)?

\_\_\_\_\_

Is this the first time you have learnt First Aid and CPR?  Yes  No

If NO... How many times have you been taught? \_\_\_\_\_

Who taught you the previous time (ie. St Johns Ambulance, Royal Life Saving Society,

etc)? \_\_\_\_\_

Do you think you know more now? \_\_\_\_\_

How long ago was the previous course? .....Years.....Months.....Weeks

What is the meaning of ABC in Resuscitation?

A \_\_\_\_\_

B \_\_\_\_\_

C \_\_\_\_\_

Would you be scared to help a victim? Yes  No

If YES, please say why... \_\_\_\_\_

\_\_\_\_\_

Was the most recent First Aid training course good? Yes  No

Would you like more practice?  Yes  No

Do you think CPR is important to know? Yes  No

Please rank how important it is (1= not important, 5= very important)

1 2 3 4 5

Do you think you would be able to use CPR and First Aid in the future?  
 Yes  No

Where could you use these resuscitation skills?

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Had you attended to an emergency situation before your training? Yes  No

If yes, please explain

---

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Would you feel confident enough to use these skills on a school excursion?  
 Yes  No

Do you think CPR and resuscitation are necessary to know for school excursions?  
 Yes  No

Do you escort students on school excursions?  Yes  No

If YES, how often  More than once per term?  More than twice per year?  
 Never

Have you used First Aid or CPR on a school excursion?  Yes  No

Have you used First Aid or CPR outside school activities?  Yes  No

Have you used First Aid or CPR at school but not on any excursions?  Yes  No

If so, please explain

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# ***Student Consent and Questionnaire***

# Evaluation of First Aid taught in High Schools

Catherine Abbott  
Department of Nursing  
University of Wollongong

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(Print name) \_\_\_\_\_

(Signature) \_\_\_\_\_ Date   /  /  

on behalf of (student's name) \_\_\_\_\_

## Questionnaire for Students

Catherine Abbott April 1995.

# Evaluation of First Aid Training

Age:

Sex:

Date:

School:

---

You have just learnt resuscitation and First Aid.

Was this your first time:

Yes     No

If NO... How many times have you been taught? \_\_\_\_\_

Do you think you know more now?     Yes     No

How long ago was the previous course?

.....Years.....Months.....Weeks

What is the meaning of ABC in Resuscitation?

A

B

C

Would you be scared to help a victim?     Yes     No

If YES, please say why.....

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Was the most recent training course informative?     Yes     No

Would you like more practice?     Yes     No



# *Instructor Consent and Questionnaire*

# Evaluation of First Aid taught in High Schools

Catherine Abbott  
Department of Nursing  
University of Wollongong

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(Print name) \_\_\_\_\_

(Signature) \_\_\_\_\_ Date \_\_\_/\_\_\_/\_\_\_

# Evaluation of First Aid Training

Age: \_\_\_\_\_ Sex: \_\_\_\_\_ Date: \_\_\_\_\_

School: \_\_\_\_\_  
\_\_\_\_\_

What is your primary teaching position (eg. Physical Education, English)?

\_\_\_\_\_

What other subjects do you teach? \_\_\_\_\_

How long have you been teaching (years)? \_\_\_\_\_

How many years have you been teaching First Aid and CPR? \_\_\_\_\_

How many students have you taught First Aid and CPR to (approx)? \_\_\_\_\_

How long (weeks) is the course? \_\_\_\_\_

What age groups are taught CPR? \_\_\_\_\_

How long ago did you learn CPR? \_\_\_\_\_

If more than 12 months, have you attended a refresher course?  Yes  No

How recently was the refresher course? \_\_\_\_\_

How frequently do you/will you attend refreshment courses? \_\_\_\_\_

Who instructs you? \_\_\_\_\_

- Do you conduct
- (a) an awareness course only?
  - (b) instruction only, with outside examiners?
  - (c) instruction and examination?

Please explain why you teach this method \_\_\_\_\_

\_\_\_\_\_

How many other teachers assist you in CPR instruction? \_\_\_\_\_

# **Appendix C**

## **Open Ended Questions**



# *Open-ended Questions*

## *Teachers*

## **Teachers Pilot**

**Would you be scared to help a victim? If YES, please say why...**

I still would but the threat of suing grows. Fear of failure!

Maybe some degree of hesitation in view of legal "comeback" from victim/family.

Very brief course - covered the basics without any "hands on" experience.

**Had you attended to an emergency situation before your training? If YES, please explain**

Road accident, sport injuries, (bleeding, broken bones etc. only)

Pool, home and school.

Work place/ community.

**Have you used First Aid or CPR at school but not on any excursion? If YES, please explain.**

Can't recall -probably

Only First Aid - as in treatment of shock, stopping bleeding, attending unconscious or patients with broken bones, dislocations etc. Never CPR (Thankfully the situation has not arisen).

Too numerous First Aid in sports etc, to make note of. Two occasions involving Resuscitation whilst at school. Plus one occasion out of school.

Injury during gymnastic lesson - ended up being a broken elbow.

## **Teachers**

**Had you attended to an emergency situation before your training?  
If yes, please explain.**

Participated in CPR on 2 victims.

Students collapsing on assembly etc sport

My husband and I witnessed a fatal car accident the passenger was in extreme shock - we cared for the passenger until the ambulance got her to hospital.

Rescuing two girls from the surf.

Heart attack on golf course. A colleague administered first aid.

A girl hyperventilated at school camp and had to be rushed to hospital. I thought she was having an asthma attack and was in danger of her life.

A motorcycle accident. However there were far more qualified and competent people on the scene.

40 year old man collapsing at surf club - worked on by members of the club.

Baby at home had difficulty breathing - I had had first aid training before hand through the Surf Life Saving Movement.

Hockey - sport. Ball hit student in face - blood gushing out through lacerated lip. Applied pressure to area with clean hankie - told student to hold over area. Taken to outpatients.

Accident at swimming pool, possible neck injury and accompanied student in ambulance to hospital.

An elderly man had a heart attack in the swimming pool and very nearly drowned. I assisted lifting etc.

Not emergencies perhaps, but situations involving serious falls leading to broken bones/dislocations; fits; sprains; stings etc.

### **Car accidents**

Own family emergency - had completed St John Course many years before. Also assisted at a car accident.

Heart attack - he died.

Neighbour dropped dead.

Not CPR - "fitting" children choking

### **Drowning**

Severe cuts (as a mother and as a counsellor at a youth camp) have been treated.

A student suffered a heart attack at school.

Motorcyclist down - first on the scene.

**Drowning incident.**

**Compound fracture of Femur of a friend age 17.**

**Road accident.**

**Army.**

**At the beach frequently.**

**Child threw a fit in the swimming pool and was unconscious.**

**Car accident.**

**Car accident on several occasions.**

**GA at school - dead - First on scene - tried to revive - (dead for hours!)**

**Countless suspected and actual fractures, minor accidents.**

**May minor accidents with sport.**

**Child stopped breathing.**

**Epileptic fit in classroom, possible broken arm at sport.**

**In classroom, cut hands, fits, Burns and bruises.**

**Elderly persons (twice) who had heart attacks.**

**Oldest daughter has had episodes of febrile convulsions up to age 5; son also up to the age of 8.**

**A young child out of his depth at the beach; I swam out, he was breathing, I brought him to shore & took him to his parents.**

**Child injured neck in playground.**

**Car accident - first car on scene after accident.**

**Road accident.**

**Sister fell through plate glass window when I was 16. No one else was home.**

**Motorcycle accident need to stop bleeding.**

**Lifeguard - surf and in London - 2 patients.**

**Industrial accident.**

**Heart attack in 1972.**

**I've been a life guard/swimming instructor for 3 years - have come across situations.**

**Broken bone on excursion, sprains, cuts, etc nothing of a life threatening nature.**

**Car accident.**

**Student slipped in pool - paralysis scare. (No resuscitation skills)**

**Epileptic fit.**

**Rusticated a toddler who was not breathing through strangulation - knowledge at time was sketchy.**

**Many emergency situations as volunteer bush fire fighter and car club.**

**Child submerged in water in swimming pool - another child running through a plate glass window.**

**Á person collapsed from heat exhaustion and needed first aid.**

**Babysitting younger siblings - injuries treated and medical aid sought, and child pulled from freshwater, still breathing.**

**Road accident victims (3). Crushed chest - died, Compound fractures to femur and numerous head injuries.**

**Car accident.**

## **Teachers**

**Have you used First Aid or CPR at school but not on any excursions?**

**If so, please explain**

Everyday accidents at school.

School playground and school sport.

School sport, in classroom, playground duty, staff room.

Bleeding from students cutting themselves on food cans or bottles.

Arm broken in playground, asthma attacks that have needed hospitalisation, epileptic attack and numerous sprains etc.

On playground duty or just being called out from the staffroom to attend to an injury.

Shock victim after bad leg dislocation whilst on playground duty, epileptic seizure in classroom, numerous football injuries, no CPR.

As a physical education teacher, my first aid skills are often used during the course of a lesson.

P E teacher - normal cuts - abrasions, sprains, breaks etc.

Have used first aid for bleeding, (not arterial) fainting, shortness of breath, epileptic fit, and asthma attack.

Female students hyperventilated in toilets. Boy ran into a post and knocked himself out.

During PE lessons there have been many sprains, strains, fractures and cuts that have needed attention.

First Aid at school. CPR in surf and on next door neighbour.

Teaching primary. Learn to swim had to resuscitate an elderly man who drowned.

Students collapsing in playground, student had an epileptic fit in classroom.

Minor first aid in sports injuries, cuts, accidents etc.

Students suffering from fits and falls.

During the course of a normal school especially due to my job as P E and sporting coach.

During sport and in the playground.

Have used basic first aid and knowledge when students are sick/injured at school.

First aid to injured students/people not CPR.

Rendered first aid at sporting events and at school generally.

Stop bleeding mostly.

As a school Counsellor I am not involved in school excursions.

Colleague suffered heart attack - used CPR until ambulance arrived.

Students who have been injured in P E required R.I.C.E. etc. Most students who are injured tend to come to the P E staffroom for treatment.

Sport injuries - sprained ankles.

Heart attack victim.

Injured students and 2 teachers have died on the premises and I used CPR - Both failed.

As a Teacher of Industrial Arts we are constantly exposed to students who cut themselves some quite badly. Also as a sporting coach, I deal with minor accidents, sprains etc.

Many students have broken arms or been knocked unconscious at school. I have had to help a few.

The school conducts activity week at end of the year. Elementary first aid often is called for and coaching sporting teams necessitates first aid on occasions.

Canteen lady collapsed.

Cut etc in Industrial Arts room.

A cut finger of a child.

Students injured or experiencing asthma attacks during school time, prior to them being attended by sickbay staff.

Football injuries.

Sewing machine needles through fingers, burns, fainting (treatment).

Care of a student with a severely cut arm (in previous school).

Cuts, injuries at sport - never used CPR (thank God!)

Suspected broken arm, nose bleeds, sprained ankles.

I have administered first aid with minor injuries during P E lessons.

Sports injuries.

Sport, in class (First aid only) Never used CPR and hope not to.

Cuts, breaks, burns, fits and CPR.

Soccer field and playground.

Children in playground who have fainted, had fits or hurt playing Rugby League.

Emotionally disturbed - racial harassment, stopped breathing - CPR - Revived.

First Aid for countless burns, cuts, minor accidents. Everything from splinters to fractures, open wounds, etc. I haven't yet needed CPR, but several epileptic students have had me checking continuously. (Student unconscious in class this year).

Accidents in science classes/woodwork classes. Asthma attacks.

As in the position of H T Welfare.

Fainting, broken bones etc.

Tend to suspected broken limbs, burns, children who have passed out, cuts etc.

To attend to cuts, sprains, stings, burns, fevers, fall victims.

Sports injuries in P E class.

Cuts and sprains, blow to the head, fit, possible broken arm.

Basic cuts and falls.

As the Sports Organiser I have at times had to assist students who have been injured. On one occasion a student badly cut her foot at the beach. I had to apply first aid and arrange for an ambulance to pick her up.

Broken arms, legs, concussion, cuts, strains, sprains, stings, epileptic fits.

Treatment of cuts eg, collisions at sport, hockey stick splitting open forehead, broken fingers, sprained ankles, wounds eg gashed hand in science lesson, javelin in lower leg (the usual things occurring in schools).

First aid in food labs.

Assistant was choking and I dislodged the food blocking the airway. I wasn't confident but it worked.

I am the first aid person for the school.

Minor First Aid on students - cuts, burns, sprains etc.

Sport - sprains/strains.

Day to day emergencies - sprains, concussion, cuts, fractures, asthma etc.

Within the kitchen - burns, cuts. Accident in the school playground. Results of a fight between 2 students. Asthma attacks in the playground.

Students with breaks/sprains.

Cuts, sprains, bruising.

First Aid assistant, minor lacerations, limb immobilisation, bruising, concussion etc.

Minor first Aid, lacerations, breaks to limbs, concussion.

Burn students in science lab, hot water burns/gas fire burns.



A boy cut his artery by punching a window. I applied pressure and got him medical assistance.

Minor cuts, bruises and abrasions, concussion etc.

Only First Aid, broken bones, lacerations, sprains, concussion etc.

Aided an injured student who ran into a steel door and cut her head.

First Aid usually involving asthma, minor cuts and abrasions.

First Aid during playground incidences and sport.

Cuts, sprains, bruises.

Everyday as I am school's First Aid officer.

Injured leg at soccer.

First Aid has been used for accidents in the classroom - cuts, burns etc associated with practical lessons.

Was First Aid officer for 4 years. First Aid situations every year of teaching this is normal.

Student injuries often need to be treated at the school before further action can be taken. Broken arms, wrists, cuts etc.

Several accidents in wood and metal work rooms and playground accidents.

Have had some minor first aid experience with cuts and twisted ankles, knees etc.

Sports injuries - assessment and choice of further treatment. Classroom accidents - treatment of minor injuries, Sprains etc. First Aid more commonly used.

Student fainted in assembly during a fit. I had to prevent her from hurting herself and then place in the recovery position.

Female student fainted in class - turned her on side and sent for help. Girl broke ankle - sent for help and comforted student until other staff arrived.

Minor injuries.

## **Teachers**

### **Would you be scared to help a victim? If yes, please say why?**

Difficult to say how I might react but I feel there might be some trepidation about whether I am doing the correct things.

Tentative

Know little and may do more damage than help or perhaps hasten death or cripple person.

Any possible legal claim for making a mistake.

Anxious but not scared

DRABC I'd check for danger first. Some situation would scare me eg. Live wires/ chemical spills.

Just hoping I remembered the right things and applied them these correctly

To a certain degree would be nervous, particularly after that ABC question.

Have not been practicing.

Doing the wrong thing or panicking.

Even though I know what I'm doing, I still think I would lack confidence if put under pressure.

Under difficult circumstances I do not know how I would react, I would hope it would be calmly, remembering what to do.

Because I rarely have to deal with life threatening situations, I'm not confident that I would be able to implement techniques correctly.

Fear only from concern for their well being.

Worry if you were doing the right thing.

For fear of doing more harm than good.

I have not done the real situation before; AIDS and concern with body fluids is an issue; fear of increasing litigation against helpers is a small factor, too.

Never have done it before.

Tentative possibility of infection technique may not be efficient/effective.

Disease; HIV AIDS no real confidence.

AIDS/liability, lack of experience

Insufficient practice of the resuscitation method to be absolutely sure of the timing and position.

I am concerned that I might panic, but I would attempt to help a casualty.

Have never done so before.

I would always feel anxious in helping a victim, that I was doing my best, but and more confident thanks to doing First Aid courses.

Causing further injury to the person.

The rates and differences from adults to children are hazy. Tactical moves have been forgotten ie the steps for CPR.

Worried about HIV HEP C and legal implications if it is deemed you did the wrong thing.

I don't know, just in case I do something wrong.

Because if you do screw up I'd feel I let them down and AIDS and depends on what's really wrong. Hard to diagnose.

Any emergency situation contains a degree of fear but it would not stop me helping.

Worried about doing the right thing. Real thing very different to theory.

Never had to resuscitate anyone before.

Not confident, the fear of being sued, I could not live with the accusation if my intervention was incorrect. No follow up to the course in 1994.

Lack confidence.

Legal aspects - sued for helping lack of practice.

Not confident.

Unsure of procedure.

Possible litigation.

But I would - Because I never have actually had to yet.

Frightened of doing the wrong thing, of hurting the victim, Of catching something - but I'd still do it.

Not confident that I could really save someone's life.

Don't know enough - faint at the sight of blood.

Luckily, I haven't had to use my skills much - unluckily, I'm out of practice.

Too long since I did the last one.

I have never had to so far - feel unconfident.

Maybe - I would think twice - depending on the person - eg. I would not assist a drug addict in case of infectious diseases. eg. Hepatitis etc. I would help a baby/child.

Fear of litigation because of uninformed skills.

To do more damage, not confident on my ability to help.

Do more damage to the victim.

I do not know enough and do not get to practice.

Don't know what to do.

I wouldn't wish to do any harm.

Don't know. Stressful, unfamiliar.

Don't want the responsibility for contamination.

Not practiced lately, Never done it for real, could make mistakes.

Lack of training/practice.

I feel my current working knowledge is inadequate.

If help is needed - then 'they' are in pain - unsure if success is possible. Willing to try though.

I don't know First Aid enough to do it properly. Not confident enough.

I'd be afraid of making the situation worse - ie do the wrong thing, panic attack.

In case I made a mistake which was fatal.

One is always a little apprehensive in an emergency situation.

Loose confidence if procedure is not practiced regularly.

Don't feel competent, can't always remember how many times/minute to compress etc.

Lack of knowledge.

I am a slow thinker - I would have no hesitation in helping though.

May get it wrong! (But I hope not).

I don't feel confident.

I've seen it performed and done it on a model but that's my only experience.

Lack of confidence at such a crucial time.

It is the sort of situation no one really wants to be in and it would be the first real life experience of using the skills and knowledge.

Inexperienced.

Fear of "stuffing up".

Don't have enough practice.

Not having used what I was taught or reviewed it at this stage, I'm not sure I would remember how.

In case I did the wrong thing.

Forgot, through lack of practice and actual experience.

Uncertainty, lack of practice.

Too much empathy!

Yes, if my own child/family.

Blood, transmitted diseases.

All accidents make us fearful of danger but would do it if needed.

Infection from AIDS or Hepatitis.

Unsure that I won't panic; also I might forget the timing.

Have not had to carry out the real thing before. But, I would try.

Responsibility, technique a bit rusty.

Because it is a life and death situation, with someone's life dependant upon my action.

The course I participated in was intense but with minimum time for simulated CPR and First Aid. I have not revised what I learnt then and thus I have forgotten some of the procedures.

I have never had to use it in an emergency situation.

Failure!

Always an element of "fear" in helping a victim.

It is so vital you do it correctly.

Knowing how important it is to do it right - a matter of life or death.

It wouldn't stop me but I would be a little scared that I might forget something. Not having the opportunity to practice regularly, nor the experience of a real life emergency - make it hard to feel really confident.

Unsure of whether I'm doing the right thing.

Frightened that I might make a mistake in attempting to save a students life.

Lack of experience.

Scared too strong a word, but apprehensive as to whether I am doing what is required well enough.

But I would do it with a certain confidence not I have over learnt it.

Using DRABC - most situations involve DANGER -eg. Infection from disease - HEP B/C AIDS.

Don't really know what to do.

Depending on how severe.

Infection.

Doing the right thing.

Concern for their welfare, it would be the first time whether I would remember in that situation.

Legal responsibilities - the possibility of being sued if patient deteriorates later on.

Very wary of current litigation.

In case I stuff up and was sued.

Diseases and responsibility especially the decisions involved if there is no mask available and blood loss.

Litigation.

Only a vague memory of procedure.

Concerned that I would overlook a step in the proper procedure. More regular practice needed.

Not knowing correct procedure.

Lack of practice. I would do what I could but would really benefit from more practice with the procedures.

Fear of contracting AIDS from bleeding victim. Fear of making a mistake in resuscitation/First Aid and causing further injuries. Fear of legal ramifications.

Fear of failure? - Insecurity? But I would not hesitate to do what I had to do.

Always a concern when dealing with someone's life.

I would be apprehensive as I don't have a mask, worried about doing as per book, but I feel I could keep a person alive for some time. I would assist.

I suppose a little of the fear that I may do harm or be unsuccessful.

Because someone's life can be in question - that's an awesome responsibility!

Because I have never done it on anything other than the dummies and it would be frightening to have to do it for real. Perhaps more frequent practice at EAR and CPR would alleviate some of this fear.

# *Open-ended Questions*

## *Students*

## **Students' Pilot Open Ended Questions**

Because it would be a very hard thing to do in a "real life" situation. I would find it hard to remember everything.

Everyone would be scared to help out but if you're the only one there you must help.

Because you would be worried and wouldn't want to do it because if they die you might think its your fault.

### OTHER

Anywhere because an accident can happen at any time.

Anywhere it is needed.

At work

Amusement Parks, walking



## **Students**

### **Would you be scared to help a victim? If yes, please say why**

Just in case I do something wrong, because I would be really nervous, but I'd still definitely help them.

Because I would be worried that I would do something wrong.

Afraid I would stuff up

In case I forgot to do something and the patient gets worse

Because I may kill them

Because I might do something wrong - but I'd still definitely help them

I would only be scared because I don't feel I can remember all of the course and would be scared of treating someone wrongly and worsening their condition.

Being in the situation scares me

For my first time I would feel that I might be treating them wrongly

Because it's somebody's life and I would hate to feel responsible for their life. It's a moment of pressure to perform appropriately

Because the responsibility is put on me

Not sure because I've never been in that position

If you don't take care you might catch something

If they are gay or have some type of disease etc

You don't know what diseases they might have

Risk of infection or stuffing up

Diseases and other contagious things

Because I will go into a state of shock

Because I would be scared if I did the wrong thing or froze

I would be scared that I may not be able to help the victim and they might die

But I would still do it

The fear of putting the victim in a worse state than already currently in

Because it would be my first time and I wouldn't be that confident

I would be hesitant, it would be a shock though I'd still want to help them

First time, no previous experience, nervous

I would feel scared in the fact that a person's life would be in my hands and my actions could have major consequences

Because it is a scary business saving people from the clutches of death

I wouldn't be absolutely sure of what I was doing and that I might hurt them more

Because you don't know what they have like diseases

I could be in danger, or I wouldn't know how to do it properly

In case I forget what to do under pressure

I would feel I am unskilled and feeling I would "stuff" it up

Because the life of the victim would be in my hands

Scared because I can't remember everything I was taught, especially two years ago

Because I might forget the different stages of saving a victim

At first I would be but I would then calm down and realise that I would be the only person there so I would have to help

That you might not be doing the right thing

If they die it would be in my head for the rest of my life

I would probably forget how to do it, which may cost a life

They might die

I would be apprehensive as it is someone's life but I would not hesitate in helping and I feel confident that I could do it

Because I've never yet had to help someone, so I'd be nervous about the first time

I could do something wrong

Because their life is in my hands

I'd find it hard to cope if the victim passed away or died

Because I would not like it if the victim died

## Students

### Question 16: Where could you use these resuscitation skills?

Swimming, Sport, Shopping, Car accidents, Bushwalking, Visiting grandparents, Beach, Holidays, Youth groups, Other.....

School

At the beach

Anything

Everywhere

Everywhere

Everyday life

On a plane

Bed

On a plane, boat; snow field, space shuttle

Where ever

Surfing, diving

Surfing, diving

Anywhere

At home

At home

Golf course

Horse riding

Everywhere that is necessary

Anywhere

At home, at school

Anywhere

Anywhere where people are present

Home

All of these situations may lead to the use of first aid skills

Where ever necessary

Could happen anyway

Anywhere nearby

Anywhere

Snow skiing

School

Anywhere

Snow

At home

Every day situations

Nearly anywhere

In a gang shooting

Anywhere

If there was a problem and First Aid was needed

Anywhere

Anywhere

Everywhere

Anywhere

Scouts

Anywhere

Your could use it anywhere

Drugs and alcohol

Friends

Parties

Work place, school

School

Anywhere there are people around

Home

Surf club

# *Open-ended Questions*

## *Instructors*

## **Instructors**

### **Please explain why you teach this method?**

Because we have enough instruction/examiners and do an intensive unit on this.

It depends whether it needs Workcover accreditation for seniors or certification for others.

In situations where First Aid is required students have to be able to cope in an unknown situation and people. Having outside examiner with different expectations and perceptions helps with this.

Within PD/H/PE course Year 7-10. As well as 2 unit course.

I believe it is to be a very important component of physical development.

Some courses were part of Health programs so were not examined externally.

Because the students are younger, size of the group, my qualifications, length of time available.

Part of the Royal Life-saving Awards System.

All. To suit all types of students/staff and their requirements.

I would like the convenience of being able to instruct and examine but lack the qualifications.

Suits PD/Health/PE program

Have been involved with all options. Moving towards probably S & C for marine studies in the hope at students receiving accreditation.

It is part of the "Surf Survival Certificate" as part of the Building and Construction course.

Not qualified to examine, that is done by local surf club but we aim to reach examination standard.

Qualified to do so (Level 3 exam) and it is convenient not to have to rely on outside source for examining - increases flexibility.

Necessary to stay qualified.

Easy to coordinate

This is format of surf survival.

For students to become competent in an emergency situation in any of the above sports and if the case arises elsewhere.

Find it best suited to students logistically.

Surf life guidelines re Surf Survival Certificate.

College ran a small intensive course. First in part of other teaching subject in relation to workplace safety.

It is the most practical and is also part of CEC courses offered at College.

Dept of Education requires competency levels for teachers. I require them for students in surfing groups/ scuba groups and marine study courses.

Students see a reason for learning CPR if they can gain accreditation.

I teach it to my elective P E classes to make them aware of the processes. I examine them but only on a school basis. Not formally as for Royal Life.

Immediate recognition of achievement. Logistically superior

School environment we can issue Workcover First Aid and Resuscitation Certificates.

Qualified to do so.

To make sure students and staff are fully aware of what's involved in First Aid/CPR and hopefully make them feel competent with First Aid/CPR.

Fits in with school requirements.

Varies with (1) Time allocation (2) needs of class (3) \$

Time

a) Juniors - as a unit in safety b) middle school - instruction of basic First Aid

It is the required method.

Part of PD/H/PE course. Instruction in other First Aid Courses.

I instruct and another teacher examines my class - for credibility and a second input for the students. We also do vice versa for his classes.

Part of PD/H/PE curriculum and elective courses.

Part of the curriculum.

# **Appendix D**

## **Letters of Permission**

*Ethics Committee Application and  
Approval*





# MEDICAL RESEARCH UNIT

University of Wollongong

Illawarra Area Health Service



5 October 1995

**APPROVED**

In reply please quote: DC:KM HE95/208

Further Information: Karen McRae (214457)

**Head of Unit:** Professor G.D. Calvert  
Professor of Medicine and Public Health

University of Wollongong  
University of New South Wales, and  
Illawarra Area Health Service

Ms Catherine Abbott  
34 Mt Keira Road  
WEST WOLLONGONG NSW 2500

Dear Ms Abbott,

I am pleased to advise that the following Human Research Ethics application has been approved:

Ethics Number:	HE 95/208
Project Title:	Evaluation of First Aid Taught in High Schools
Name of Researcher:	Catherine Abbott
Approval Date:	5 October 1995
Duration of Clearance:	31 July 1996

This certificate relates to the research protocol submitted in your application of . It will be necessary to inform the Committee of any changes to the research protocol and seek clearance in such an event.

Please note that experiments of long duration must be reviewed annually by the Committee and it will be necessary for you to apply for renewal of this application if experimentation is to continue beyond one year.

Chairperson  
Human Research Ethics Committee

cc. Head, Department of Nursing

# UNIVERSITY OF WOLLONGONG

## HUMAN RESEARCH ETHICS COMMITTEE

### INITIAL APPLICATION FOR APPROVAL TO UNDERTAKE TEACHING OR RESEARCH INVOLVING HUMAN SUBJECTS

(A separate application is required for each project)

1. Descriptive Title of Project Evaluation of First Aid taught in High Schools

2. Centre/School/Department/Institution in which research will be conducted:  
Department of Nursing, University of Wollongong

3. Address for Correspondence: Catherine Abbott  
34 Mt Keira Road  
West Wollongong 2500

4. Participants:

Name	Position/Appointment	Institution	Qualifications
<u>Chief Investigator(s)</u> Catherine Abbott	Post Graduate Student, Registered Nurse	University of Wollongong, Illawarra Regional Hospital	Registered Nurse, Diploma of Applied Science (Nursing), Grad Diploma in Nursing (Critical Care)

Other Participating Researcher(s)

Nil

5. Purpose of Project (Please tick only one box)

**Staff Research**

Has an application been lodged for external support for this project?

YES/NO (delete one)

Name of Organisation

Is a copy of the approval to be forwarded to the Granting Body?

YES/NO (delete one)

If YES, please advise of any deadlines

**Student Research**

Course undertaken (eg BSc(Hons)) Masters of Nursing (Hons)

Supervisor: Bill Janes

**Educational**

Subject Name:

Subject Number:

No. of Students:

## 6. Category of Experiments

Please enter relevant experiment category (ies) (see attached page 2), to be used in this project. At least one category should be entered:

 1.2 2.1

If category 7.1, please clarify:

## 7. Period of Research Clearance Requested (Please specify as near as possible "start" and "finish" dates for the conduct of research):

FROM: 31/07/95

TO: 31/07/96

**NOTE: RESEARCH MUST NOT COMMENCE UNTIL CLEARANCE HAS BEEN APPROVED.**

**When completing this application please answer questions in terms understandable to the layperson.**

## 8. Please provide a detailed explanation, in LAY TERMS of the aims, nature and conduct of this research: (Attach an extra sheet if necessary).

**Evaluation of First Aid and Resuscitation Taught in Schools.  
An Abstract.**

Knowledge of resuscitation is becoming an essential component of everyday life (Moore, Plotnikoff and Preston 1992;17). Time lost waiting for emergency personnel significantly increases morbidity and mortality (Sigsbee and Geden 1990;665) by up to 20 per cent (Pearn, Dawson, Leditschke and Petrie 1980;602). Survival suggests that the ability to resuscitate is a function of time, type and sequence of therapy (Eisenberg, Horwood, Cummins, Reynolds - Haertle and Hearne 1990;183).

The accepted definition of resuscitation is "the preservation or restoration of life by the establishment and / or maintenance of airway, breathing and circulation; and related emergency care given before definitive hospital care"(Australian Resuscitation Council 1993; Policy Statement No. 1:1).

Schools are the logical place to commence resuscitation and first aid training (Moore et al 1992;17). Indeed, the efficacy of teachers trained in resuscitation imparting that knowledge to their students is well documented (Van Kerschaver 1989;212). However, at present there is a decided lack of uniformity in the method of first aid and resuscitation instruction in NSW High Schools.

Following the death of a New South Wales school student while on excursion, a directive from the Director General of School Education (April 14, 1993) was issued requiring that at least one teacher accompanying students off site (excursions etc,) be trained in resuscitation.

The aim of this study is twofold. Firstly, to investigate the number of teachers with resuscitation training and secondly, to identify how many students are receiving resuscitation instruction while at school.

It is proposed that the research population will be derived from each of the 37 South Coast public high schools, aiming to receive responses from all 4000 teachers. Each school will receive 3 different questionnaires (i) for those who instruct students in resuscitation or are first aid personnel, (ii) for all teachers and (iii) for a selected number of students who have completed a resuscitation course.

Permission has been obtained from the regional office of the Department of School Education's Research Committee, and will be obtained from the University of Wollongong Human Research Ethics Committee and the Principal of each school. It is proposed that the study will start as a pilot at Figtree High School.

9. From what group(s) are the subjects to be drawn? (e.g. Healthy volunteers, hospital patients, students etc.) High School Teachers in the Illawarra Region and High School Students in the Illawarra Region.

Detailed method of recruiting subjects (e.g. Departmental notice boards, " circulars etc): Letters to principals in high schools in the Illawarra Region.

How many total subjects do you anticipate will be involved in the project? 4000

10. Subject Consent:

How does the project ensure that informed consent is freely obtained from the subject, or from the person who is legally responsible for the subject's welfare? (Attach copies of consent form and participant information sheets, questionnaires etc). The subjects will be asked to volunteer, without coercion. Consent forms will be obtained from guardians of minors.

11. Confidentiality:

What measures will be taken to protect the privacy of individual subjects in terms of the test results and other confidential data obtained? No personal information will be required at the time of data collection. Data will only be reviewed by the researcher. The consent forms will be filed separately from the obtained data.

12. Will information collected from data or interview be published? YES/NO

If YES, please indicate what form this will take (Please note that any further use of recorded information which may be used to identify an informant is conditional upon the informants permission for such use): Yes, publication in professional journals.

13. Will subjects be paid for participation in the research? If so, please elaborate. **No**

14. Does the project involve the use of drugs? **YES/NO (delete one)**

15. How does the project deal with the following ethical issues?

15.1 Freedom to discontinue participation? Subjects may withdraw from the study at any stage, or subsequently request that the data not be included in the study.

15.2 Deception (if any) **None**

16. Will any part of the experimental procedures described herein be placed on an audio tape, film strip, movie film or video tape, (excluding still photographs)?

**YES/NO (delete one)**

17. Does the project involve the use of invasive procedures (e.g. blood sampling) or the possibility of physical or mental stress? **YES/NO (delete one)**

18. What, if any, ethical problems can be foreseen in the conduct of this research? **None**

How do you intend to minimise the effects of, or respond to, these problems should they arise? **None are foreseen. Should any unforeseen ethical problems arise the actions would be to stop the study and refer problems to the Chairperson of this Committee if necessary.**

19. Does this project involve obtaining information of a private nature from any Commonwealth/State/Local Government Agency or any other Agency?

**YES/NO (delete one)**

20. If YES, which agency(s)? **N/A**

## **Declaration**

I, the undersigned, have read the current NH&MRC Statement on Human Experimentation and the relevant Supplementary Note to this Statement, and accept responsibility for the conduct of the experimental procedures detailed above in accordance with the principles contained in the Statement and any other condition laid down by the University of Wollongong's Human Research Ethics Committee.

**Chief Investigator's/s' signature/s:**

Date:

**If the Chief Investigator is a student:**

**Supervisor's Signature:**

Date:

**Head of Unit's signature:**

Date:

The first named other participant will assume responsibility for the project in the absence of the Principal investigator(s).

Completed forms plus necessary copies to be returned to:

The Secretary,  
Human Research Ethics Committee,  
Research Office.  
University of Wollongong  
Northfields Ave  
Wollongong NSW 2522

***Department of School Education***  
***Letter of Approval***



Regional Consultants Centre  
Vereker Street  
Mount Ousley. 2519  
Tel (042) 830 861  
Fax (042) 830 839  
28/6/95

Ms Catherine Abbott  
34 Mt. Keira Road  
West Wollongong 2500

Dear Ms Abbott

**Re: Your research proposal:  
"Evaluation of First Aid and Resuscitation Taught in Schools"**

Permission is granted to carry out the above research provided the following conditions are met:

- The principals of the schools involved agree to the research being carried out;
- Participation by teachers and students is voluntary and that permission is obtained from parents prior to students participating;
- Confidentiality of data is ensured;
- The Consent Forms include a contact phone number;
- At the completion of your project, a short precis of the research findings which may be used in a regional publication with due acknowledgements is forwarded to the South Coast Regional Research Committee.

This research approval is granted for 12 months. If your research is to continue beyond one year it will be necessary for you to apply to this Committee for a renewal of this application.

Please note that the Committee felt that the questionnaire could be improved if the questions are numbered. Also, some members expressed the opinion that the Yes/No response to some of the questions (eg. Would you like more practice?) would not provide the quantifiable data for making recommendations.

Please take a copy of this letter with you when you approach the principals involved. I hope that your research goes well.

Yours sincerely

Michael Connolly  
HSIE K-12 Consultant  
Executive Officer  
South Coast Regional Research Committee



***Edith Cavill Trust  
Scholarship Award***

# THE CAVELL TRUST

★  
★  
★  
★  
★  
★  
**PO BOX 40 CAMPERDOWN NSW 2050**

PHONE (02) 550 3244

FAX (02) 550 3667



SAM/GG/SEF

1st November 1995

Ms Catherine Abbott  
34 Mt Keira Road  
WEST WOLLONGONG NSW 2500

Dear Ms Abbott

I refer to your application for a Cavell Trust Scholarship. On behalf of the Trust Committee, I am pleased to advise that you have been awarded the sum of \$5,000 to assist you to carry out your research proposal on the Evaluation of First Aid and Resuscitation Taught in Schools.

Upon your written acceptance of this scholarship a cheque will be forwarded to you.

It is the understanding of the Trustees that scholarships, generally, will be taxable in the hands of the recipient although exceptions are provided in limited cases.

If you believe that the value of your scholarship is exempt from tax, it is suggested that you seek a ruling from the Australian Taxation Office or obtain advice from a registered tax agent.

I would like to extend to you the Trust Committee's best wishes.

Yours sincerely

Sandra Moait  
**CHAIRPERSON**

***Department of School Education***

***Code of Conduct***

# CODE OF CONDUCT



**NSW DEPARTMENT OF SCHOOL EDUCATION**

REVISED OCTOBER 1995

# CODE OF CONDUCT

## 1. INTRODUCTION

- 1.1 *As members of the Department we are accountable to the Parliament and to the community at large for the effective education of students, and for the efficient use of the significant sums of public moneys entrusted to the public education system. All staff share a special duty of care towards the students in the public education system.*
- 1.2 *This code of conduct has been formulated to clarify to staff the type of conduct that is expected of them in the performance of their duties. It is intended to provide practical assistance for staff members faced with ethical challenges.*
- 1.3 *Ultimately, it is up to staff to recognise the professional and ethical dimensions of their work and to give proper attention to the values which should form their actions and decisions.*
- 1.4 *A co-operative, collaborative atmosphere conducive to the promotion of integrity in the workplace will assist staff in the implementation of this code. It is the responsibility of delegated officers to foster such an atmosphere and provide guidance and personal and professional development.*
- 1.5 *Some of the requirements which come under the code of conduct are also the subject of specific provisions of various Acts. If there is any conflict between the code and the provisions of an Act or Regulation the provisions of the Act or Regulation will prevail.*

## 2. PUBLIC COMMENT

- 2.1 *Effective communication is a key facet of school management. Successful school management requires that school communities are kept fully informed of matters relating to the role, function and operation of their schools.*
- 2.2 *As indicated in the statement "The role of the Principal in the Public School System" (July 1992), principals are accountable to the Director-General of School Education. One element of that accountability involves principals working collaboratively with staff and parents and providing educational leadership by keeping their communities fully informed. This accountability also extends to all Departmental staff.*
- 2.3 *It is expected, therefore, that in the course of their official duties, principals and other staff will be called upon to make public comment on educational matters.*
- 2.4 *"Public comment" includes speaking engagements (including comments on radio and television), expressing ideas in letters or in books or notices where it is reasonably foreseeable that publication or circulation of the comments will flow to the community at large.*
- 2.5 *When speaking in their official capacity, principals and other staff should be cognisant of the policies and priorities of the elected government of the day and the policy positions of the Department. In these circumstances they should make comment which is positive and supportive of their colleagues and school community, which promotes public education and enhances the image of the Department and their school.*
- 2.6 *Other than in the course of their official duties, or where required by law, principals and other staff should not make public comment relating to official business or government policy.*
- 2.7 *While principals and other staff, as members of the community, have the right to enter into public debate on political and social issues, there are some circumstances in which public comment is inappropriate. These include all circumstances where it may be reasonably inferred that such public comment, although made in a private capacity, is in some way an official statement.*

- 2.8 A staff member, who is an elected or nominated spokesperson for a professional association or a union, is entitled to make public comments in relation to education matters in so far as it is clear that the comments represent the association or union views, and not necessarily those of the Department. Staff making such statements should clearly acknowledge the capacity in which they are expressing their views.

## **3. PERSONAL AND PROFESSIONAL BEHAVIOUR**

### **3.1 In performing their duties all staff should:**

- i. *be conscious of their special duty of care to the students of the NSW public education system*;
- ii. *develop their professional knowledge and exercise their professional judgement*;
- iii. *maintain an understanding of and work towards the purposes and goals of the Department;*
- iv. *be familiar with the provisions of any legislation relevant to their official responsibilities. The main legislation relating to the conduct and obligations of staff is: Education Reform Act, Teaching Services Act, Education (Ancillary Staff) Act, Anti-Discrimination Act, Freedom of Information Act, Public Finance and Audit Act, Public Sector Management Act, Independent Commission Against Corruption Act, Ombudsman Act, Protected Disclosures Act;*
- v. *comply with any legislative, industrial or administrative requirements;*
- vi. *comply with reasonable directions given by a supervisor/principal and adhere to official guidelines concerning the performance of their duties;*
- vii. *be fair in exercising delegated responsibility and promote personal and professional development of staff;*
- viii. *treat members of the public, students and other staff with courtesy and sensitivity;*
- ix. *use public resources economically;*
- x. *use information gained in the course of employment only for proper and appropriate purposes;*
- xi. *perform their duties efficiently and effectively with integrity and objectivity;*
- xii. *ensure that decisions are made fairly and conveyed promptly both within the Department and to those students and members of the public who have a right to know; and*
- xiii. *ensure that their professional actions reflect government and Departmental policy.*

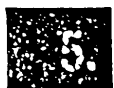
### **3.2 If there is doubt about the propriety of their behaviour staff should seek the guidance of their supervisor/principal.**

### **3.3 Supervisors/principals should ensure that staff are aware of their responsibilities under this code and provide staff with the necessary professional and personal development and support to ensure implementation of the code.**

## **USE AND SECURITY OF OFFICIAL INFORMATION**

- 4.1 The Freedom of Information legislation provides a formal mechanism for the disclosure of certain official information and documents. Therefore, under the provisions of that legislation and in accordance with policies and procedures, appropriately delegated staff acting as agents of the Department and not as individuals, are able to disclose information related to official business.

- 4.2 *Staff should maintain the integrity and security of all official information and/or documents for which they are responsible or to which they have access. Particular care must be taken with information and/or documents dealing with student welfare or student performance and staff records.*
- 4.3 *All staff must ensure that premises are secure and that suitable arrangements are in place to maintain security of confidential and sensitive documents.*



## 5. USE OF OFFICIAL FACILITIES AND EQUIPMENT

- 5.1 *Staff should ensure that resources, funds, personnel or equipment entrusted to them, are used effectively and economically in the course of their duties.*
- 5.2 *The services of other staff members or official facilities and equipment must not be used for private purposes unless prior approval has been granted. The only officers delegated to grant approval for private use are principals, district superintendents, directors, assistant directors-general and deputy directors-general.*
- 5.3 *Where prior approval has been granted, private use can only occur under the following circumstances:*
- *the use does not limit the access of colleagues to do their official work;*
  - *all consumables must be provided by the staff member;*
  - *the staff member assumes responsibility for lost, stolen or broken equipment in the event of neglect or wilful damage;*
  - *the staff member undertakes to comply with all relevant copyright legislation in the use of that equipment; and*
  - *a record is kept of the terms of the approval.*
- 5.4 *Departmental vehicles may be used only for official business. Details about the use of motor vehicles can be found in the Departmental Motor Vehicles User's Handbook.*



## 6. PUBLIC PARTICIPATION

- 6.1 *Staff need to ensure that their participation in political, religious or community matters does not bring them into conflict with their professional responsibilities.*
- 6.2 *Staff involved in the political arena whether as potential parliamentary candidates, as spokespersons or representatives for a political party, cause or movement should be aware of the potential for conflict of interest and should ensure that their political activities are kept quite separate from their Departmental employment.*
- 6.3 *Staff nominating as parliamentary candidates at elections must comply with the provisions of the relevant Commonwealth or State legislation, and resign from their positions in the Department at the time specified in the relevant Act.*

## PERSONAL INTERESTS

- 7.1 All staff are public officials and as such have an obligation to ensure that there is no actual or perceived conflict between their personal interests and their public and/or professional duties. Examples where conflicts of interest could arise include the following:
- Δ being involved in the tender process when your or an associate's business is a potential tenderer;
  - Δ assessing applications for community use of the school's hall when you are an active member of the local drama society which is seeking to book the hall; or
  - Δ being involved in the selection process or employment decisions involving a member of your family, or a close personal friend.
- 7.2 Staff have an obligation once they become aware that there is or may be a potential conflict between their personal interest and official duty (whether real or apparent) to immediately inform their supervisor/principal or an appropriate delegated officer and seek approval to proceed.

## 8. OUTSIDE EMPLOYMENT AND PRIVATE PRACTICE

- 8.1 The Director-General approves of teaching and public service staff engaging in external employment (including operating a business) provided that the employment is not in conflict and does not interfere with or adversely affect their Departmental duties, and provided it is undertaken with the knowledge and agreement of an appropriate delegated officer. Delegated officers are principals, district superintendents, directors, assistant directors-general and deputy directors-general.
- 8.2 Examples of circumstances where staff undertaking outside employment may create a conflict between public duty and private interest include:
- Δ the teacher's outside employment affects the efficiency and effectiveness of their Departmental role;
  - Δ the teacher who acts as a paid tutor or conducts a coaching college in which students from his or her school are enrolled;
  - Δ a teacher who has a management or controlling interest in a company that is selling computer or other equipment/services to that teacher's school; or
  - Δ the staff member who is employing contractors from a company in which the staff member's immediate family members have a management or controlling interest.
- 8.3 Where there is any doubt regarding a possible conflict of interest staff members must immediately inform their supervisor/principal or an appropriate delegated officer and seek approval to proceed.
- 8.4 Where there is no actual or perceived conflict a supervisor/principal or a delegated officer cannot reasonably refuse a staff member permission to engage in external employment when the following three conditions are met:
- Δ the employment does not affect the staff member's efficiency or effectiveness in performing their Departmental duties;
  - Δ any outside employment is performed wholly in the staff member's private time; and



△ no plant, equipment or facilities of the Department are used in connection with the outside employment.

8.5 The supervisor/principal or other delegated officer must maintain appropriate records in writing of approvals given to staff to engage in external employment.

8.6 In general, it is not necessary for staff to obtain permission to be involved in voluntary or unpaid activities. Where a conflict of interest arises between these activities and official responsibilities, staff have an obligation to raise the issue with their supervisor/principal or an appropriate delegated officer.

## **9. ACCEPTANCE OF GIFTS AND BENEFITS**

9.1 Staff must never solicit any gifts or benefits, nor accept gifts or benefits either for themselves or for another person, which might in any way, either directly or indirectly, compromise or influence them in their official capacity.

9.2 Gifts of a nominal value generally used for promotional purposes by the donor, or moderate acts of hospitality may be accepted by staff. As a general rule gifts valued at \$100 or more would not be considered nominal.

9.3 Gifts or hospitality offered as an inducement to purchase are not acceptable regardless of their monetary value. Recent examples of inducement include a bookseller offering teachers a personal dinner for two to the value of \$60 for every \$1,000 of textbook orders and an employment agency offering administrative staff theatre tickets valued at \$70 for each temporary person employed in excess of a week.

9.4 Acceptance of gifts and hospitality is a matter of judgement for the individual staff member who must be satisfied that his or her position will not in any way be compromised or appear to be compromised by acceptance of the gift or hospitality.

9.5 In any event the acceptance of a gift or benefit of a substantial nature (that is anything valued in excess of \$100) must have the specific approval of the principal, district superintendent, director, assistant director-general or deputy director-general, whichever is relevant.

## **10. NOTIFICATION OF CORRUPT CONDUCT, MALADMINISTRATION, OR SERIOUS AND SUBSTANTIAL WASTE OF PUBLIC MONEY**

10.1 It is important to know what may amount to corrupt conduct so that staff members can know how they or other staff are to behave. Corrupt conduct is defined in sections 7 to 9 of the Independent Commission Against Corruption (ICAC) Act. The definition is intentionally very broad but the key issue is misuse of public office in the public sector of New South Wales.

10.2 Corrupt conduct occurs when:

△ a public official carries out public duties dishonestly or unfairly;

△ anyone does something that could result in a public official carrying out public duties dishonestly or unfairly;

△ anyone does something that has a detrimental effect on official functions, and which involves any of a wide range of matters, including fraud, bribery, official misconduct, violence; or

- Δ *a public official misuses information or material obtained in the course of duty.*
- 10.3 *It is not corrupt conduct unless it involves (or could involve) a criminal offence, a disciplinary offence, or reasonable grounds to dismiss a public official. Reference should be made to the ICAC Act for more specific details.*
- 10.4 *The Director-General has a duty under the Act to report to the ICAC any matter that he suspects on reasonable grounds, concerns or may concern corrupt conduct.*
- 10.5 *The Protected Disclosures Act offers protection for public officials who make disclosures which concern:*
  - Δ *corrupt conduct;*
  - Δ *maladministration; or*
  - Δ *serious and substantial waste of public money.*
- 10.6 *Protection is not available for disclosures which;*
  - Δ *are frivolous or vexatious;*
  - Δ *primarily question the merits of government policy; or*
  - Δ *are made in an attempt to avoid dismissal or disciplinary action.*

*Reference should be made to the Protected Disclosures Act for more specific details.*

- 10.7 *Each principal, district superintendent, director and assistant director-general has the responsibility to establish and maintain an appropriate mechanism to ensure allegations of corrupt conduct, maladministration or waste of public money, can be made to them, acted upon, and the results of that investigation reported to the Department's Special Investigations Committee.*
- 10.8 *Complaints or reports can be made to a nominated officer in schools, district offices or State Office. The nominated officer is generally the principal in a school, the district superintendent in a district office, or an assistant director-general or director in State Office. That officer has a duty to ensure the confidentiality of the information, the identity of the complainant, and to investigate or commission an investigation of the complaint.*
- 10.9 *Staff who make genuine complaints or reports about alleged corrupt conduct, maladministration or waste of public money, will not be prejudiced in their employment or otherwise in any way. If however, they perceive that this may occur, or they are reluctant for any other reason to report a matter to the nominated officer, they should make their complaints through the Director of Audit or through the Director of Legal Services. Staff may also make complaints direct to the ICAC, the Ombudsman or to the Auditor-General.*

## CONCLUSION

- 11.1 *This code reflects a contemporary view of professional behaviour and practice for staff in the Department of School Education. To maintain its currency and value, the code may be altered from time to time to take account of changed circumstances or new situations.*
- 11.2 *If a staff member is in doubt as to the appropriate course of action to be adopted on any circumstance, the matter should be discussed with a more senior officer or raised formally with the relevant principal, district superintendent, director or assistant director-general.*

# *Correspondence*

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