SCHOOL RISK MANAGEMENT PRACTICE: A PILOT STUDY

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ABSTRAK

Tujuan kajian ini ialah untuk menyiasat perhubungan di antara pengurusan risiko dan amalan-amalan keselamatan yang relevan oleh 28 orang pentadbir sekolah rendah dan menengah di bandar, Sungai Siput (U), Perak.

Faktor-faktor yang ditimbangkan dalam kajian ini adalah pembolehubah bebas: Pengenalan Risiko, Penilaian Risiko, dan Pengawalan Risiko, dan sifat-sifat peribadi pentadbir sekolah: jantina, umur, kategori perkhidmatan (paras pendidikan), tahun dalam perkhidmatan dan bangsa.

Suatu soalselidik telah dicipta untuk mengukur amalan keselamatan relevan oleh pentadbir sekolah dan pengukurannya dikenali sebagai Amalan Pengurusan Risiko. Kajian ini telah menunjukkan bahawa 64.28 peratus pentadbir sekolah sentiasa mengamalkan pengurusan risiko di sekolah masing-masing.

Hasil kajian ini menunjukkan bahawa Pengenalan Risiko, Penilaian Risiko, dan Pengawalan Risiko adalah berhubung secara signifikan dengan Amalan Pengurusan Risiko. Sifat-sifat peribadi pentadbir sekolah tidak menunjukkan sokongan terhadap hubungkait signifikan dengan Amalan Pengurusan Risiko.

ABSTItACT

The purpose of this study was to investigate the relationship between risk management and relevant safety practices of school administrators of 28 primary and secondary schools in the town of Sungai Siput (U), Perak.

The factors considered in this study were the independent variables: Risk Identification, Risk Assessment and Risk Control and the personal characteristics of the school administrators: gender, age, service category (educational level), years of service and race.

A questionnaire was developed to measure the relevant safety practices of the school administrator and its measurement is known as Risk Management Practice. The study conducted show that 64.28 percent of the school administrators carried out regularly risk management practices in their respective schools.

The findings of this study show that Risk Identification, Risk Assessment and Risk Control are significantly related to Risk Management Practice. The personal characteristics of the school administrators do not appear to be significantly related to Risk Management Practice.

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C H A P T E R 1

1.0 Introduction

This chapter describes the background and purpose of the study: research problems, questions and hypotheses: and significance of the study.

1.1 Background of the study

A working definition of Risk Management given by Gordon et al, (1994) of The Chartered Institute of Insurance, London is as follows:

The identification, analysis and economic control of those risks which can threaten the assets or earning capacity of an enterprise.

Risk Management is a management area in which many managers, principals and headmasters are unaware of i.e., possibly due to the limited knowledge of what it is or through hearsay only.

As educational institutions, be it a primary or secondary school, we are more likely than any type of organization to be involved in a major fire and we have

enormous legal liabilities owing to the great numbers of all kinds of people, viz., students, parents, academic and non-academic staff, and the general public who passed through the schools. But, as more and more parents are educated, the demand for schools which provide safe learning environments will increase. Thus, school administrators must bear a heavier responsibility in managing risks and transferring some of these inherent risks to the professional risk takers which are usually the insurers.

Vaughan and Vaughan (1995) explained that risk management is a scientific approach to the problem of dealing with the pure risks faced by individuals and businesses. They said that it is a function of management in the same style as marketing management, financial management, or personnel management.

Khairudin Damhoeri (1995) defined risk management as: "the process of making and carrying out decisions that will minimize the adverse effects of accidental losses upon an organization",

In simple layman terms, risk management is the application of a set of techniques to enable an organization to run more efficiently and economically by controlling potential risks thus reducing unnecessary economic losses of assets and earning capacity of the

organization or individual and the wanton losses of lives. The manager of an organization have the ultimate responsibility for dealing with all risks facing the organization. The principles of risk management are just as applicable in the service and manufacturing sectors and are of equal importance in the public and private sectors of the economy. Therefore, in the school environment, the principal of a secondary school or the headmaster of a primary school will have to shoulder all the responsibilities of dealing with all sorts and types of hazards and risks inherent in the school organizations.

From a survey of newspapers reports published by the local newspapers during the last two years, many unwarranted accidents have occurred in the schools which could have been prevented or reduced (refer to Appendices A 1 - A 20). This leads to several questions on the capability and competence of the school administrators in this area of risk management:

1. Are these school administrators aware of the potential hazards and risks occurring in their schools?

2. Are these school administrators capable of handling these risks, when occurred?

3. Have they taken the necessary precautions and steps in dealing with these inherent risks in their school environments?

4. Do these school administrators have a standard operating procedure or an emergency response plans in dealing with risks or do they just practise 'crisis management' whenever an unfortunate accident occurred?

The researcher, from his personal experiences in managing a secondary school; contact with other principals: and discussions with one's colleagues seemed to indicate that there are many areas of risk management in the schools in which the school administrators have been unaware of, or *if aware' have directed scant or hardly any attention on risk management in their respective schools.

1.2 Purpose of the Study

The purpose of this research study was to investigate the extent of risk management which is practised in primary and secondary schools in the town of Sungai Siput (U), Perak. In addition, this research attempted to determine whether Risk Management Practice is moderated by personal characteristics of the school administrators consisting of gender, age, service category (educational level), years of service and race.

1.3 Research Problem

To examine the relationship between risk management and relevant practice of school administrators of secondary and primary schools regarding each of the following factors:-

1. School administrators' profile (gender, age, service category, years of service and race)
2. Risk identification, risk assessment and risk control

1.4 Research Questions

This study attempted to provide answers to the following questions:-

Question 1: Are school administrators aware of risk management and to what extent is risk management practised in schools?

Question 2: What is the distribution and the level of Awareness of Risk Management Profile of the school administrators?

Question 3: Do the three independent variables of Risk Identification, Risk Assessment, and Risk Control explain the variance in Risk Management Practice?

Question 4: Is there a correlation between Risk Management Practice with Risk Identification, Risk Assessment, and Risk Control?

Question 5: Do the four independent variables of age, service category, years of service and race explain the variance in Risk Management Practice?

Question 6: Are there differences in Risk Management Practice with various age groups of the school administrator?

Question 7: Are there differences in Risk Management Practice with the various service categories (educational levels) of the school administrator?

Question 8: Are there differences in Risk Management Practice with the various years of service of the school administrator?

Question 9: Are there differences in Risk Management Practice with the various races of the school administrator?

1.5 Research Hypotheses

The following null hypotheses guided this study:

H_{01}: The three independent variables of Risk Identification, Risk Assessment, and Risk Control do not significantly explain the variance in Risk Management Practice.

H_{02}: Risk Management Practice is not significantly correlated to the independent variables of Risk Identification, Risk Assessment and Risk Control.

H_{03}: The four independent variables of age, service category, years of service and race do not significantly explain the variance in Risk Management Practice.

H_{04}: Risk Management Practice will be the same irrespective of the various age groups of the school administrator.

H_{05}: Risk Management Practice will be the same irrespective of the various service categories (educational levels) of the school administrator.

H_{06}: Risk Management Practice will be the same irrespective of the various years of service of the school administrator.

H_{07}: Risk Management Practice will be the same irrespective of the various races of the school administrator.

1.6 Significance of the Study

The results of the findings and recommendations can be generalized to other schools in Malaysia, hence reducing the risk variables and factors in other schools. This not only saves the Government properties worth millions of dollars from fire hazards, but also reduces and minimizes the human economic waste and human sufferings from careless accidents and unfortunate incidents such as kidnappings and sexual harassment. It is possible that a 'Risk Management Check-list' and 'Risk Management Manual' would be developed from this research to be used by primary and secondary schools. Therefore, with the help of a check-list, school administrators will be implementing risk management in schools enhancing not only a clean, green but safe and conducive environment where the schools would become safer places to study.

1.7 Limitations of the Study

This study was limited by the following:-

a. Generalization of the findings which is limited to the twenty eight secondary and primary schools in the town of Sungai Siput (CT), Perak.

b. Time constraint of collecting data from the respondents, i.e., school administrators who were on their annual leave.

c. The use of population as a sample for this study as three schools were excluded due to the rural location.

C H A P T E R 2

LITERATURE REVIEW AND RELATED CONCEPTUAL FRAMEWORK

2.0 Introduction

This chapter describes the literature review: related conceptual framework of risk management cycle with risk identification, risk assessment and risk control: research model and the operational definitions.

2.0.1 Rationale of Risk Management

The Ministry of Education has finally implemented the mandatory standard protection scheme for all Government school children under which they will have 24-hours insurance cover. This scheme is known as the Takaful Insurance Protection Scheme and every student has to pay a token premium of RM1.50 annually. The development and implementation of this scheme was hastened due to two tragic accidents which had happened earlier in the year of 1995:

a) On the 15th of January 1995, a school boy, Tee Ah Keong, of Sekolah Menengah Datuk Bahaman, Mentakab, died when he stumbled and fell on a javelin sticking out of the ground, injuring his right eye. He had gone to retrieve the javelin which he had thrown earlier (refer to Appendices B 1 to B 5).

b) On the 28th of January 1995 another school boy, Rajamuthu Krishnan of Sekolah Menengah St Anthony, Teluk Intan, died of severe brain damage after he collided with an opponent during an inter-class soccer match (refer to Appendices B 1 to B 5).

Unfortunately, both students were not insured - a loss to the nation.

The researcher while being a senior assistant in a Grade A secondary school can recollect some incidents in his school:-

a) a ceiling fan broke and fell down and hit a few students who were sitting below the fan in the classroom. This was due to the wear and tear of the old fan and poor maintenance of the classroom.

b) a girl student was hit in the head by a shot-putt during the sports practice. She suffered a slight concussion and a terrible headache.

c) a few students were stung by hornets when they started to throw stones at the hornets' nest which was high up in one of the trees located in the school compound.

d) many students involving in motor-cycle accidents resulting in broken and fractured legs and hands as many of the upper secondary students use motorbikes to come to school.

Hence, the administration of primary and secondary schools are areas of paramount importance whereby there cannot be any question of compromise, neither shirking of responsibilities nor lackadaisical attitudes.

In February 1994, the Government of Malaysia, had gazetted the **Occupational Safety And Health Act, 1994,** which stresses on the philosophy that those who create the risk and those who work with the risks must be made responsible and accountable to ensure safety and health at the work places. Obviously the person who creates risks is the employer and the person who works with risks or involved in risks situation is the worker. The guiding principles to this philosophy are self-regulation, co-operation among employers and employees and consultation amongst employees, employers and the government at national level. The salient point is that

the **Occupational Safety And Health Act, 1994,** has provided a basis for a SAFETY MANAGEMENT SYSTEM to be adopted by the employer in **all** economic sectors, including the public services and statutory authorities, except for employees subjected to the Merchant Shipping Ordinance and those in the armed forces. Hence, this wind of change of safety management should be applied to the school environment.

Ahmad Nordeen (1995) reported that the industrial accident statistics of Malaysia show an increasing trend as more and more employees are exposed to an increasingly hazardous work environment. He further reiterated that **Malaysia is** losing as much as RM 4 billion a year due to industrial accidents (according to ILO) taking into account the production losses, taxes, wages and other intangible costs e.g. loss of reputation. According to the Human Resources Ministry, industrial accidents in Malaysia rose by 24 % to 133,293 in 1993 from 107,479 in 1989. This rate could be further lowered through greater focus on preventive measures and determination to reduce accidents at work places. The key to achieving this is the change of attitudes, especially **those** in top management as well as the employees themselves.

The implication to the school administrators is that as the next generation of work force comes from the school leavers of secondary schools, the early exposure of safety management at their respective schools which practise risk management, would not be an alien work culture and practice for these school leavers when they are working at the work places. Thus, simple safety management practices such as wearing of safety goggles at the science laboratories: use of aprons at their work-shops: the disciplined acquiescence of safety guidelines, rules and regulations on displayed notice boards and sign boards: would have developed and nurtured in these school students the perception of good personal risk management.

2.1 Literature Review

2.1.1 School Environment

Educational institutions such as primary and secondary schools are unusual in that most of the time employees are severely outnumbered by non-employees. Students make up the bulk of the non-employees but increasingly institutions invite others to their premises for sporting and leisure purposes such as badminton, football and swimming activities at the schools' courts, fields and swimming pools.

In the 1,600 Malaysian schools, there are approximately 141,000 non-graduate teachers, 47,000 graduate teachers and 40,000 teacher trainees in the various teachers' training colleges. There is an estimated 4.2 million school going students in these schools. This great number of people in educational institutions, implies that virtually every legal rule applying to health, safety standards and safety law will have relevance to the school administrators.

In some of these new educational institutions, the buildings are modern and purpose-built for teaching, learning as well as for living in the hostels. On the other hand, in old educational institutions built during the pre-war years, accommodation is cramped, inappropriate or in serious need of repair or upgrading (refer to Appendix A 19). All these physical features have again relevance for health, safety standards (especially fire) for the school administrators.

Educational institutions are not popularly thought to be dangerous places to work. The Annual Reports of the Health and Safety Commission in England (1993), revealed that the serious injury and death rate for employees in service sectors generally is around 50 per 100,000 each year. The Reports continued that, in railways it is 225, in medical and health care 43, in recreational

services 55, but in the whole of the education service it is around 64. These figures include only employees, with many of the unrecorded incidents probably involving non-employees such as students and visitors. However, the statistics do **not** provide comfort for the idea that educational institutions are safe.

The analysis shown by the above Reports indicated that the type of accidents and injuries are varied but trips and falls, cuts, scalds and accidents in laboratories have tended to dominate the data. Sports and leisure accidents are also important. Other common types of accidents are collisions between vehicular and pedestrian traffic, injuries through lifting or carrying, or by being struck by a moving or falling object. Less likely to occur are explosions, building collapses and the like, though fire is a mounting hazard. All these are traditional issues.

Leighton (1995) included several major issues affecting educational institutions which have been given considerable mass media attention such as:-

- Violence and sexual attacks especially against women and ethnic minority students.
- Smoking, and the dangers of passive smoking, drug and alcohol abuse.

- Problems associated with personal and property security.
- Sexual harassment,
- Stress related disorders affecting staff and students.
- Transport accidents, especially between campuses.

Leighton (1995) asserted that injuries, incidents, and ill-health affecting employees and non-employees (students) can give rise to some legal duties.

Similarly, in the Malaysian context, violence, sexual attacks and harassment (including rapes), abductions and kidnappings in schools are now firmly on the mass media (refer to Appendices A 17 and A 20).

2.1.2 The causes of accidents and ill-health

Many observers of the health and safety scene have commented on the lack of significant improvements in health and safety standards over the last two decades despite better building quality, new technology and improved awareness of hazards and risks generally. This issue is a vital one for effective risk management

because even with huge investment and new equipment, if there is no real understanding of the psychological dimension, significant improvements may not be made.

Sir Bob Reid, Chairman of British Rail at a conference in November 1993 commented, following the enquiry into the Clapham Rail disaster that:

"all accidents have a human trail. Accidents do not happen, they are caused. Even in the most sophisticated working environments or with high technology equipment, human err is by far the highest cause or contributor to accidents."

Leighton (1995) added that health and safety management is not always perceived as a major topic of relevance to most academic work: if problems arise they are thought to be capable of resolution by applying common sense. There is, then, a tolerance of a level of accidents or injuries which are thought inevitable or are the expected consequence of a busy environment with lots of young people and perhaps high spirits. The topic of safety in school is often seen as a routine, mechanistic, boring or marginal activity. All agreed that, without support of senior management, adequate resources and a recognition that health and safety management is the essence of good management generally, improvements will not occur.

This has lead to remarks by Dr. Toh Chin Nee (February, 1996), Consultant Child and Family Psychiatrist, Kuala Lumpur General Hospital, that parents play a major role in ensuring a child's safety by teaching them how to adapt and react if a situation arises. Teachers, school bus drivers and security guards only play supplementary roles when he commented on the abduction of a ?-year old student, Tin Song Sheng from SRJK(C) Taman Rasah, Klang on the 12th January 1996. Dr Toh reiterated that parents must no longer take their children's safety for granted, the onus still lies with parents to teach their children to protect themselves.

2.1.3 **Damage to property**

Jory (1994) reported that educational institutions such as schools face three main areas of risks viz.,

a) damage to property:

b) loss of revenue:

c) legal liabilities.

The most serious potential property risk to an educational institution is fire.

The Fire Prevention Association of England had compiled statistical information on fires exceeding £250,000 between December 1990 till November 1991.

Table 2. 1: Analysis of fire by building type:Dec 1990 - Nov 1991

Where the > ~250,000 loss fires started	Number of fires	Estimated loss £'000s
Educational establishments	46	**45,993**
Warehouses, wholesalers	24	32,400
Textiles and clothing factories	17	15,583
Clubs, pubs and restaurants	17	11,819
Engineering factories	16	**21,544**
Multiple occupancy	16	**45,993**
Shops	15	**8,726**
Chemical and plastic works	11	**5,295**
Timber, furniture, and upholstery firms	9	4,484
Food and drink industry	8	12,725
Dwellings	8	**11,415**
Unoccupied buildings	8	3,450
Printing industry	7	6,535
Farms	7	2,303
Hotels, hostels and boarding houses	5	2,100
Clubs, pubs and restaurants	17	11,819
Construction industry	4	5,979
Places of public entertainment	3	**978**
Churches	3	**a97**
Paper Industry	2	1,720
Leather and leather goods	1	420
Pottery, brick, and cement factories	1	350
Other known establishments	51	54,288
Total	279	260,730

Table 2.2: Analysis of fires by cause : Dec 1990 - Nov 1991

How the > £250,000 loss fires started	Number of fires	Estimated loss £' 000s
Malicious ignition	**90**	57,252
Unknown	66	**80,990**
Under investigation	49	73,026
Electrical equipment	28	18,210
Friction, heat and sparks	19	14,655
LPG equipment	9	5,092
Smoking materials	8	6,500
Spontaneous combustion	3	1,125
Mains gas equipment	3	830
Acetylene equipment	1	725
Other causes	3	2,325
Total	279	260,730

From Table 2.1, educational institutions had the greatest number of fires incidents.

From Table 2.2, the biggest problem facing educational institutions, is malicious ignition, often referred to as arson. While it is true to say that primary and secondary schools are the prime targets all properties associated with education are at risk. This is due to the fact that apart from malicious ignition other potential causes in educational institutions are as follows:-

a) electrical equipment and installation:

b) heating equipment;

c) smoking materials:

d) laboratory equipment;

e) cooking and kitchen equipment.

In 1990, there were 46 fires in educational establishments exceeding £250,000 in cost as shown in Table 1. This is not surprising as ordinary classrooms have been the origin for many fires.

While addressing a seminar on ***Loss, Prevention and Risks Control*** in Kuala Lumpur (December, 1995), Housing and Local Government Minister, Datuk Ting Chew Peh reiterated that about RM 1 million is lost daily in fires, an average of 36 fires break out everyday throughout Malaysia.

According to the statistics given by the Fire Services Department as indicated in Table 2.3, ***10,282*** cases of fire were recorded in the first eight months of 1995. About RM 252 million worth of property went up in flames while 20 lives were claimed. These statistics are indeed alarming for a small and developing country like Malaysia. The Fire Services Department director-general,

Mr Soh Chai Hock (December, 1995) said that the majority of the tragedies are attributed to human carelessness and only one percent to "acts of God".

Table 2.3: Analysis of fire disasters in Malaysia

	Year	Total loss (RM millions)	Death	Injury
	1991	347.89	**77**	**171**
	1992	**425.64**	**70**	**72**
	1993	**440.04**	**62**	**90**
	1994	**371.27**	**80**	129
*	1995	**252.79**	**20**	**21**

* (till August 1995)

2.1.4 Factors causing fire in classrooms

The following factors contribute to the severity of fires in primary and secondary schools:-

a) combustible construction, especially timber in walls, floors, and roof supports;

b) combustible internal partitions, linings and ceilings:

c) large undivided buildings or ranges of buildings;

d) old buildings, sometimes adapted for present use.

2.1.5 Other risks in schools

Other risks threatening property such as buildings and contents are:-

a) malicious damage and vandalism:

b) explosion, for example, air compressors, gas supplies, and chemistry laboratories

c) storm and wind damage:

d) water and flood damage:

e) lightning can cause damage and disrupt sensitive electronic equipment such as radios, televisions and computers:

f) subsidence and heave:

g) theft;

h) employee dishonesty.

Controlling many of the above examples of risks can be done by good building designs, and later by ensuring buildings, machinery, laboratories and equipment are well maintained. There are frequent incidents when damage

occurs which is due to lack of maintenance rather than sudden or unforeseen damage.

To reduce losses from theft and employee dishonesty, security arrangements need to be closely investigated and systems of check introduced into financial departments.

Although, much of the actions taken to reduce risks and hazards affecting property will be voluntary and common-sense. How many school administrators are aware of it? Do they perform risk management on the school properties on a regular basis?

If these steps are taken seriously, it will reduce risks of fire and explosion as well as protect employees, teachers, students and others.

2.1.6 **Loss of revenue**

All major incidents will prevent institutions from educating its students and they may be sent elsewhere, causing inconveniences to the parents and students alike and even to the loss of revenue. Last year, students from SRJK Convent, Ipoh had to be housed temporarily in another primary school due to the cracks in the walls of the classrooms and subsidence of the school ground due to the piling and construction of a giant and huge supermarket being built next door.

Even a small fire could cause a disproportionate loss of revenue, for example, computer and office records being destroyed. Adequate protection of electronic data and paper records by using fireproof cabinets will reduce the risk to a minimum.

Insurance will be able to cover the school for fixed operating costs, increased costs incurred in continuing activities or loss of operating revenue following damage to buildings and contents. Risk management implemented to reduce damage to property will also be of benefit to maintaining the ability to operate an educational institution.

2.1.7 **Legal framework**

It is imperative to note and appreciate the basic legal framework applicable to safety in the school environment.

Legal ability can arise in three ways:-

a) under contract of employment:

b) under the common law of tort which includes negligence, trespass, nuisance, libel, slander and defamation:

c) by statute or statutory duty.

Contracts of employment of all teaching staff contain implied obligations as well as express ones, such as terms relating to pay and hours of work. Implied obligations consist of three key areas of relevance to safety, viz., provision of a safe workplace, provision of trust and support and the obedience of lawful orders.

The implication is that the school teachers should operate equipment safely and inform the school administrator of any health and safety shortfalls.

At the present moment, most school administrators would ask parents or guardians to sign an indemnity form with a clause, that specifies that the school administration are not responsible for any accidents for activities conducted outside the school compound. Based on the principle of "***Res Ipsa Loquitur***", where "***the thing speaks for itself***", school administrators could be challenged if any untoward incidents happen during outings such as educational study tours outside the schools: collecting data and information for projects especially in Geography and History at the Form Three levels for the public examination, PMR; co-curriculum activities after schools such as camping and hiking. Thus, school administrators and teachers who are involved in field trips and co-curriculum activities must be aware of risk management.

The major sources of danger and the likely causes of injury in a primary or secondary school will include:-

a) defective roads and pathways within the grounds;

b) lifts in buildings;

c) poor condition of floors and stairways, including sub-standard lighting;

d) food poisoning from canteen and other food-vending machines;

e) legionella bacteria from water cooling system for air conditioning plant and other water systems:

f) recreational facilities such as sports ground, basket-ball, tennis and badminton courts;

g) motor vehicles and transport with defective servicing of vehicles.

h) laboratory chemicals and equipment in particular poor labelling, and poor safety equipment;

i) maintenance work and lack of maintenance with inadequate supervisors:

j) work by contractors and sub-contractors:

k) environmental pollution with waste disposal;

l) accommodation such as hostels and halls of residence;

m) broken or defective furniture and fixtures and fittings.

The majority of claims for bodily injury are likely to be actions for negligence. Thus, everybody, and all primary and secondary schools are no exception, owes a legal duty of care to prevent injury or damage to others. But if it can be shown, or better still proved, that everything had been done to minimize accidents, damages may be set taking this into account. One element of risk control in the legal liability field is, not only to comply with legislation, but to be able to prove it. Therefore records need to be kept of training and issue of protective clothing and equipment (gloves and goggles) ; and ideally staff should sign to show they have received training of equipment.

Once the various risks have been identified and measured, it is possible to proceed to the control of risks.

Hence, this emphasizes the importance of loss prevention as opposed to relying purely upon insurance as a solution to the problem of risk management.

2.1.8 Risk Awareness

Risk awareness takes into consideration inherent risks and personal characteristics.

a) Inherent risks

As Peter F. Drucker **(1973)** put it:-

"To try to eliminate risk in business enterprise is futile. Risk is inherent in the commitment of present resources to future expectations. Indeed, economic progress can be defined as the ability to take greater risks. The attempt to eliminate risks, even the attempt to minimize them, can only make them irrational and unbearable. It can only result in that greatest risk of all: rigidity."

Drucker (1977) including 'speculative' risks in his definition and stated that without risk, the entrepreneur would have no future. 'Changes in entrepreneurship', as Drucker inferred, means uncertainty and risk. These were reflected in the technological risks in the last decade that had brought huge economic losses and loss of lives in incidents such as:

- 'Thalidomide', side-effects of birth control drugs.
- 'Three Mile Island', Pennsylvania, 1979, nuclear reactor leakage.

- 'Bhopal', India, 1984, chemical leakage, 2800 deaths.
- 'Chernobyl', Soviet Union, 1986, nuclear reactor explosion, 31 deaths.
- 'Sea Empress', Wales, February 1996, tanker spills, 65,000 tonnes of oil.

These tragic incidents could have been prevented or could have reduced if the people's risk awareness of, risk perception and attitude to technological risks were increased. Without an awareness of the risks involved, organizations and their employees, could be reluctant to implement risk management and proactively impose risk control measures. This fact is repeated in everyday scenario. There are those who voluntarily assume risk by participating in some dangerous sports, or select a hazardous occupation. On the other hand, there are some who rarely venture out of their armchairs, prefer sedentary jobs and insure everything in sight. In other words, the risk behaviour of an individual, whether he is a risk preferrer or risk averse, may be seen as the visible evidence of that individual attitudes and awareness.

In the 1930s, the psychologist, Kurt Lewin as reported by Gordon et al (1994). suggested that:

"behaviour is a function of the interaction of a person's inner determinants, including attitudes, and environmental features as perceived by the individual,"

Yet, after a period of sixty over years, the same observations on risk awareness has not changed.

In 1994, Dr Lawrence Phillips, of the London School of Economics at the United Kingdom Institute Of Risk Management conference in London, pointed out that:

"If risk is to be managed effectively, it is necessary to crawl inside the head of the beholder, and understand how he or she sees the situation that is thought to be characterised by risk, for what you then do about the risk depends entirely on how a person sees it."

b) **Personal characteristics**

Douglas (1985) cited works which indicated that individuals are erratic in their over-estimation or under-estimation of different risks: that the dangers of rare events tend to be over-estimated, whilst common risks are under-estimated; and that people tend to err on the optimistic side about hazards which flow from their own actions.

Hence in the school environment, it is possible that different school administrators would have different risk awareness based on their own attitudes and perceptions.

It implies that, school administrators who have increased risk awareness would be more proactive towards risk management and vice versa.

In the same light, school administrators who have longer tenure of service (more experiences) and who are more higher qualified would have a higher risk awareness. Similarly, they would be more proactive towards risk management and vice versa.

Ahmad Nordeen (1995), summarized that the following features of a safety and health management programme has a greater chance of success:-

a) Visible top-management commitment to safety and health,

b) Safety made a line-management responsibility.

c) Well planned safety and health training.

d) Thorough investigation and follow-up of all incidents.

e) High level of motivation and communication.

f) Competent safety advisor /professional.

g) Efficient and committed safety committees.

h) Implementation of various appropriate techniques to measure safety performance.

These features correspond to the salient stages of the risk management cycle which is presented under the following section of related conceptual framework.

2.2 Related Conceptual Framework

This section discusses the risk management cycle and its related dimensions consisting of risk identification, risk assessment and risk control and its operationalization framework.

2.2.1 Risk Management Cycle

The Institute of Risk Management, London, (1991) defines risk management as being concerned with:

'the identification, measurement, control, financing and transfer of risks which threaten life, property and the continued viability of enterprises."

Similarly, Warner and Kelly (1994) defined risk management as:-

"The identification, Measurement and economic control of risks that threaten the continued provision of essential services."

Risk management requires managers and school administrators to be proactive, to seek out and identify problems before they surface. It requires anticipation of likely problems and the adoptation of strategies, procedures and effective practices to reduce all potential risks.

Risk management is a dynamic and continuous function and its cycle usually involves three main dimensions. The three dimensions of the risk management cycle are:-

a) Risk Identification

b) Risk Assessment

c) Risk Control

a) Risk Identification

The main purpose of identifying risks is to establish the potential losses an organization could face. Example of risks such as fire need to be analysed, what causes a fire, and what may influence the effect of fire on wooden furniture. The methods of identifying risks is usually implemented by :

(i) a physical survey of the premises or school compound,

(ii) asking questions and discussion with the school staff, non-academic staff and the school administrators.

b) Risk Assessment

Risk assessment is concerned with deriving the frequency and severity of an incident. In other words, how often a loss is likely to occur or the probability of that event happening, and how much it is likely to cost in monetary terms or the potential consequences of the risk. Those risks which are considered of significance will required further action, whilst insignificant risk will usually be ignored.

c) Risk Control

Often only one method of controlling risks is used i.e., transferring the risk to insurers. This is done frequently but not always to the benefit of the insured, If losses rise, insurers will raise premiums to recoup the money paid out in claims. To keep insurance costs low, efforts should be made to avoid and prevent risks and possibly reduce all or some risks.

Avoiding or preventing risks is one area of risk control which can be easily used with or without guidance from outside consultants. Common sense is the basis of much risk control with the application of experience and technical knowledge. In other words, regular reviews of the current or planned approaches to controlling the risk and adding new potential controls when required.

In addition, risk minimization through preventive measures such as training, supervision, discipline, safe school premises, and safety committees are different facets of risk controls.

Ideally, measures taken to reduce, or better still eliminate losses should be effective before the event. Even in the best run organizations, incidents occur resulting in damage or injury and contingency plans to reduce the effects of a loss have been proven benefit in the past.

The three dimensions are depicted in Figure 2.1 - The Risk Management Cycle And Its Dimensions.

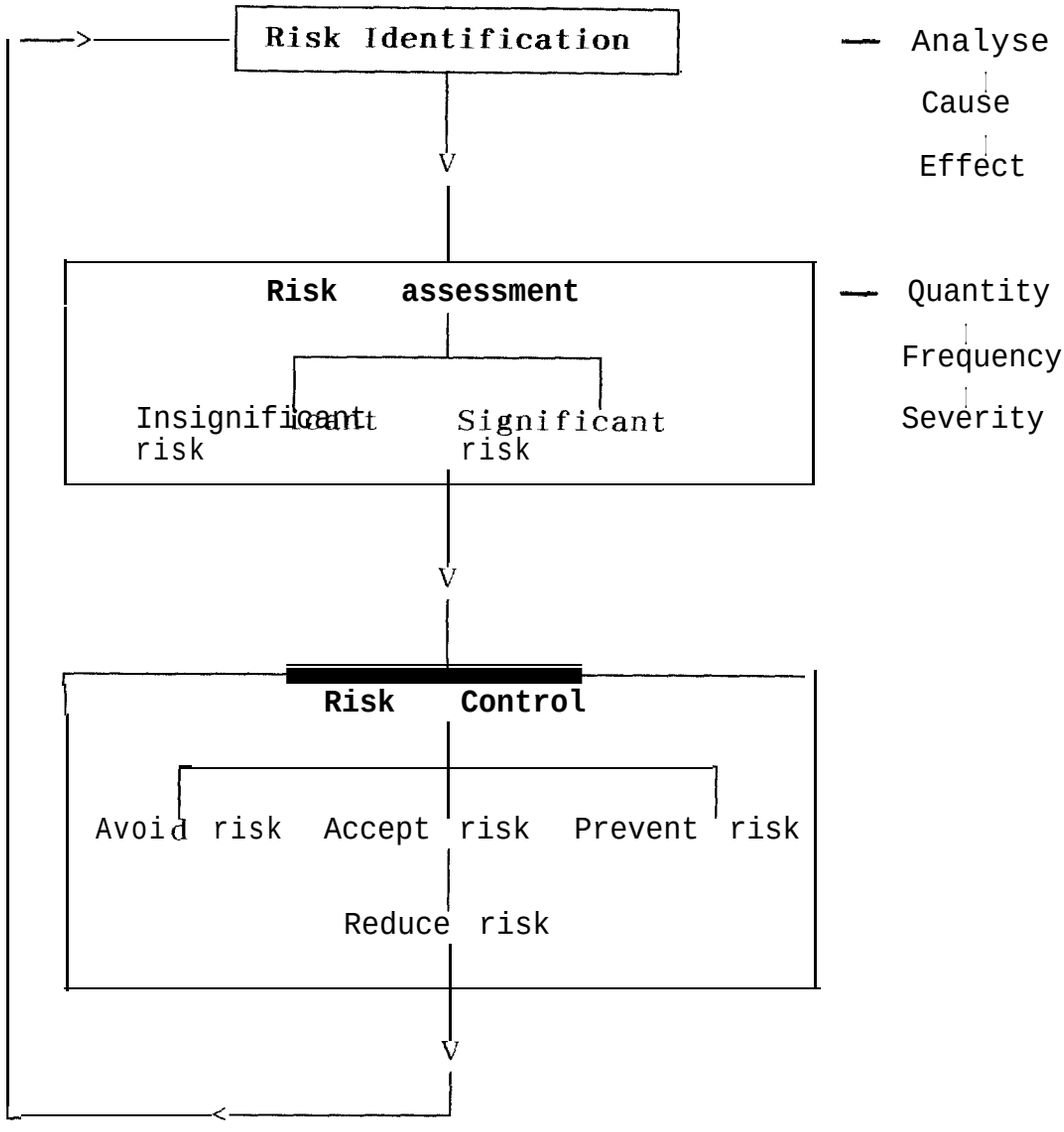


Figure 2.1: The Risk Management Cycle And Its Dimensions

In summary, Risk Management Practice is associated with the Risk Management dimensions of Risk Identification, Risk Assessment, and Risk Control.

2.2.2 The Research Model

Figure 2.2 shows the model and the theoretical framework used to investigate the interaction between the conceptual variables in this study.

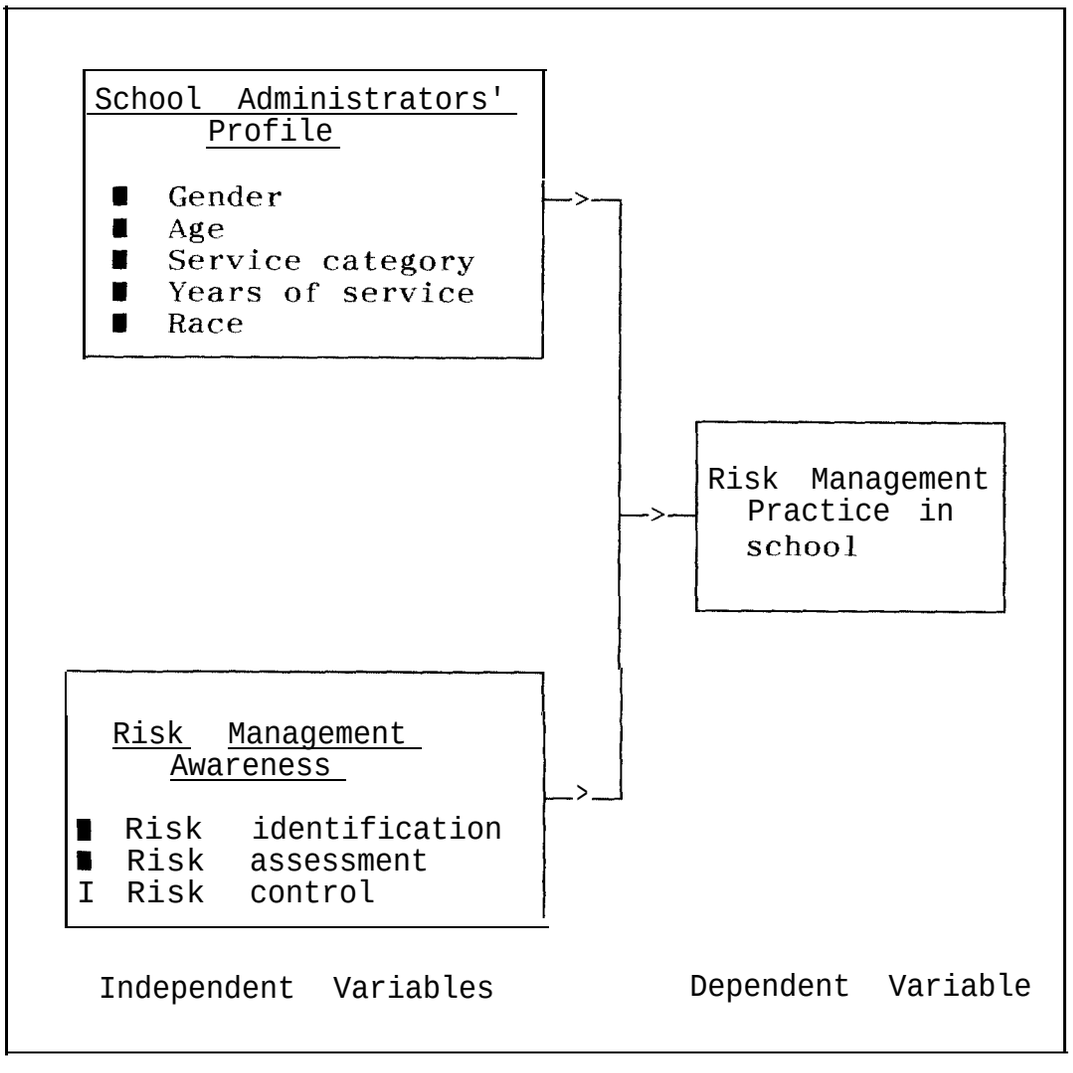


Figure 2.2: Theoretical model framework for Risk Management Practice in school showing the relationship between Risk Identification, Risk Assessment and Risk Control and personal characteristics of the school administrator

Risk Management Practice is the dependent variable in this study. The independent variables are Risk Identification, Risk Assessment, Risk Control, moderated by the school administrator's personal characteristics of gender, age, service category (educational level), years of service and race.

2.2.3 Operational Definitions

Risk Management Practice

In this study, Risk Management Practice consists of the actvities, actions, procedures, or steps taken by the school administrator to reduce and to minimize human and economic losses such as accidents, theft and other losses.

It incorporates the three independent variables of Risk Identification, Risk Assessment and Risk Control. The most important activities are always done or implemented by the school administrator, whilst the less important activities are rarely carried out or never done by the school administrator.

Risk Management Practice is applied on the five component areas of a school environment viz.,

I School administration

II School physical environment

III School office and staff room

IV Science laboratories

V Workshops and home-science rooms

As the school is a dynamic, interactive and complex environment, the above five component areas are repeatedly used in Risk Identification, Risk Assessment and Risk Control.

a. Risk Identification

In this study, Risk Identification was measured by the extent of the implementation of plans, safety campaigns, safety instructions, warning signs, and maintenances carried out by the school administrator which could bring about economic and human losses. It incorporates plans, campaigns, systems, instructions, briefings and maintenances.

b) Risk Assessment

In this study, Risk Assessment was measured by the extent of the frequency of various types of periodic

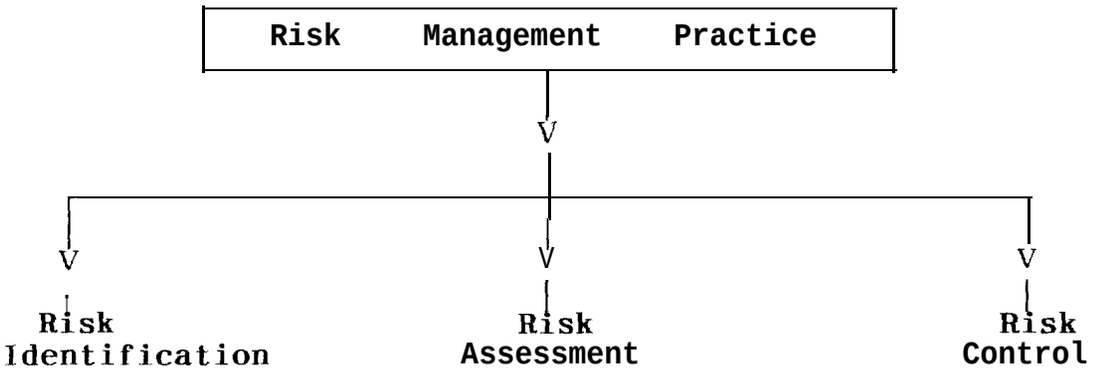
check-ups on the electrical, plumbing and sewerage systems, frequency of fire drills, constructions of physical structures such as hand rails for staircases, balustrades, grilled doors and windows of important and strategic places in the school, such as office, staff room and laboratories.

c) Risk Control

In this study, Risk Control was measured by the extent of safety procedures implemented in the school such as the use of log books for recording past accidents, list of emergency telephone numbers, locking doors and windows after school, traffic wardens, road safety signs, fire extinguishers and first aid boxes.

These procedures and efforts by the school administrator are implemented to avoid and prevent risks and possibly reduce all or some risks. Avoiding or preventing risks is one area of risk control which can be easily used with or without guidance from outside consultants. Common sense is the basis of much risk control with the application of experience and technical knowledge.

Figure 2.3 below shows the operationalization framework of Risk Management Practice, Risk Identification, Risk Assessment and Risk Control.



- Plans
- Safety Campaigns
- Instructions
- Fire Alarm Systems
- Maintenances
- Periodic Check-ups
- Balustrades
- Hand rails
- Fire Drills
- Grilled doors and windows
- Log books
- Telephone Nos
- Road signs
- Fire - extinguishers
- First-aid boxes

Figure 2.3: Operationalization framework of Risk Management Practice, Risk Identification, Risk Assessment and Risk Control

C H A P T E R 3

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

This chapter describes the research design employed, description of sample and sampling procedures, research instrument, pilot testing and data collection, and analyses procedures employed in the study.

3.1 Type of Study

This is a quantitative, correlational study which investigated the relationship between Risk Management Practice on one hand, and Risk Identification, Risk Assessment and Risk Control on the other. From the Risk Management Practice, subsequently, the Risk Management Profile of the school administrator is determined. The study also investigated the moderating effects of gender, age, years of service, service category (educational level) and race of the school administrators on the relationship between Risk Management Practice and Risk Management Profile.

3.2 Unit of Analysis

This study analysed the practices of 28 school administrators in 28 schools from the town of Sungai Siput (U), Perak (refer to Appendix C). These included:-

(a) (i) 5 secondary schools (2 grade A and 3 grade B schools) and
(ii) 23 primary schools (3 grade A and 20 grade B schools):

(b) 27 (96.4 %) males and 1 (3.6 %) female:

(c) 3 (10.7 %) between 31 - 35 years, 6 (21.4 %) between 36 - 40 years, 2 (7.1 %) between 41 - 45 years, 10 (35.7 %) between 46 - 50 years, and 7 (25.0 %) between 51 - 55 years:

(d) 23 (82.1 %) possess Certificates of Education, 4 (14.3 %) possess Bachelor Degrees and 1 (3.6%) possesses Master Degree:

(e) 5 (17.9 %) has less than 3 years of service as school administrator, 12 (42.9 %) between 4 - 7 years of service, 8 (28.6 %) between 8 - 11 years of service, and 3 (10.7 %) has more than 12 years of service as school administrator:

(f) 15 (53.6 %) are Malays, 8 (28.6 %) are Chinese and 5 (17.9 %) are Indians.

3.3 Population

The 28 school administrators were drawn from 31 school administrators in the town of Sungai Siput (U), Perak. 3 schools were not included in this study due to logistic problem as they are located in very rural areas,

3.4 Sample and sampling technique

The population served as sample for this study. This is a major limitation of this study. The population was used as the sample as this is a pilot study of this nature in the educational system of Malaysia.

3.5 Data collection techniques

This section describes the instrument used to collect the data and the manner of distribution and collection of the questionnaire.

3.5.1 The Instrument

A questionnaire was used to gather the data for this study and is known is as the 'Risk Management Practice Questionnaire' (refer to Appendix D). The questionnaire was developed by the researcher, patterned after accepted questionnaire items for various sources and consisted of the following parts. Part 1 requested personal information, whilst Parts 2, 3 and 4 requested

information on the risk management practice by the school administrator.

Part 1:	Personal information	5 items
Part 2:	Risk Identification	19 items
Part 3:	Risk Assessment	17 items
Part 4:	Risk Control	31 items

A discussion of the details of the design of the instrument is as follows:-

Part 1: Personal information

This part of the instrument requested information of the personal information of the respondent.

	Code Used
1. Gender	
Male	1
Female	2
2. Age	
31 - 35 years	1
36 - 40 years	2
41 - 45 years	3
46 - 50 years	4
51 - 55 years	5

Code Used

3. Service Category (Educational Level)

Certificate of Education	1
Diploma of Education/Management	2
Bachelor's Degree	3
Master's Degree	4

4. Years of service

0 - 3 years	1
4 - 7 years	2
8 - 11 years	3
> 12 years	4

5. Race

Malay	1
Chinese	2
Indian	3
Others	4

The school environment is divided into five component areas based on the physical survey of the premises of the school and administration areas as discussed by Warner and Kelly (1994). The five component areas are indicated as :-

I	School Administration
II	School Physical Environment
III	School Office And Staff Room
Iv	Science Laboratories
V	Workshops and Home-Science Rooms

The three dependent variables of Risk Identification, Risk Assessment and Risk Control are applied in the above five component areas.

Part 2: Risk Identification

Table 3.1 reflects the 19 items on Risk Identification measured on a S-point Likert scale. These items were designed to establish the potential losses a school organization could face if hazards were to strike.

All these 19 items, taken jointly, served as the dependent variable of this study, which is the Risk Identification. Negative items consisting of items 4 and 8 were negatively recoded before statistical analysis was carried out.

Table 3.1: Items on Risk Identification

Areas		Risk Identification and Item Number
I	School Administration	1, 4, 8, 15, 17, 18, 19, 20, 21
IT	School Physical Environment	36, 37, 43, 44, 45
III	School Office and Staff Room	55
TV	Science Laboratories	60, 61
V	Workshop and Home -Science Rooms	66. 67
	Total	19 items

The item numbers and the corresponding item statements are listed in Table 3.2.

Table 3.2: Item Statements on Risk Identification

Item Number	Item Statement
1	Developing an emergency plan for unforseen circumstances such as accidents
4	No briefing for the staff on actions to be taken when an accident occurs
8	No fire alarm system in the school
15	Conduct road safety campaign for all the students
17	Conduct food safety campaign at the school canteen for nutritious food
18	Conduct safety campaign for conditions of the floor conditions
19	Conduct safety campaign for conditions of the lighting conditions
20	Conduct safety campaign for conditions of the verandas
21	Conduct safety campaign for conditions of the stairways
36	The placing of fire extinguishers and (or) sand pails at strategic places around the school
37	The placing of rubbish bins at strategic places around the school
43	Maintenance of clean, non-slippery and functional toilets for students and staff
44	Maintenance of trimmed grass and (or) leveled school playing field
45	Maintenance of clean water supply for the school
55	The practice of not keeping cash and (or) valuables in the office
60	Display safety instructions and (or) procedures in the 1aboratories

Table 3.2, continued

61	Display warning signs and (or) instructional posters besides fume cupboards, corrosive acids and alkalis (or) procedures in the workshops
66	Display safety instructions and (or) procedures in the workshops
67	Display warning signs and (or) instructional posters besides lathes, drills and microwave oven

Part 3: Risk Assessment

Table 3.3 reflects the 17 items on Risk Assessment measured on a 5-point Likert scale. These items were designed to derive the frequency, severity, and economic losses of significant incidents which required further actions of the school administrators. All these 17 items, taken jointly, served as the dependent variable of this study, i.e., Risk Assessment. Negative items consisting of items 13, 16 and 38 were negatively recoded before statistical analysis was carried out.

Table 3.3: Items on Risk Assessment

Areas		Risk Assessment and Item Number
I	School Administration	5, 7, 9, 10, 11, 12, 13, 16
II	School Physical Environment	30, 38, 40, 41, 42
III	School Office and Staff Room	48, 53
IV	Science Laboratories	58
V	Workshop and Home -Science Rooms	64
Total		17 items

The item numbers and the corresponding item statements are listed in Table 3.4.

Table 3.4: Item Statements on Risk Assessment

Item Number	Item Statement
5	Having a teacher/teachers to be in charge of accidents
7	Periodic checkup on the electrical wiring system of the school
9	Periodic checkup and filling of fire extinguishers
10	Periodic checkup on the water piping system of the school
11	Periodic checkup on the broken and (or) defective school furniture
12	Periodic checkup on the broken and (or) defective fixture and fittings
13	Not necessary to check on the school fence
16	Not necessary to conduct fire drill in the school as the students and staff will know what to do
30	Construction of 'road-humps' on the school road to slow down traffic
38	Classrooms should not have grilled windows and lockable doors as they turned into fire traps
40	The construction of hand rails for staircases for multi-storeyed school buildings
41	The construction of balustrade alongside the verandas of upper floors of multi-storeyed school buildings
42	The use of signs on the staircases for going up and coming down

Table 3.4, continued

48	School office has grilled windows and lockable doors
53	Staff room has grilled windows and lockable doors
58	Laboratories have grilled windows and lockable doors
64	Workshops have grilled windows and lockable doors

Part 4: Risk Control

Table 3.5 reflects the 31 items on Risk Control measured on a 5-point Likert scale. These items were designed to derive the frequency, severity, and economic losses of significant incidents which required further actions of the school administrators. All these 31 items, taken jointly, served as the dependent variable of this study, i.e., Risk Control. Negative items consisting of items 31, 47 and 50 were negatively recoded before statistical analysis was carried out.

Table 3.5: Items on Risk Control

Areas	Risk Control and Item Number
I School Administration	2, 3, 6, 14, 22, 23,
11 School Physical Environment	24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 39,
III School Office and Staff Room	46, 47, 49, 50, 51, 52, 54
IV Science Laboratories	56, 57, 59
V Workshop and Home -Science Rooms	62, 63, 65
Total	31 items

The item numbers and the corresponding item statements are listed in Table 3.6.

Table 3.6: Item Statements on Risk Identification

Item Number	Item Statement
2	Having a log book for recording past accident
3	Having a list of telephone numbers of emergency services
6	Being available whenever you are needed by the school (the school can contact you anytime)
14	Traffic wardens are positioned out-side the school to direct the flow of traffic and helping students crossing the road
22	Having watchmen to patrol the school office, laboratories and work-shops during the night
23	Having grilled doors and windows for certain specified and security areas
	Placing of road signs at strategic places in the school neighbourhood such as :-
24	speed limit sign
25	no entry sign
26	one way entry sign
27	parking sign for vehicles
28	parking sign for motor cycles
29	parking sign for bicycles
31	Not necessary to have a security guard house at the entrance to the school as it is a waste of money
32	The use of a pole barrier besides security guard house
33	The use of a log-book to monitor visitors going in and out of the school compound
34	The main gates of the school are locked at night

Table 3.6, continued

35	Having a fence around the school compound
39	Locked doors and closed windows of classrooms after school day
46	Having fire extinguishers at the office
47	Not necessary to have first aid box in the office as nobody gets hurt in the office
49	Locked doors and closed windows of office after school day
50	Documents, correspondence, and rubber stamps need not be locked up after school as nobody wants to steal such worthless things
51	Having fire extinguishers at the staff room
52	Having first aid boxes in the staff room
54	Locked doors and closed windows of staff room after school day
56	Having first aid boxes in the science laboratories
57	Having fire extinguishers and (or) fire blankets at the laboratories
59	Locked doors and closed windows of laboratories after school day
62	Having first aid boxes in the workshops
63	Having fire extinguishers and (or) fire blankets at the workshops
65	Locked doors and closed windows of workshops after school day

The 5 demographic items and 67 items on Risk Identification, Risk Assessment and Risk Control constituted the instrument of this study.

For the demographic survey, respondents were asked to provide their responses at the appropriate spaces for items on gender, age, service category (educational level), years of service, and race.

Respondents were asked to state their level of activity or actions taken, with each of the item statements in the questionnaire. The 5-point Likert scale had the following meanings:-

1 = Never Done
2 = Rarely Done
3 = Sometimes Done
4 = Frequently Done
5 = Always Done

The instrument was written in the English Language as the respondents being school administrators are conversant with the English Language and it also minimized the problems of accurate translation into Bahasa Malaysia. This was further aided by the researcher who was present each time to assist the respondents in answering the items on the questionnaire. No time frame was set to answer the items in the instrument.

3.5.2 Pilot test

To determine the reliability and validity of the instrument the following steps were undertaken:-

a) pilot test to verify internal consistency.

b) construct and content validity through expert opinion in Risk Management studies, and amendments were made to the instrument based on the feedback received.

c) analysis for correct usage of English language and grammar through senior language teachers, and amendments were made to the instrument based clarity and comprehension.

d) statistical analysis for internal reliability through Cronbach Alpha was undertaken for the data generated.

For the purpose of pilot test, the same number of secondary and primary schools (N = 28) were chosen from the city of Ipoh, 30 km from the town of Sungai Siput (U), Perak. A simple random sampling procedure was used to select these 28 respondents to answer the questionnaire.

On analysis of the pilot test, only 17 questionnaires were obtained due to the absence of the other school administrators who were on leave during the holidays. The value of Cronbach Alpha, α, for all the variables under investigation was above 0.69.

Analysis of the reliability coefficients showed that Cronbach Alpha for the three dependent variables are as follows:-

a) Risk Identification, reliability coefficient, $a = 0.8980$,

b) Risk Assessment, reliability coefficient, $a = 0.6996$,

c) Risk Control, reliability coefficient, $a = 0.8368$,

The overall reliability coefficient for all the 67 items in the questionnaire was $a = 0.9274$. The instrument showed high validity and reliability. Table 3.7 reflects the data of the pilot test.

Table 3.7: Analysis of reliability of items for pilot test

Variable	Number of Items	Item Number	Cronbach Alpha Reliability Coefficient
Risk [dentificatior	19 items	1, 4, 8, 15, 17, 18, 19, 20, 21, 36, 37, 43, 44, 45, 55, 60, 61, 66, 67	a = 0.8980
Risk Assessment	17 items	5, 7, 9, 10, 11, 12, 13, 16, 30, 38, 40, 41, 42, 48, 53, 58, 64	a = 0.6996
Risk Control	31 iterns	2, 3, 6, 14, 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35, 39, 46, 47, 49, 50, 51, 52, 54, 56, 57, 59, 62, 63, 65	a = 0.8368
Risk Management Practice (Overall All Items)	67 items	1 to 67	a = 0.9274

3.6 Administration of Questionnaire and collection of data

Permission for the study was sought from the Educational Planning and Research Department, Ministry of Education (refer to Appendix G). Subsequently, consent was also obtained from the Perak State Education Department to visit and administer the questionnaires (refer to Appendix H).

Twenty eight questionnaires were administered personally to the twenty eight school administrators in the primary and secondary schools in Sungai Siput, Perak from the 25th October 1995 to the 8th December 1995. This lengthy period of administration of the questionnaire was due to the constraint of the absence of many school administrators who were on their annual leave.

3.7 Data analysis techniques

The data collected were subjected to descriptive and inferential statistics. The various hypotheses were tested using Pearson Product Moment Correlation, t-tests, Analysis of Variance (ANOVA), and Multiple Regression Analysis. The 0.05 level of significance was set, *a priori,* as critical level for decision making. Table 3.8 summarizes the statistical tools used to analyse the data.

Table 3.8: Statistical tools used in data analysis

Type of Analysis	Statistical Tools
1. To describe the school administrators' profile in terms of: a. Gender b. Age c. Service category d. Years of service e. Race	Descriptive Statistics: a. Frequency distribution b. Mean c. Percentage d. Standard Deviation e. Histogram f. Boxplot g. Stem-and-Leaf plot
2. To examine the relationship between Risk Identification Risk Assessment, Risk Control and Risk Management Practice on a one-to-one relationship	a. Pearson Product Moment Correlation b. Scatterplot
3. To examine the variance between Risk Management Practice with Risk Identification, Risk Assessment and Risk Control and the joint relationship of the independent with the dependent variables	Multiple Regression Analysis
4. To examine the moderating influence of gender, age, service category, years of service and race on the Risk Management Practice	t - Test Analysis of Variance (ANOVA)

C H A P T E R 4

PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

4.0 Introduction

This chapter describes the analyses and findings of the responses obtained from the Risk Management Questionnaire administered to 28 school administrators of primary and secondary schools in Sungai Siput (U), Perak.

4.1 Research Hypotheses

The major objective of this study was to find out to what extent risk management is practised by school administrators, and subsequently to determine the level of Awareness of Risk Management Profile of the school administrators which are classified into:-

(i) Low Awareness of Risk Management Profile,
(ii) Normal Awareness of Risk Management Profile, and
(iii) High Awareness of Risk Management Profile.

In addition, the school administrators' personal characteristics which consist of the five variables:-

(i) gender,

(ii) age,

(iii) service category (educational level),

(iv) years of service, and

(v) race

were investigated to determine whether these influence risk management practices in the respective schools.

The following null hypotheses were formulated and tested on basis of the relevant research questions.

Question 1: Are school administrators aware of risk management and to what extent is risk management practised in schools?

Question 2: What is the distribution and the level of Awareness of Risk Management Profile of the school administrators?

Question 3: Do the three independent variables of Risk Identification, Risk Assessment, and Risk Control explain the variance in Risk Management Practice?

H_{01}: The three independent variables of Risk Identification, Risk Assessment, and Risk Control do not significantly explain the variance in Risk Management Practice.

Question 4: Is there a correlation between Risk Management Practice with Risk Identification, Risk Assessment, and Risk Control?

H_{02}: Risk Management Practice is not significantly correlated to the independent variables of Risk Identification, Risk Assessment and Risk Control.

Question 5: Do the four independent variables of age, service category, years of service and race explain the variance in Risk Management Practice?

H_{03}: The four independent variables of age, service category, years of service and race do not significantly explain the variance in Risk Management Practice.

Question 6: Are there differences in Risk Management Practice with various age groups of the school administrator?

H_{04}: Risk Management Practice will be the same irrespective of the various age groups of the school administrator.

Question 7: Are there differences in Risk Management Practice with the various service categories (educational levels) of the school administrator?

H_{05}: Risk Management Practice will be the same irrespective of the various service categories (educational levels) of the school administrator.

Question 8: Are there differences in Risk Management Practice with the various years of service of the school administrator?

H_{06}: Risk Management Practice will be the same irrespective of the various years of service of the school administrator.

Question 9: Are there differences in Risk Management Practice with the various races of the school administrator?

H_{07}: Risk Management Practice will be the same irrespective of the various races of the school administrator.

4.2 Major Findings

I. The study conducted showed that eighteen of the respondents (N = 28), or 64.28 percent of the school administrators studied, regularly carried out risk management practices in their respective schools. Only ten of the respondents (N = 28) or 35.72 percent of the school administrators occasionally carried out risk management practices in their respective schools. These data were obtained based on the classification of the Risk Management Practice scores into three Risk Management Profiles of the school administrators which are:

(i) Low Awareness of Risk Management (n=10 or 35.72%)
(ii) Normal Awareness of Risk Management(n=16 or 57.14%)
(iii) Wigh Awareness of Risk Management (n= 2 or 7.14%)

II. The null hypothesis, H_{01}, that "the three independent variables of Risk Identification, Risk Assessment, and Risk Control will not significantly explain the variance in Risk Management Practice", was rejected. The Multiple Regression Analysis conducted showed that Risk Management Practice is positively and significantly related to the three independent variables of Risk Identification, Risk Assessment and Risk Control.

III. The null hypothesis, H_{02}, "Risk Management Practice is not significantly correlated to the independent variables of Risk Identification, Risk Assessment and Risk Control", was rejected. Pearson Correlational Analysis conducted, showed similar positive correlations of Risk Management Practice with Risk Identification, Risk Assessment and Risk Control respectively. Further analyses indicated positive significant correlations (at $p < 0.001$). amongst the three independent variables of Risk Identification, Risk Assessment and Risk Control.

IV. The null hypothesis, H_{03}, that "the four independent variables of age, service category, years of service and race do not significantly explain the variance in Risk Management Practice", was retained on all the four variables viz., age, service category, years of service, and race as the findings is not significant. The Multiple Regression Analysis conducted show that Risk Management Practice did not appear to be significantly related to the school administrator's personal characteristics.

Due to the small sample size, the variable - gender, was not analysed as there was only one female respondent out of the total of twenty eight respondents (N = 28).

V. Analysis of Variance (ANOVA) conducted shows no significant differences among the various age groups; among the various service category (educational level) groups: among the various years of service group: and among the various racial groups of the school administrators. Thus, the null hypotheses, H_{04}, H_{05}, H_{06}, H_{07} were retained.

The statistical analysis and individual relationship of each independent variable on Risk Management Practice and Risk Management Profile will be discussed separately in the subsequent subsections of this chapter.

4.3 Analysis and discussion of findings

This section discusses the descriptive analyses and findings of the responses obtained from the Risk Management Questionnaire which were administered to 28 school administrators of primary and secondary schools in Sungai Siput (U), Perak. The cumulative scores from the Risk Management Questionnaire or which is also known as the Risk Management Practice, is subsequently used as a basis for classification of the scores into three Risk Management Profiles of the school administrator.

4.3.1 Distribution characteristics of Risk Management Practice

With reference to the first research question,

Question 1: Are school administrators aware of risk management and to what extent is risk management practised in schools?

There were 28 respondents in this study and the cumulative score on all the 67 items of the Risk Management Questionnaire was calculated for each and everyone of the respondents. This cumulative score represents the Risk Management Practice of the individual school administrator.

Table 4.1 summarizes the Risk Management Practice. The mean score is 248.00 with a standard deviation of 38.10. For a school administrator who would practise 'average' risk management, the theoretical average score would be equal to 201 (i.e., 67 items multiplied by 3 points on the 5-point Likert scale). On further investigation, it is found that only two respondents have lower scores of 195 and 154 respectively. This also can be interpreted that 26 out of 28 school administrators or 92.86 percent have scores above the theoretical average value. It may also imply that most of the school administrators are aware of the risk management in the schools and are practising it too.

The stem-and-leaf plot in Table 4.2 and the histogram in Figure 4.1 display diagramatically the distribution of the Risk Management Practice of the respondents. Visual inspection of these two figures indicates that the Risk Management Practice distribution is not normal but bimodal.

Table 4.1: Summary statistics for RISK MANAGEMENT PRACTICE

Risk Management Practice	Value	Frequency	Percent	Valid Percent	Cum Percent
	154	1	3.6	3.6	3.6
	195	1	3.6	3.6	7.1
	206	1	3.6	3.6	10.7
	207	1	3.6	3.6	14.3
	208	1	3.6	3.6	17.9
	211	1	3.6	3.6	21.4
	213	1	3.6	3.6	25.0
	223	1	3.6	3.6	28.6
	231	2	7.1	7.1	35.7
	234	1	3.6	3.6	39.3
	238	1	3.6	3.6	42.9
	240	1	3.6	3.6	46.4
	246	2	7.1	7.1	53.6
	253	1	3.6	3.6	57.1
	259	1	3.6	3.6	60.7
	271	1	3.6	3.6	64.3
	273	1	3.6	3.6	67.9
	278	2	7.1	7.1	75.0
	280	2	7.1	7.1	82.1
	281	1	3.6	3.6	85.7
	291	1	3.6	3.6	89.3
	295	1	3.6	3.6	92.9
	304	1	3.6	3.6	96.4
	318	1	3.6	3.6	100.0
	Total	28	100.0	100.0	

Mean	248.000	Std err	7.200	Median	246.000
Mode	231.000	Std dev	38.096	Variance	1451.333
S E Skew	.441	Range	164.000	Minimum	154.000
Maximum	318.000	Sum	6944.000		

Table 4.2: Stem-and-leaf plot of Risk Management Practice

```
Frequency     Stem-and-Leaf   Plot
----------    ---------------------
    2.00        1  .  59
   13.00        2 *   0001123333444
   11.00        2.   55777788899
    2.00        3 *  01

Stem width:       100
Each leaf:       1 case(s)
```

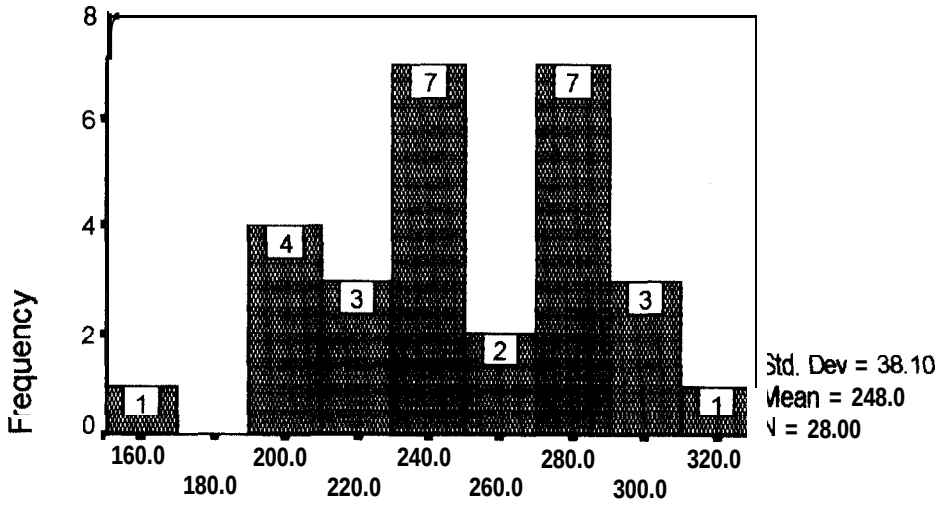


Figure 4.1: Histogram of Risk Management Practice

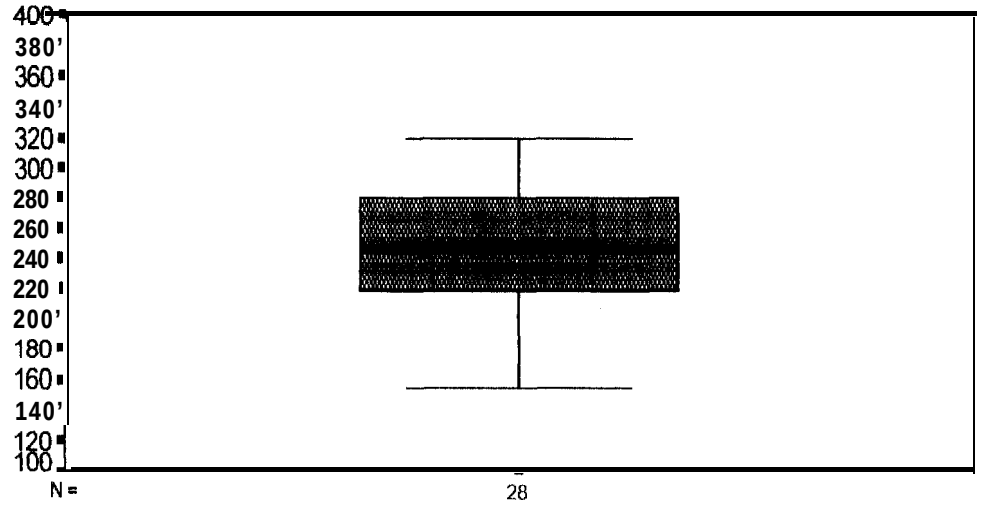


Figure 4.2: Boxplot for Risk Management Practice

The boxplot or box-and-whisker plot, based on quantiles (Tukey, 1977) as illustrated in Figure 4.2 is defined by five values: the minimum, the first quartile, the median, the third quartile, and the maximum. The first and third quartiles define the extremes of the box, i.e., 218 and 279 respectively; median is 246 which is indicated in the box; and the minimum and maximum values, i.e., 154 and 318 respectively determine the whiskers.

The large range between the minimum and the maximum value indicates that one school administrator is serious about risk management whilst the other contrary school administrator is not serious about implementing risk management in the school.

On further investigation and discussion with this contrary school administrator, he explained that he is administrating a 'rubber-estate' primary school where most of risk management practices are carried out by the rubber estate administration. Hence, he never or rarely carried out the risk management practices as mentioned in the Risk Management Questionnaire, resulting in the minimum value of only 154 (out of the possible maximum value of 335 on the Risk Management Questionnaire).

4.3.2 Distribution characteristics of Risk Management Profile

With reference to the second research question,

Question 2: What is the distribution and the level of Awareness of Risk Management Profile of the school administrators?

The Risk Management Practice of the respondents were used to classify the respondents into three groups, viz.,

(i) Low Awareness of Risk Management Profile,

(ii) Normal Awareness of Risk Management Profile, and

(iii) High Awareness of Risk Management Profile.

As the Risk Management Questionnaire consists of 67 items, the possible cumulative scores based on the 5-point Likert scale are tabled in Table 4.3.

Table 4.3: Cumulative scores of the Risk Management Questionnaire

	Never Done	Rarely Done	Sometimes Done	Frequently Done	Always Done
Individual Score	1	2	3	4	5
Risk Management Practice Cumulative Scores	67	134	201	268	335

The researcher feels that a normal, competent and capable school administrator, at the least, must frequently carry out risk management practices to maintain a safe learning environment for its students. Thus, a respondent having a range of scores from 234 to 300 is arbitrarily classified as a school administrator having a Normal Awareness of Risk Management Profile, based on the mean of ' 4 ' on the 5-point Likert scale.

Similarly, a respondent having a range of scores from 301 to 335 is arbitrarily classified as a school administrator having a High Awareness of Risk Management Profile, based on the mean of ' 5 ' on the 5-point Likert scale, whilst a respondent having a range of scores from 67 to 233 is arbitrarily classified as a school administrator having a Low Awareness of Risk Management Profile. This is illustrated in Table 4.4

Table 4.4: Classification of Different Levels of Awareness of Risk Management

Risk Management Practice

Never Done	Rarely Done	Sometimes Done	Frequently Done	Always Done
67	134	201	268	335
			234	301
Low Awareness of Risk Management Profile			Normal Awareness of Risk Management Profile	High Awareness of Risk Management Profile

Based on the classification range as mentioned in Table 4.4, a frequency table is obtained for the number of school administrators and its corresponding percentage, at the different levels of Awareness of Risk Management Profile. This frequency table is illustrated in Table 4.5.

Table 4.5: Number of school administrators at the different levels of Awareness of Risk Management Profile

Profile of school administrator	Risk Management Practice	Frequency (Percentage)
Low Awareness of Risk Management	67 - 233	10 (35.72 %)
Normal Awareness of Risk Management	234 - 300	16 (57.14 %)
High Awareness of Risk Management	301 - 335	2 (7.14 %)

Table 4.6 summarizes the different levels of Awareness of Risk Management Profile of the school administrators. The mean value is 1.714 with a standard deviation of 0.600. For a school administrator who would normally on the average practise risk management, he would be emplaced as having Normal Awareness of Risk Management Profile. On careful scrutiny, it is found that only two respondents is classify as a High Awareness of Risk Management Profile.

Table 4.6: Summary Statistics for different Levels of Awareness of Risk Management Profile of school administrators

PROFILE OF SCHOOL ADMINISTRATOR	Value	Frequency	Percent	Valid Percent	Cum Percent
LOW AWARENESS RISK MGT	1	10	35.7	35.7	35.7
NORMAL AWARENESS RISK MGT	2	16	57.1	57.1	92.9
HIGH AWARENESS RISK MGT	3	2	7.1	7.1	100.0
	Total	28	100.0	100.0	

Mean	1.714	Std err	.113	Median	2.000
Mode	2.000	Std dev	.600	Variance	.360
Kurtosis	-.443	S E Kurt	.858	Skewness	.181
S E Skew	.441	Range	2.000	Minimum	1.000
Maximum	3.000	Sum	48.000		

Valid cases 28 Missing cases 0

On the whole, this can be interpreted that 18 out of 28 school administrators or 64.28 percent of the school administrators are classify as having Normal Awareness and High Awareness of Risk Management Profiles. This implies that these 64.28 percent of the school administrators are administrating their respective schools within a normal safe environment.

The stem-and-leaf plot in Table 4.7 and the histogram in Figure 4.3 display diagramatically the distribution of the different levels of Awareness of Risk Management Profile of the respondents. Visual inspection of these two figures indicates that the Awareness of Risk Management Profile distribution is not normal but negatively skewed to the left indicating very few cases towards larger values, which is the High Awareness of Risk Management Profile.

Table 4.7 : Stem-and-leaf plot of different Levels of Awareness of Risk Management Profile of school administrators

Frequency	Stem and Leaf Plot
10.00	1 . 0000000000
16.00	2 * 0000000000000000
2.00	3 * 00

Stem width: 1
Each leaf: 1 case(s)

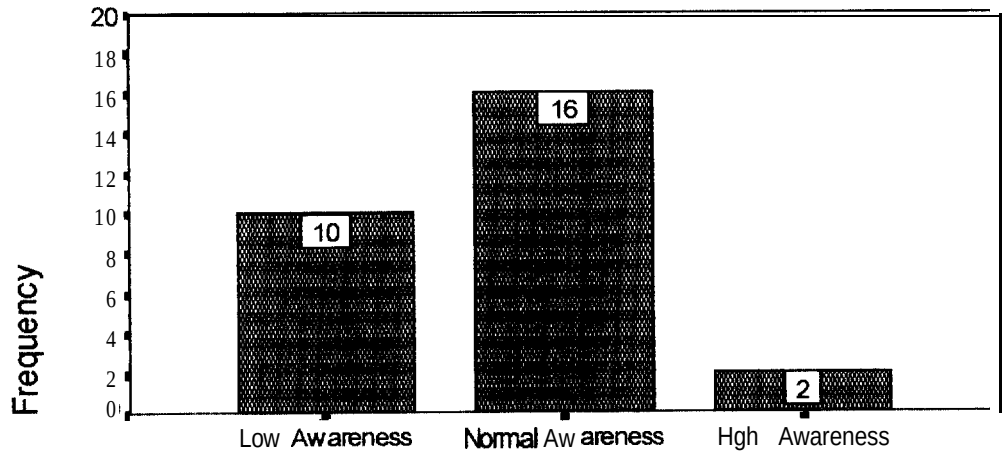


Figure 4.3: Histogram indicating different Levels of Awareness of Risk Management Profile

4.4 Analysis of Risk Management Practice, Risk Identification, Risk Assessment and Risk Control

This section discusses the inferential analyses used which consists of the following:-

(i) Multiple Regression Analysis was used to determine whether the three independent variables of Risk Identification, Risk Assessment and Risk Control explain the variance in Risk Management Practice and

(ii) Pearson Correlational Analysis was used to determine the various correlations between Risk Management Practice, Risk Identification, Risk Assessment and Risk Control respectively.

4.4.1 Multiple Regression Analysis of Risk Management Practice with Risk Identification, Risk Assessment and Risk Control

With reference to the third research question and the first null hypothesis,

Question 3: Do the three independent variables of Risk Identification, Risk Assessment and Risk Control explain the variance in Risk Management Practice?

H_{01} : The three independent variables of Risk Identification, Risk Assessment and Risk Control **do** not significantly explain the variance in Risk Management Practice.

Table 4.8: Regression coefficient for Risk Management Practice with Risk Identification, Risk Assessment and Risk Control

```
1 . .     RISK  CONTROL          CUMULATIVE  SCORE  ON  RISK  CONTROL
2 . .     RISK  ASSESSMENT       CUMULATIVE  SCORE  ON  RISK  ASSESSMENT
3 . .     RISK  IDENTIFICATION   CUMULATIVE  SCORE  ON  RISK  IDENTIFICATION


Multiple  R           1.00000
R  Square             1.00000
Adjusted  R  Square   1.00000
Standard  Error        .ooooo

Analysis  of  Variance
                    DF       Sum  of  Squares       Mean  Square
Regression           3          39186.00000        13062.00000
Residual            24                .ooooo              .ooooo

F  is  undefined

------------------- Variables in the Equation --------------------

Variable                       B         SE B       Beta      T Sig T

RISK IDENTIFICATION 1.000000       .000000     .275799
RISK  ASSESSMENT      1.000000       .000000     .277237
RISK  CONTROL         1.000000       .000000     .551464
(Constant)        -5.36168E-14   .000000
```

To test this hypothesis, Multiple Regression Analysis was performed. The results of regressing the three independent variables of Risk Identification, Risk Assessment and Risk Control against Risk Management Practice is tabulated in Table 4.8. The null hypothesis, H_{01}, that "the three independent variables of Risk Identification, Risk Assessment and Risk Control do not significantly explain the variance in Risk Management Practice", was rejected.

Table 4.8 reflects that the **beta** values of +0.276 (for Risk Identification), +0.277 (for Risk Assessment) and +0.551 (for Risk Control) show that each of the independent variables significantly explains the variance in Risk Management Practice. All the three positive values of beta seem to indicate that increases in all of the three independent variables of Risk Identification, Risk Assessment, and Risk Control will in tandem increase the Risk Management Practice. The independent variable Risk Control relatively has a more important contribution as indicated by the relatively largest beta value of +0.551.

The **Multiple R** (1.0000) is the multiple correlation coefficient of the three independent variables with the dependent variable after all the intercorrelations among the three independent variables are taken into account. The **R Square** (1.0000) is actually the square of the **Multiple R** or (1.0000)'.

Table 4.8 indicates that the DF (degree of freedom) in the numerator is the number of independent variables, which is 3. The denominator which is 24, is obtained from the equation: Denominator = N - K - l

where,

N = number of responses (or respondents),

K = number of independent variables,

The denominator is the total number of complete responses (or respondents) for all the variables in the equation (denoted by N), minus the number of independent variables (K) and minus 1. Therefore, from the above equation, the denominator is (28 - 3 - 1) = 24.

An F ratio is used to test whether an observed multiple correlation coefficient is significantly different from 0. The required value of F is given by the formula:

$$F = \frac{R^2 / K}{(1 - R^2) / (N - K - I)}$$

where,

R = multiple correlation coefficient = 1.000

N = number of responses (or respondents) = 28

K = number of independent variables = 3

On substituting the above values into the formula for F, the F statistic produced is undefined, as indicated in Table 4.8.

It implies that 100 percent of the variance (R-square) in Risk Management Practice which is the dependent variable, has been significantly explained and jointly accounted for by the three independent variables of Risk Identification, Risk Assessment and Risk Control.

4.4.2 Individual correlation of Risk Identification, Risk Assessment and Risk Control with Risk Management Practice

With reference to the fourth research question and the second null hypothesis,

Question 4: Is there a correlation between Risk Management Practice with Risk Identification, Risk Assessment and Risk Control?

H_{02}: Risk Management Practice is not significantly correlated to the independent variables of Risk Identification, Risk Assessment and Risk Control.

To test this hypothesis, Pearson correlational analysis was used to determine the various correlations between Risk Management Practice, Risk Identification, Risk Assessment and Risk Control respectively.

Table 4.9 reflects the data generated on the Pearson correlational analysis. The null hypothesis, H_{02}, that "Risk Management Practice is not significantly correlated to the independent variables of Risk Identification, Risk Assessment and Risk Control", was rejected.

While all the three independent variables are significantly correlated (at $p < 0.001$) with Risk Management Practice, it appears that Risk Control exhibits the highest correlation with Risk Management Practice ($r = +0.9480$), followed by Risk Identification ($r = +0.9160$) and Risk Assessment has the lowest correlation with Risk Management Practice ($r = +0.8100$).

To further illustrate the positive correlation of the three independent variables with Risk Management Practice, three graphs are plotted as shown in Figure 4.4, Figure 4.5 and Figure 4.6 respectively.

The implications of the positive relationship between Risk Identification and Risk Assessment with Risk Management Practice show that the school administrator has identified, assessed and is aware of the needs and importance of these steps and procedures which result in good Risk Management Practice.

Similarly, the positive relationship between Risk Control with Risk Management Practice shows that steps and procedures taken by the school administrator to substantiate the Risk Control items which results in good Risk Management Practice.

Table 4.9: Correlation coefficients for Risk Management Practice with Risk Identification, Risk Assessment and Risk Control

	Risk Management Practice	Risk Identificationn	Risk Assessment	Risk Control
Risk Management Practice	1.0000 (28) P= .			
Risk Identification	9160 (. 28) p= .ooo	1.0000 (28) P= .		
Risk Assessment	8100 (. 28) P= .ooo	.6906 (28) p= .ooo	1.0000 (28) P= .	
Risk Control	.9480 (28) P= . 000	8138 (. 28) P= .ooo	.6208 (28) P= .000	1.0000 (28) P= .

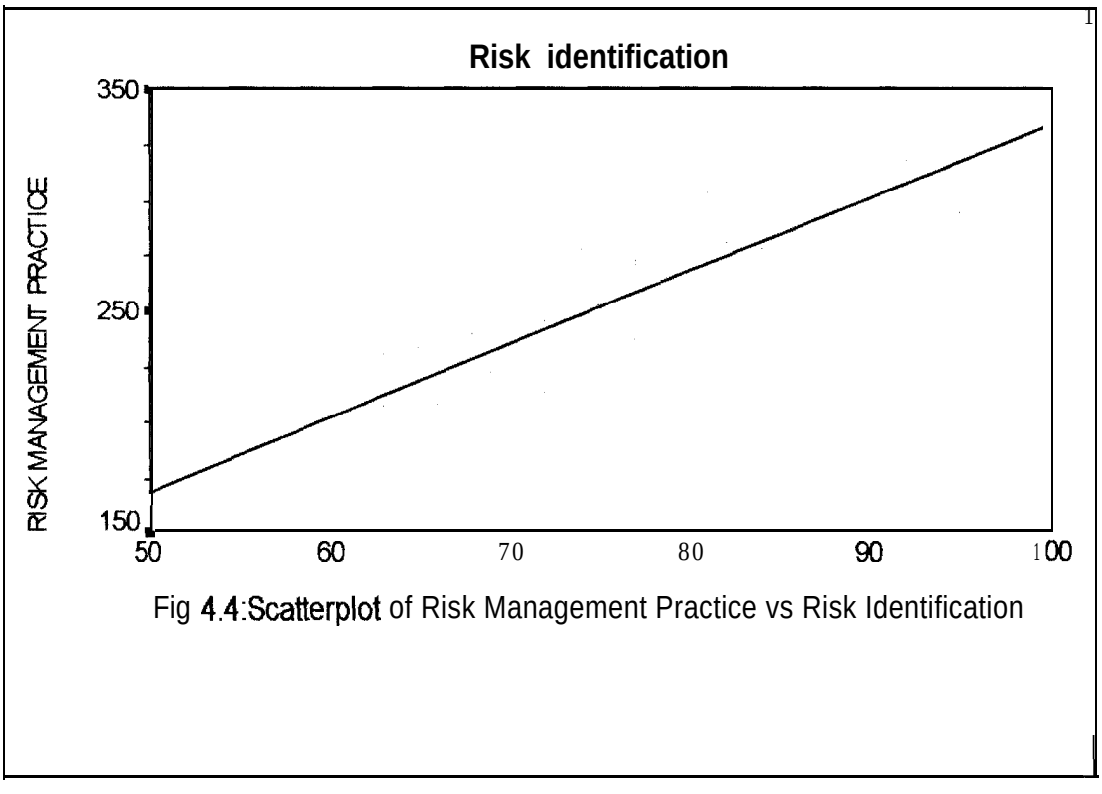


Fig 4.4:Scatterplot of Risk Management Practice vs Risk Identification

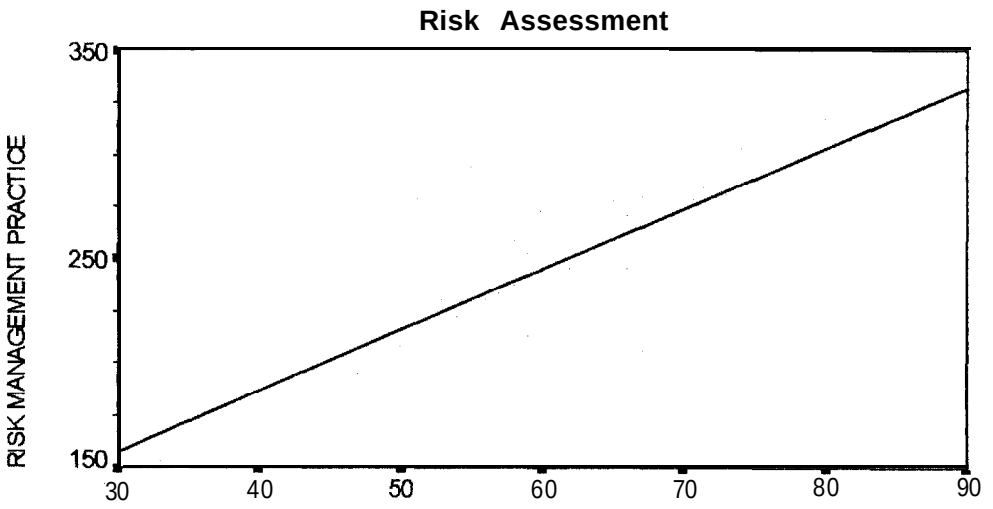


Figure 4.5:Scatterplot of Risk Management Practice vs Risk Assessment

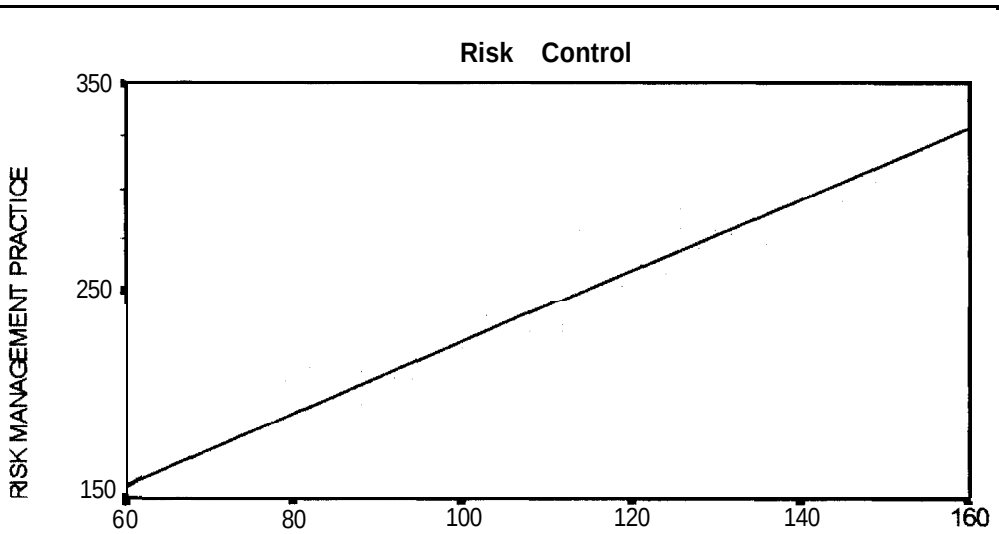


Figure 4.6: Scatterplot of Risk Management Practice vs Risk Control

4.5 Risk Management Practice and personal characteristics of the school administrator

This section discusses the inferential analyses used which consists of the following:-

(i) Multiple Regression Analysis was used to determine whether the personal characteristics of the school administrator, viz., age, service category (educational level), years of service and race, explain the variance in Risk Management Practice and

(ii) Analysis of Variance (ANOVA) used to determine whether there are significant differences in Risk Management Practice with the various personal characteristics of the school administrator, viz., age, service category (educational level), years of service and race respectively.

4.5.1 Multiple Regression Analysis of Risk Management Practice with age, service category, years of service and race (gender is deleted as there is only one female respondent as previously reported)

With reference to the fifth research question and the third null hypothesis,

Question 5: Do the four independent variables of age, service category, years of service and race explain the variance in Risk Management Practice?

H_{03} : The four independent variables of age, service category, years of service and race do not significantly explain the variance in Risk Management Practice.

To test this hypothesis, Multiple Regression Analysis was performed. The results of regressing the four independent variables of age, service category, years of service and race against Risk Management Practice is tabulated in Table 4.10.

Table 4.10 reflects the Multiple R (0.45349) which is the multiple correlation coefficient of the four independent variables with the dependent variable after all the intercorrelations among the four independent variables are taken into account. The four independent variables of age, service category (educational level), years of service and race, jointly accounted for 20.56 percent of the variance in Risk Management Practice (R Square = 0.20565). These values are not significant as indicated in Table 4.10, with F = 1.48863 and p = 0.2383.

Table 4.10: Regression coefficients for Risk Management Practice with age, service category (educational level), years of service and race of the shool administrator

1..	RACE	RACE OF SCHOOL ADMINISTRATOR
2..	AGE	AGE OF SCHOOL ADMINISTRATOR
3..	EDULEVEL	EDUCATIONAL LEVEL OF SCHOOL ADMINISTRATOR
4..	PERIOD	PERIOD AS SCHOOL ADMINISTRATOR

Multiple R	.45349
R Square	.20565
Adjusted R Square	.06750
Standard Error	36.78810

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	4	8058.62742	2014.65686
Residual	23	31127.37258	1353.36403

F = 1.48863 Signif F = .2383

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
AGE	4.224703	6.118158	.152197	.691	.4968
EDULEVEL	11.910300	9.711409	.273601	1.226	.2324
PERIOD	-9.586312	10.377589	-.227694	-.924	.3652
RACE	-7.617988	9.503803	-.155982	-.802	.4310
(Constant)	251.695163	36.820317		6.836	.0000

Therefore, the null hypothesis, H_{03}, that "the four independent variables of age, service category, years of service and race do not significantly explain the variance in Risk Management Practice", was retained.

4.5.2 Risk Management Practice and age

With reference to the sixth research question and the fourth null hypothesis,

Question 6: Are there differences in Risk Management Practice with various age groups of the school administrator?

H_{04}: Risk Management Practice will be the same irrespective of the various age groups of the school administrator.

To test this hypothesis, Analysis of Variance (ANOVA) was used to determine the differences in the mean Risk Management Practice amongst the various age groups of the school administrator respectively.

Table 4.11 reflects the data generated by the Analysis of Variance (ANOVA). The analysis showed that there is no significant difference among the various age groups of the school administrator. The details are found in Table 4.11, with F = 2.1252 and p = 0.1102.

Therefore, the null hypothesis, H_{04}, that "Risk Management Practice will be the same irrespective of the various age groups of the school administrator", was retained.

Table 4.11: Analysis of variance (ANOVA) of age with Risk Management Practice

Grp 1 = 31 - 35 years
Grp 2 = 36 - 40 years
Grp 3 = 41 - 45 years
Grp 4 = 46 - 50 yeats
Grp 5 = 51 - 55 yeats

Source	D.F.	Sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	4	10574.6000	2643.6500	2.1252	.1102
Within Groups	23	28611.4000	1243.9739		
Total	27	39186.0000			

- No two groups are significantly different at the 0.05 level

This implies that age and hence experiences of the school administrator does not make any difference in Risk Management Practice, i.e., a young school administrator is as good as old school administrator. This can probably be explained by the fact that schools regularly receive guidelines, rules and regulations about safety and other related issues. As all school administrators have to abide by these guidelines, rules and regulations, it leads to similar good Risk Management Practice at their respective schools.

4.5.3 Risk Management Practice and service category

With reference to the seventh research question and the fifth null hypothesis,

Question 7: Are there differences in Risk Management Practice with the various service categories (educational levels) of the school administrator?

H_{05}: Risk Management Practice will be the same irrespective of the various service categories (educational levels) of the school administrator.

To test this hypothesis, Analysis of Variance (ANOVA) was used to determine the differences in the mean Risk Management Practice amongst the various service categories (educational levels) of the school administrator respectively.

Table 4.12 reflects the data generated by the Analysis of Variance (ANOVA). The analysis showed that there is no significant difference among the various service categories (educational levels) of the school administrator. The details are found in Table 4.12, with F = 2.4885 and p = 0.1034.

Table 4.12: Analysis of variance (ANOVA) of service category (educational level) with Risk Management Practice

Grp 1 = Certificate of Education
Grp 2 = Diploma of Education/Management
Grp 3 = Bachelor's Degree
Grp 4 = Master's Degree

Source	D.F.	sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	6506.0326	3253.0163	2.4885	.1034
Within Groups	25	32679.9674	1307.1987		
Total	27	39186.0000			

* No two groups are significantly different at the .050 level

Therefore, the null hypothesis, H_{05}, that "Risk Management Practice will be the same irrespective of the various service categories (educational levels) of the school administrator", was retained.

This implies that educational levels of the school administrators does not make any difference in Risk Management Practice, i.e., a college trained school administrator is as good as a university trained school administrator.

4.5.4 Risk Management Practice and years of service

With reference to the eighth research question and the sixth null hypothesis,

Question 8: Are there differences in Risk Management Practice with the various years of service of the school administrator?

H_{06}: Risk Management Practice will be the same irrespective of the various years of service of the school administrator.

To test this hypothesis, Analysis of Variance (ANOVA) was used to determine the differences in the mean Risk Management Practice amongst the various years of service of the school administrator respectively.

Table 4.13 reflects the data generated by the Analysis of Variance (ANOVA). The analysis showed that there is no significant difference among the various years of service of the school administrator. The details are found in Table 4.13, with F = 1.2892 and p = 0.3008.

Table 4.13: Analysis of variance (ANOVA) of years of service with Risk Management Practice

Grp 1 = 0 - 3 years
Grp 2 = 4 - 7 years
Grp 3 = 8 - 11 years
Grp 4 = > 12 years

Source	D.F.	sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	3	5438.4083	1812.8028	1.2892	.3008
Within Groups	24	33747 .5917	1406.1497		
Total	27	39186.0000			

- No two groups are significantly different at the .050 level

Therefore, the null hypothesis, H_{06}, that "Risk Management Practice will be the same irrespective of the various periods of service of the school administrator", was retained.

This implies that length of the period of service of the school administrator does not make any difference in Risk Management Practice, i.e., a newly promoted school administrator is as good as a long serving school administrator.

4.5.5 Risk Management Practice and race

With reference to the nineth research question and the seventh null hypothesis,

Question 9: Are there differences in Risk Management Practice with the various races of the school administrator?

H_{07}: Risk Management Practice will be the same irrespective of the various races of the school administrator.

To test this hypothesis, Analysis of Variance (ANOVA) was used to determine the differences in the mean Risk Management Practice amongst the various races of the school administrator respectively.

Table 4.14 reflects the data generated by the Analysis of Variance (ANOVA). The analysis showed that there is no significant difference among the various races of the school administrator. The details are found in Table 4.14, with F = 1.7682 and p = 0.1913.

Table 4.14: Analysis of variance (ANOVA) of race with Risk Management Practice

Grp 1 = Malay
Grp 2 = Chinese
Grp 3 = Indian
Grp 4 = Others

Source	D.F.	sum of Squares	Mean Squares	F Ratio	F Prob.
Between Groups	2	4856.1917	2428.0958	1.7682	.1913
Within Groups	25	34329.8083	1373.1923		
Total	27	39186.0000			

- No two groups are significantly different at the .050 level

Therefore, the null hypothesis, H_{07}, that "Risk Management Practice will be the same irrespective of the various races of the school administrator", was retained.

This implies that race of the school administrators does not make any difference in Risk Management Practice, whether it is a Malay school administrator, Chinese school administrator or an Indian school administrator, as all of them can carried out Risk Management Practice equally well in their respective schools.

Findings regarding H_{04}, H_{05}, H_{06}, and H_{07} consolidate, as it seems, H_{03}. This could mean that any personal characteristics i.e., age, service category, years of service and race, of the school administrators does not affect Risk Management Practice.

C H A P T E R 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter describes the summary of the study, conclusions and recommendations for further research.

5.1 Summary

This study attempted to investigate the relationships between Risk Management Practice and Risk Identification, Risk Assessment and Risk Control and the moderating effects of gender, age, service category (educational level), years of service, and race of the school administrators on Risk Management Practice.

5.2 Major Findings

The major findings of this study include the following:-

1. Risk Management Practice is positively and significantly related to the three independent variables of Risk Identification, Risk Assessment and Risk Control.

2. 35.72 percent of the school administrators have Low Awareness of Risk Management, whilst 57.14 percent of the school administrators have Normal Awareness of Risk Management and only 7.14 percent of the school administrators have High Awareness of Risk Management.

3. Age, service category (educational level), years of service and race of the school administrators did not significantly relate to the Risk Management Practice of the school administrators.

5.3 Conclusions

The results show that school administrators who have high scores on the Risk Management Practice exhibit a high awareness of risk management and have taken the necessary steps and precautions to ensure the safe environment of their respective schools and students.

On the other hand, school administrators who have low scores on the Risk Management Practice exhibit a low awareness of risk management and hence, safety of the school environment is left to chance.

The personal characteristics of the school administrators do not have a significant effect on the Risk Management Practice of the schools. This implies that the majority of the school administrators are managing their schools safely, probably by adhering to the rules, regulations, guide-lines and service circulars given to these schools.

A major limitation of this study was the use of the population as sample. This was because three school administrators were not included in this study due to their rural locality. Another limitation is the generalization of the findings of this study which is applicable only to the town of Sungai Siput (U), Perak and also due to the small number of respondents.

5.4 Recommendations

Based on the summary and conclusions from the study and the implications to research, researchers, policy formulation and risk management, the following recommendations are put forward:

1. Further research be conducted to incorporate other variables and factors associated with risk management of schools. Thus the data and findings can be used to generate new knowledge, new hypotheses and a new framework for studies on risk management.

2. Replication of this study in other towns, cities and other states with larger number of respondents.

3. A more systematic and frequent distribution of safety precautions, safety rules, health regulations, guidelines, information, checklist, and good risk management practices to be send regularly to all school administrators by the Ministry of Education. Case studies of good risk management practice in schools to be published regularly by Aminuddin Baki Institute, Ministry of Education as a regular bulletin to all school administrators.

4. The use of the Risk Management Practice as a check-list and manual serving as guidelines for school administrators to implement risk management and safety campaigns in their schools respectively.

5. The formation, development and implementation of a proactive Risk Management Committee in the school. The main objective of this committee is to achieve a safe learning environment by implementing risk management practices and activities that ensure risks are effectively identified, assessed, controlled and minimized to a level of risk that is reasonably achievable.

6. The implementation of 'zero defects' in risk management practices in all schools.

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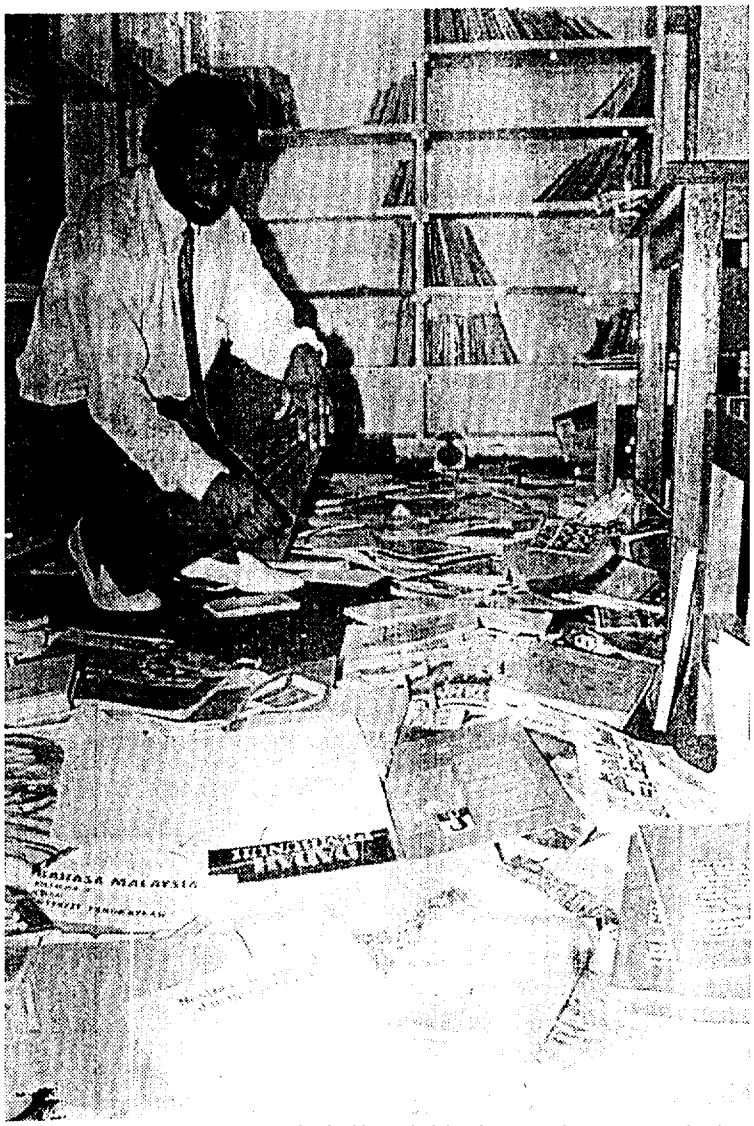
A P P E N D I C E S

The Star

11 August 1995

School vandalised for the 10th time



SAD SITUATION . . . Devaraj looking helplessly at the strewn books yesterday.

By SIM BAK HENG

JOHOR BARU: A school in Taman Desa Cemerlang has been vandalised 10 times since 1990, with the latest incident forcing the headmaster to turn the school canteen into temporary classrooms for over 260 pupils.

SRJK (Tamil) Desa Cemerlang 'headmaster Devaraj Joseph believed the latest incident on Wednesday was the work of local boys but their motive was not known.

He said vandals broke into the school, damaged the doors of all seven classrooms and destroyed the furniture, a radio and books.

"Our records showed that they (the vandals) came during holidays or weekends and switched on all the lights and fans before they left," he told

He said the first case occurred in 1990 and this year, three cases had been reported.

Devaraj said he had lodged a report at the Tiram police station, as he did on previous occasions.

The damage on Wednesday, estimated at RM10,000, was discovered by school gardener Ibrahim Bakar at 6.30am yesterday.

Classes yesterday were cancelled and arrangements were made for all the pupils to sit in the canteen for a briefing by the teachers.

Meanwhile, Johor Indian Business Association president P. Sivakumar has called for a thorough investigation into the case and urged that all schools in isolated areas should hire private guards.

The Star

16 August 1995

Classrooms destroyed in pre-dawn fire

KUCHING: About 380 pupils of Sekolah Rendah Kerajaan Semenggok, 20km from here, could not attend classes yesterday as their classrooms were destroyed in a pre-dawn fire.

A single-storey wooden block which housed eight classrooms, was burnt to the ground in the blaze which broke out at 2am.

The school has three blocks of classrooms and 5.56 pupils and its administration had reported the matter to the divisional education office.

A fire brigade' spokesman said it received a call at 3.40am and rushed two engines to the scene but it was too late.

The New Straits Times
17 August 1995

Girl, 12, struck by celling fan

BANDAR PERMAISURI, Wed. — A la-year-old pupil was injured when she was hit by a ceiling fan at her school hostel at Sekolah Kebangsaan Kampung Buloh near here. She received five stitches.

Father Mohamad Ali, 38. said in the incident on Monday, his daughter Xmalia was hit on the forehead when she got up from her double-decker bed at the school hostel.

Mohamad said he and his wife rushed to the hostel and found the fan was just a few metres above his daughter's bed.

He urged the school authorities to remove the fan to prevent similar incidents.

The Star
17 August 1995

Schoolboy badly hurt after fall from roof

MALACCA, Wed. A schoolboy suffered serious head injuries after falling off the roof of a school building on which he had climbed to watch the Premier League soccer match between Selangor and Malacca last night.

Zaaba Manap, 13, of Jalan Hang Kesturi near Kampung Keling here had climbed to the top of the 13-metre roof of the Pay Fong secondary school canteen, located beside the Kubu Stadium, to watch the match.

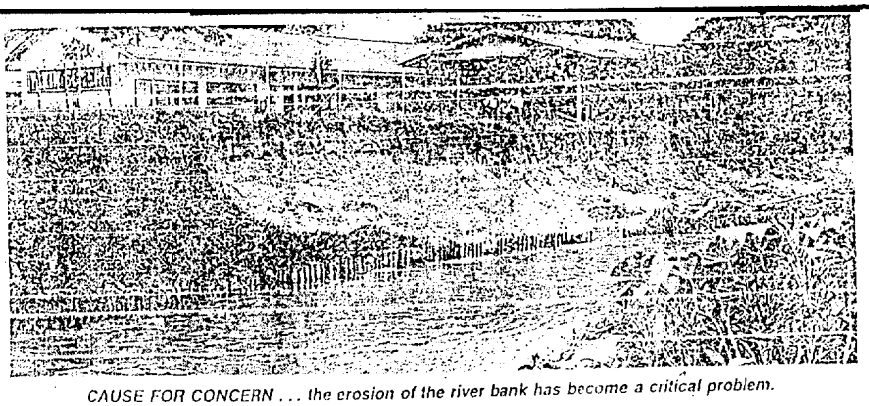
Police L/Cpl Osman-Dawam @ Md Ali, who was on duty, said he heard a loud thud about 10.20pm.

On hearing cries for help, Osman said he went to investigate and found that Zaaba had fallen into a three-metre drain.

He quickly lifted the semi-conscious Zaaba from the drain and sent him to the Malacca Hospital.

Zaaba's condition was listed as critical but stable.

The Star
19 August 1995



CAUSE FOR CONCERN ... the erosion of the river bank has become a critical problem.

Rapid erosion puts school in dire straits

By HONG BOON HOW

TAIPING: Rapid erosion along the banks of Sungai Tupai may result in a primary school collapsing if the authorities fail to act soon.

Methodist Primary School headmaster N. Siva Subramaniam said the municipal council and Drainage and Irrigation Department (DID) would be held responsible if any tragedy occurred, as the matter had already been referred to them.

He said the river bank, which was three metres from the school's perimeter fence before, had now reached the fence following excessive erosion.

"Parts of the fence have already collapsed, and we fear the river will reach the school canteen in about two months if the present heavy rainfall continues.

Zaharah ... 'politicians have not kept their promises'

"Although the erosion is not new, we feel that the problem is critical now," he said.

The school has 400 students and 30 staff.

Siva said the row of bakau plants planted sometime ago by the DID had not helped.

He said besides DID, he had also written to the Prime Minister's Department and the Science, Technology and Environment Ministry for assistance.

River bank foodstall operator Zaharah Chek Lik said the erosion had also resulted in her house being one metre away from the bank.

She said that authorities should take steps to check the erosion.

"I am sad that politicians who made campaign pledges to solve the chronic problem have not kept their promises," she said.

Appendix A 6

The New Straits Times
19 August 1995

Student gets beaten up for walking past class

MALACCA, Fri. -A schoolboy was injured when seven students attacked him in an empty classroom.

The E-year-old boy began bleeding from his nose and lips when the group from a different class took turns to assault him.

The Form Three student of Sekolah Menengah Munshi Abdullah said he was waiting for the schoolbus to take him to the Al-Azim State mosque for Friday prayers about 12.40pm when the boys, also Form Three students,. asked him to go back to his class on the first floor.

"They asked me why I passed by their classroom, located on the same floor, before attacking me," he said at his house at Taman Ayer Molek near here.

The boy managed to escape further beating by running down the staircase just outside the classroom.

Following the attack, the schoolboy lodged a report at the Batu Berendam police station after Friday prayers with the assistance of a warden. He was taken by a warden to the Malacca Hospital where he received outpatient treatment.

The hoy also claimed the same group had in the past warned him and several of his classmates against walking past their classroom, located in the middle section of the first floor.

The boy's father, a 44-year-old staff of the State Development Corporation, said hooliganism in schools should be stopped before it became widespread.

"A school is a place for everyone and no one should claim territorial rights in such premises," he said.

It is understood police have picked up three of the students from their homes for questioning.

Appendix A 7

The Star
19 August 1995

Tambun schools hit by flash floods after downpour

IPOH: About 1,060 pupils of Sekolah Kebangsaan Tambun near here may not be able to use their library hooks when school reopens after the week-long holiday at the end of this month.

Most of the books, which headmaster Haji Abdul Aziz Abdul Wahab estimated to bc worth RM10,000, were damaged by water during flash floods following heavy rainfall in and around the city since early Sunday.

Although the water rcccdcd yesterday, the pupils were not in their classrooms as Haji Ahdul Aziz had given them two days emergency leave.

"Wc will replace the two days later," said Haji Abdul Aziz.

Teacher Hasmimah Hanim Jalil, who is in charge of the library, said the hooks were being dried.

"Maybe some can still he used by the pupils when school reopens after the holidays," she said, adding that the flash floods were the first since she began teaching at the school four years ago.

Sek Keb Tambun was among the few schools which were closed after they were inundated by flash floods.

Meanwhile, the Fire Services Department headquarters in Jalan Komplcks Sukan was swamped with calls to help out in the cleaning of other schools affected by the flash floods.

However it could only spare a team of four firemen who went to SM Lelaki Sungai Pari in Buntong.

The school principal, Sarjit Singh who took up his present post recently, said the 966 students of the school were given Thursday as emergency holiday.

He said water from Sungai Pari nearby had overflowed into the school compound about 3am on Thursday.-

However, he said he was told that such flash floods had not occurred in the past few years after the river was desilted and widened by the authorities

DRYING OUT.. . teachers of Sek Keb Tambun hanging the wet books In one of the classmoms yesterday. They hoped to have them dried before school reopens after the week-long holiday starting today.

Appendix A 8

The Star

25 September 1995

Behave or be expelled, students told

By TUNKU SHAHARIAH

BUKIT MERTAJAM: Students of Sekolah Mcnengah Bakti in Tasik Glugor, where problems of indisciplinc have caused concern to the authorities, have been told to behave or face expulsion.

"We are concerned with the situation and we hope the matter can be resolved quickly," Deputy Chief Minister Datuk Mohd Shariff Omar said at a meeting with parents yesterday.

The meeting was called to get the parents' co-operation to help resolve misunderstandings and to get the parents to show greater interest in their children's studies and welfare.

Shariff said the school had expelled 11 students last year for fighting, using sharp weapons. He said the students were initially given counselling.

"But they failed to be rehabilitated and the education department had to expel them," he said.

Adding that "prevention is better than cure", he said the department would be instructed to continue with such action.

Shariff said most of the fights had stemmed from discord and these were made worse with the intervention of parents.

In a multiracial society, it is important that people respect each other's sensitivities, hc said, urging the parents to instil the spirit of racial harmony among the children.

The Star

30 September 1995

Teacher injures student's eye

KUANTAN: A Form Four student has been warded at the Kuantan hospital with an eye injury after a teacher threw a duster at him in class on **Wednesday.**

The student was taken to hospital after a **disciplinary** teacher saw him with **a swollen** eye.

The principal of St Thomas Secondary School Choo Tai Ching said the teacher threw the duster to get the attention of the student.

"This is an unfortunate accident where the teacher had no intention to hurt the student.

"I have reported this incident to the district Education Department," he added.

The boy's parents however refused to speak to newsmen.

DSP **Lai** also said police were anxious lo contact one G. Maruthaiah to assist in investigations into a criminal breach of trust case.

He said Maruthaiah, **35,** (I/C: 6041177) could help police shed light on a case involving electrical products and collections amounting to **RM23,000.**

He said those who knew **Maruthaiah's whereabouts** should contact the nearest police station or call Chief Insp Mohamad Sidek at **Bandar Pusat Jengka** police-at **☎ 09-**4662452.

Appendix A 10

The Star

20 Cctoher 1995

Bad milk lands 17 in hospital

SEREMBAN: Nineteen students from a Tamil primary school in Nilai near here were rushed to the Seremban Hospital for suspected food poisoning yesterday.

The seven boys and 12 giks from SRJK (T) Nilai started vomiting and purging after drinking free milk provided by the Education Ministry.

M. Ravindran, a teacher at the school said the school authorities sent the affected students to the government clinic in Nilai, before rushing them' to Seremban for outpatient treatment.

The Star
24 October 1995

Ministry to probe use of bromine in schools

SHAH ALAM: The Health Ministry will investigate the use of bromine in schools and will immediately ban the chemical if claims that it is hazardous to students teachers and laboratory assistants are found to he true.

'Health Ministry parliamentary secretary Datuk M. Mahalingam said action could he taken under the Poison Control Act.

Mahalingam said this in response to a request made by director general of Education Tan Sri Wan Zahid Mohd Nordin that they would seek the ministry's advise on the usage of bromine in schools.

Laboratory Staff Union of the Education Ministry president Roslan Kassim had said inhalation of bromine fumes could cause breathing difficulties lung and liver damage, and even death.

The ban was called after the union received a second report last Wednesday that a teacher and a lab assistant in SM Seri Perak, Parit Buntar, were hospitalised after inhaling the fumes during its preparation.

In the first reported incident last year, 2,000 students from SM Raja Zarina, Klang were given I week off after a bottle containing bromine broke in the schooi's laboratory.

National Union of Teaching Profession (NUTP) president P Ramanathan said the Education Ministry should discontinue using bromine in practical exams until the ministry had ascertained its safety.

The Star

27 October 1995

Teacher who 'took' fees being sought

KOTA KINABALU: Police are looking for a teacher of a private institute who allegedly absconded with RM5,000 in examination fees which forced 34 students to miss the Sijil Pelajaran Malaysia (SPM) and Sijil Tinggi Pelajaran Malaysia (STPM) examinations.

District crime officer DSP Zainuddin Wahah said they were trying to locate the woman teacher whom they believe could assist in their investigations into the reports lodged by the students' parents.

The parents claimed on Wednesday that they had paid the SPM and STPM examination fees to an employee of the institute hut the money was never remitted to the Education Department.

Twenty-two SPM candidates had each paid RM110 in fees and 12 STPM candidates had each paid RM205 to the teacher in March.

fin official receipt was given.

The students only discovered that the fees were not remitted to the Education Department when they failed to receive their private candidate numbers and examination schedules last Friday.

"We are investigating the case under criminal breach of trust and we hope to contact the teachcr to assist in our investigations," Zainuddin said, adding that no arrests had been made so far.

Meanwhile, a check showed that the institute was closed yesterday. ,

State Education Department director Datuk Dr Hasbullah Taha could not bc reached for comment.;

The Star

31 October 1995

Ministry won't ban bromine in schools

By TAN WAI FONG

KUALA LUMPUR: The Education Ministry will not ban the use of bromine in schools as the chemical is safe if handled carefully., its public relations head Poziah Abdul Rahman said yesterday.

She said the ministry's investigation into the case where a teacher and a laboratory assistant at SM Seri Perak, Parit Buntar, were hospitalised after inhaling bromine fumes showed they had not handled the chemical according to instructions.

"They did not follow the instructions in the Laboratory Management Handbook," Poziah said.

She advised teachers and students to comply with the laboratory instructions on how to handle chemicals.

The laboratory rules guide must be displayed in all laboratories in schools, she said.

"There is no necessity to ban bromine which is an essential chemical in science subjects." she added.

Last year, 2,000 students from SM Raja Zarina, Klang, were given a week off after a bottle containing bromine broke in the school's laboratory.

Contact with hrornine can cause burns, while inhaling the fumes may result in breathing difficulties, lung and liver damage, and even death.

Poziah said the ministry would re-issue the laboratory guidelines to ensure that all chemicals were handled according to instructions.

The Star

1 November 1995

Teacher detained over missing fees

By MUGUNTAN VANAA

KOTA KINABALU: Police have detained a 23-year-old woman teacher of a private institute in connection with the alleged misappropriation of RM5,000 in examination fees.

District crime officer DSP Zainuddin Wahab said yesterday the teacher was briefly detained to have her statement recorded when she turned up at the police station at 11am on Tuesday.

The teacher was released on RM2,000 undeposited police bail in two sureties, he said, adding that statements from students and parents were still being recorded.

A total of 22 SPM students and 12 STPM students from an unregistered institute claimed they had paid examination fees to a teacher in March but found the the money was not remitted to the Education Department when they failed to get their private candidate numbers and examination schedules before the examinations on Oct 21.

The principal of the institute and students' parents had lodged reports with the Mengattal police station on Oct 25.

Sabah Education Department director Datuk Dr Hasbullah Mohd Taha had said the institute was illegal and that they were leaving the matter with the police.

The Star
5 December 1995

S'wak school gutted by pre-dawn fire

By JACK WONG

KUCHING: A pre-dawn fire destroyed a double-storey wooden block of Sekolah Rendah Bantuan Chung Hua in Penrissen Road, disrupting the lessons of about 1,500 pupils when school reopened yesterday.

Eight classrooms, the headmaster's office, administrative office, and a store were gutted by the blaze which was believed to have started at about 3am.

The fire partially affected another block which houses the library, resource centre, and other facilities.

The school, which would have 33 classes for both the morning and afternoon sessions for the next term, was forced to send the pupils back.

A spokesman said the wooden block, built in 19.57, was completely destroyed before firemen in three engines arrived at about 4.40am.

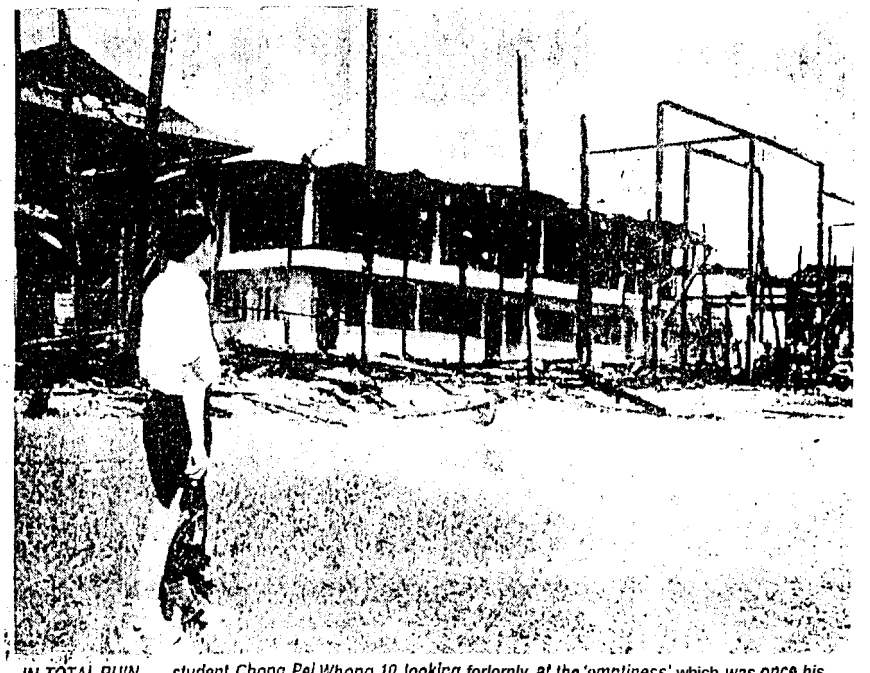
He said the Education Department had been informed of the fire and some of the pupils might have to go to another school nearby for their lessons.

The school's management board convened an emergency meeting yesterday morning to consider putting up a temporary block to replace the destroyed building.

Meanwhile, Bernama reported the school principal, Siaw Heng Hong, as saying that damage was estimated at RM430,000.

Sarawak Assistant Culture, Youth and Sports Minister Alfred Yap, who was at the scene, told reporters that a committee had been formed to collect donations for a temporary building.

The school needed about RM2 million to construct four new buildings, he said.



IN TOTAL RUIN . . . student Chong Pei Whong, 10, looking forlornly at the 'emptiness' which was once his school. He had no class to go to when school reopened yesterday.

The Star
23 December 1995

NUTP: Expel. students *who hit teachers

By HONG BOON HOW

TAIPING: The National Union of Teaching Profession (NUTP) wants students who assault teachers to be expelled immediately.

Its secretary-general N. Siva Subramaniam said hitting teachers was a serious matter and the union had received five such complaints this year.

Commenting on Thursday's incident in which a teacher of Sckolah Menengah Datuk Idris, Pantai Remis, was beaten up by two Form Three students, Siva said: "Discipline in schools is getting worse and something should be done immediately to restore it."

Mohd Yusuf Sharif, 36, was beaten up by two students after he told them to stop kicking a classroom divider.

He suffered head injuries and his left wrist was fractured when the students attacked him with a stick and a helmet.

Mohd Yusuf, a teacher -for 16 years, has been warded in the Taiping Hospital.

He has lodged a police report on the assault.

Siva said if delinquent students were not expelled, the NUTP would instruct teachers to "take it easy" on disciplinary matters.

Perak State Education , Deputy Director (II) Ahmad Shafi said the department was wailing for a re- , port on the matter.

"We cannot comment until we've studied the report," he said.

The Star

24 January 1996

RELEASE HIM ... Tin Kuwi Dium (right) and Gan Kim Choo handing out posters of Seong Sheng at the rally yesterday. — STARpic by ART CHEN

Mass appeal for boy's release

By DEVID RAJAH

KLANG: About one thousand people — parents, teachers and pupils of SRJK (C) Taman Rasuah — gathered near the school canteen yesterday to appeal to the abductors of schoolboy Tin Seong Sheng to release him.

The students held placards with the words *Release Tin Seong Sheng* among others, to show their care and concern for their schoolmate who went missing 10 days ago.

Some parents wept openly when Seong Sheng's father, Tin Kuwi Dium, 49, a mechanic, appealed to the public for information which could help find his son. He also offered RM20,000 as reward for such information.

Seong Sheng's mother, Gan Kim Choo, 46, started crying when pressmen asked her to pose with her son's poster.

Seong Sheng was last seen being led out of school by a short-haired woman wearing sunglasses.

Selangor Education Department assistant director for primary schools Shaari Abdullah said all schools had been alerted to tighten security following the incident.

Meanwhile, Shah Alam OCPD Asst Comm Mohd Fauzi Saari denied a press report that five Indonesians were detained in connection with the missing boy.

He said the Indonesians had given shelter to a 10-year-old boy whom they found crying at the Klang bus terminal in Kuala Lumpur.

'They kept the boy, believed to be a Sabahan, in the kongsi for a night and sent him back to the bus terminal the following morning," he said, adding that the taxi driver who tipped off police could have mistaken the boy for Seong Sheng.

He said the Indonesians would be released soon.

Meanwhile, Klang OCPD Asst Comm Aziz Ariarasa said there was a the possibility that Seong Sheng could have been kidnapped because there had been no response from the public on his whereabouts.

Schools told to tighten security

● FROM PAGE ONE

The Star
29 January 1996

Relief for school damaged by fire

Minister gives priority to rebuild classrooms

By HAMDAN RAJA ABDULLAH

MUAR: Sek Keb Simpang Jeram here, which was damaged by a fire last week, will be rebuilt, Health Minister Datuk Chua Jui Meng said.

Speaking to reporters during a visit to the school on Saturday, he said Education Minister Datuk Seri Najib Tun Razak had agreed to look into the matter.

"I met Najib last week and told him about the fire, which destroyed three classrooms and damaged three others.

"Najib agreed to give priority to rebuild the classrooms, and asked the school to provide details of the losses, which include chairs, tables and books," he said.

Chua said the fire on Jan 22 had forced 245 morning session pupils in Standard One, Two and Three to study in the afternoon, and afternoon religious classes were shifted to Sek Agama Sungai Abong.

He said more than RM30,000 worth of furniture and books had been destroyed, and the Public Works Department had been asked to assess the damage done to the buiiding.

Chua, who is also Bakri MP, said he and Bukit Naning state assemblyman Masiran Alias had agreed to provide allocations to enable the school to buy some new books and furniture.

"I will allocate RM10,000, while Masiran has agreed to add whatever amount needed to equip the classes," he added.

Sunday Star

4 February 1996

School building declared unsafe

MALACCA: A termite-infested building housing seven classrooms in the Notre Dame Chinese Girls Primary School in Jalan Gajah Berang has been declared unsafe.

Headmistress Tan Kin Lip said yesterday the matter came to light when a routine check in September showed that the wooden pillars and structures had become hollow.

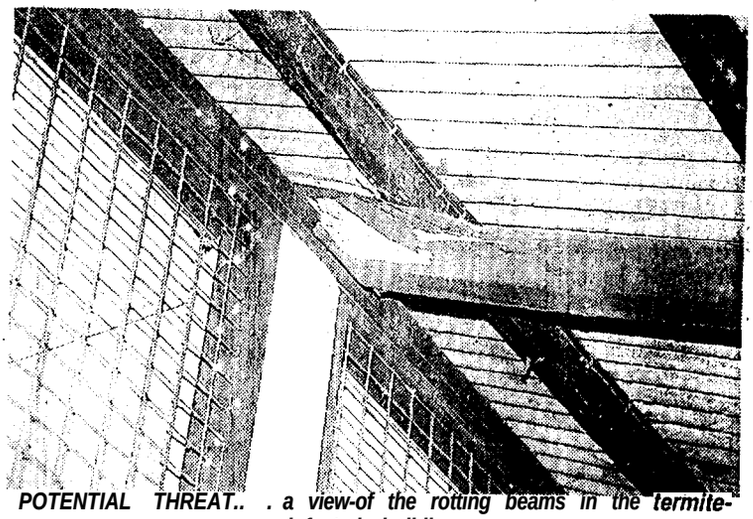
"Further checks revealed that termites have attacked the roof and it may collapse," she said, adding that a pest control company had conducted routine treatment previously.

Tan said state Education Department and Public Works Department officials who visited the building certified it unfit for occupation.

"The school has sealed off the affected building and converted the library, science laboratory, music room, woodwork workshop and the basketball court into temporary classrooms," she said, adding about 250 students were affected.

Tan said the school had also decided to shift two classes to the afternoon session this year, to allow extra-curricular activities to be carried out at the basketball court.

Notre Dame, which was founded by the Convent Sisters 45 years ago, is the only Chinese primary school for girls in Malacca, and has a student population of 1,077.



POTENTIAL THREAT.. . a view-of the rotting beams in the termite-infested building.

She said the school's board of governors, parent-teacher association and the Old Girls Association had agreed to demolish the termite-infested building and construct a three-storey building with 18 classrooms, costing RM700,000.

"The school will also have a computer room, science room, woodwork workshop, music room. games room, dental clinic and a multi-purpose hall," Tan said.

She said the school has appealed for RM300,000 in aid from the Government through Deputy Education Minister Datuk Fong Chan Onn.

"We hope to raise the balance from the Board of Governors, Parent-Teacher Association, Old Girls Association, political parties and the public," Tan said.

She said the school hopes to raise about RM400,000 from a concert, *The* Tiger *Roadshow* Concert 1996 at Pay Fong School on April 16.

Tan said several members of Parliament and state assemblymen had promised to assist the school in their fund-raising campaign.

4 - 1

Sunday Star

4 February 1996

Tragedies at school

The following are some of the different incidents that have happened to schoolchildren.

Rape:

- Jan 28, 1994 (Penang): An 11-year-old girl is raped and assaulted in the school toilet. A man is seen coming out of the toilet at 6am. Children are advised to arrive at school only 30 minutes before the morning session starts.
- July 19, 1994 (Taiping): A seven-year-old girl is waiting outside her classroom when a man approaches her and gives her 10 sen. She follows him to the school toilet where he rapes her. This happened during school hours.
- Nov 1994: A girl is raped at her school canteen.

Traffic accidents:

- Feb 16, 1995: A metrobus knocks down a boy who is on his way to school in Subang Jaya. He dies.
- Jan 9, 1996: Boy, seven, is knocked down by a motorcycle in Shah Alam near his school. He dies five days later.

The New Straits Times
4 March 1995

Toyad: Insurance for pupils to be a must

By Vincent De Paul

KUALA LUMPUR, Fri. — The Education Ministry's proposed uniform protection scheme will be made compulsory for all pupils when it is introduced, Deputy Education Minister Dr Leo Michael Toyad said today.

He said details of the scheme had been completed and would be presented to the Cabinet for approval soon.

"The scheme would be beneficial to pupils as it would offer them coverage during extra-curricular activities after schooling hours," Dr Toyad told the *New Straits Times* after calling on Prime Minister Datuk Seri Dr Mahathir Mohamad during his Hari Raya "open house" at his residence here.

Dr Toyad said the scheme needed to be implemented fast to provide coverage for pupils in times of mishap.

It is learnt that the paper would be presented to the Cabinet for approval by the end of the month.

If approved, it would benefit some 4.2 million pupils in the 9,125 schools in the country.

Currently schools enter into agreements with different insurance companies - the premium charged varies from RM2 to RM11 a year and it is not compulsory.

Generally, under the present system, a pupil enjoys 24-hour coverage for a RM11 premium and during school hours for RM2 premium.

Pupils who pay between RM3 and RM9 enjoy coverage while they are in school and when they take part in school co-curricular activities but the compensation varies according to the premium.

It ranges from as low as RM2,000 to RM50,000.

It is made stood that there are seven insurance companies now providing coverage to pupils. Compensation for hospitalisation also varies from one company to another.

Under the new scheme it is believed that one insurance firm will be employed and a fixed premium charged.

On Feb 16, Education Minister Datuk Amar Dr Sulaiman Daud had said that the paper on the scheme was almost ready and would be presented to the Cabinet for approval soon. However, he did not say whether it would be made compulsory.

He had said that he had seen and signed the copy which was to be presented to the Cabinet but had asked the ministry's legal officers to fine-tune it.

Dr Sulaiman also said that the premium would be standardised.

On Jan 18, Dr Toyad had said that the ministry would speed up the proposal to introduce the scheme following the death of a 16-year old schoolboy in a freak accident on Jan 15.

Dr Toyad had said that the scheme would be more comprehensive than the present insurance plans used by schools.

Subsequently, on Jan 28, the National Union of the Teaching Profession had also urged the ministry to speed up the implementation of the scheme following the death of another 16 year old pupil during an inter class soccer match.

Both boys were uninsured.

In the first incident, Tee Ang Keong of SM Datuk Hahaman, near Mentakab, died after he stumbled and had his right eye pierced by the end of a javelin stickling out of the ground when he went to retrieve his own javelin.

In the second mishap, Rajamuthu Krishnan of SM St Anthony, Pelak Intan, died from severe brain damage after he collided with an opponent during a soccer match.

Sunday Mail

5 March 1995

NUTP thumbs up for student insurance scheme

THE National Union of the Teaching Profession (NUTP) has come out in support of the Education Ministry's proposal for a uniform protection scheme covering all pupils.

In welcoming the move, NUTP secretary-general N. Siva Subramaniam said in Ipoh yesterday that it would ensure that school children were insured in the event of an accident while carrying out any school activity.

Deputy Education Minister Dr Leo Michael Toyad had said on Friday that details of the scheme had been completed and would be tabled before the Cabinet for approval soon.

Siva said pupils today were invotved in many extra-curricular activities, including sports and school projects.

An insurance scheme was, therefore, vital to cover the pupils and he hoped that the government would bear the cost, amounting to about RM9 million.

Currently, many schools have their own agreement with different insurance companies to cover their pupils. Such coverage, however, is not compulsory.

Only those whose parents can afford it are insured, he added.

On Jan 18, Dr Toyad had said that his ministry was rushing the proposal to introduce the scheme following the death of a 16-year-old pupil in a freak accident three days earlier.

The pupil, Tee Ah Kong, of Sekolah Menangah Datuk Bahaman, near Mentakab, died when he stumbled and fell on a javelin sticking out of the ground, injuring his right eye.

He had gone to retrieve the javelin which he had earlier thrown.

Ten days later the NUTP made an appeal for the speedy implementation of the scheme when another 16-year-old pupil died during an interclass soccer match.

The boy, Rajamuthu Krishnan, of Sekolah Menengah St Anthony, Teluk Intan, died of severe brain damage after he collided with an opponent during the game.

Both boys were not insured.

The Star
31 May 1995

MANDATORY INSURANCE COVER FOR PUPILS

Comprehensive scheme ensures protection even after school hours

By LANA MUNIP

KUALA LUMPUR: The Education Ministry has finalised the mandatory standard protection scheme for schoolchildren under which they will have insurance cover even after school hours.

However, it is not known if the scheme will be financed or subsidised by the Government, or if the premiums will be paid by parents of the 4.2 million schoolchildren.

In an immediate response, the National Union of the Teaching Profession urged the Government to pay for the scheme so that parents will not be burdened.

Education Deputy Director-General (I) Datuk Matnor Daim said yesterday Education Minister Datuk Seri Najib Tun Razak would submit the proposal to the Cabinet soon.

"We want to expedite the matter because we are concerned with the safety of students," he told reporters.

Earlier, he received a cheque for RM250,000 and goods worth RM150,000 from Nestle Products and a cheque for RM20,000 and goods worth RM30,000 from Dunlop Slazenger (hi) Sdn Bhd for Malaysian School Sports Council activities.

Matnor declined to name the companies involved in the insurance scheme, but it is understood that it will be underwritten by three major local insurers.

In January, former Deputy Education Minister Dr Leo Michael Toyad first announced the ministry's plan to introduce a comprehensive mandatory insurance scheme for schoolchildren as the existing ones were optional with inadequate features.

Pupils can now choose to be protected under a number of schemes offered by different companies with annual premiums ranging from RM2 to RM11.

It is believed that under the new scheme, premiums would be between RM1 and RM5 per year.

Seven insurance firms had initially approached the ministry with proposals for the scheme.

NUTP secretary-general N. Siva Subramaniam said it would be within the means of the Government to bear the whole cost of the scheme.

The Star
2 June 1995

Fong: Protection scheme won't be a burden

By NORLIN WAN MUSA

KUALA LUMPUR: The Education Ministry has given an assurance that the proposed mandatory standard protection scheme for schoolchildren will not impose any financial burden on parents.

While declining to say if the scheme would be fully financed by the government, Deputy Education Minister Datuk Dr Fong Chan Onn however did not discount such a possibility.

"The ministry has already finalised a scheme that will definitely not impose any financial burden to parents.

"The objective is to ease the parents' mind when their children are in school and not have to worry about their safety," he said in an interview.

He said the scheme would provide 24-hour protection for the students.

Meanwhile, the National Union of the Teaching Profession (NUTP) wants the Government to finance a similar protection scheme for the 220,000 teachers.

Deputy president P. Ramanathan said the Ministry was obliged to protect teachers as their (teachers') job exposed them to several occupational hazards.

"Apart from teaching in classes, teachers have to conduct co-curricular activities, transport students to other places or even paint school buildings.

"Some of them had suffered injuries while performing these tasks," Ramanathan said.

At present, he said NUTP members were covered under a voluntary scheme which required them to pay RM4.50 a month.

"Under the scheme, a teacher will get a compensation of RM 100,000 if he becomes disabled permanently," he said, and urged the Education Ministry to bear the whole cost of the proposed scheme.

The Star
21 December 1995

All 4.2m students covered

24-hour insurance scheme in force since Dec 4

By JANE F. RAGAVAN

PETALING JAYA: The 4.2 million students in the country are covered by the 24-hour mandatory insurance scheme although they have yet to pay the premiums.

Syarikat Takaful marketing manager Ahmad Shahbuddin Abu Bakar said the cover began from Dec 4 as soon as schools reopened, as agreed with the Education Ministry.

He allayed the fears of parents that no claims could be made until the state education departments remitted the premiums to the company which they were required to do by March 31.

"In fact, the company has already received claims for injuries and a death although the premiums have not been paid yet," he said.

A ministry circular dated Aug 10 was sent to all schools informing them of the scheme and instructing them to collect the premiums together with the school fees when schools re-opened on Dec 4.

The circular also stated that premiums should be collected before Jan 31 and sent to the respective education departments, which would forward them to Syarikat Takaful by March 31.

However, checks by *The Star* found that while some schools had collected the premiums together with the annual school fees, others had yet to do so.

Ahmad Shahbuddin said his company had hoped to hold briefing sessions with school heads before December but was unable to do so.

"We have also received several enquiries from schools which wanted to know when our agents would be visiting them," he said.

This was probably because the school authorities did not understand how the scheme worked.

Ahmad Shahbuddin said that as the client was the Education Ministry and the scheme mandatory, the collection of premiums was made easier when paid together with the school fees.

Meanwhile, National Union of the Teaching Profession secretary-general N. Sivn Subramaniam urged the Company to provide every school with a copy of the policy.

"The parents Can make photocopies from the schools to find out the details of the policy. They will know their rights," he said.

He reiterated the union's call on the ministry to pay the premiums.

Appendix C

LIST OF PRIMARY AND SECONDARY SCHOOLS

A PRIMARY SCHOOLS IN SUNCAI SIPUT (U)

No	Name of Schools	Address	School Code
1.	SK. Sungai Siput Utara	31100 Sg. Siput(U)	ABA 4032
2.	SK. Trosor	31100 Sg. Siput(U)	ABA 4033
3.	SK. Lasah	31100 Sg.Siput(U)	ABA 4034
4.	SK. R.K.T Lasah	31120 Sg. Siput(U)	ABA 4035
5.	SK. Temin	31100 Sg. Siput(U)	ABA 4038
6.	SK. Jalong	31100 Sg. Siput(U)	ABA 4039
7.	SK. Lintang	31100 Sg. Siput(U)	ABA 4042
8.	SK. Kampung Maamor	31120 Sg. Siput(U)	ABA 4043
9.	SK. Seroli	31100 Sg. Siput(U)	ABA 4045
10.	SK. Chenein	31100 Sg. Siput(U)	ABA 4047
11.	SK. Perlop I	31100 Sg. Siput(U)	ABA 4048
12.	SRK Methodist	31100 Sg. Siput(U)	ABB 4088
13.	SRJK(C) Sg. Buluh	31100 Sg. Siput(U)	ABC 4103
14.	SRJK(C) Shing Chung	31100 Sg. Siput(U)	ABC 4104

15.	SRJK(C) Simpang Jalong	31100 Sg. Siput(U)	ABC 4105
16.	SRJK(C) Lintang	31100 Sg. Siput(U)	ABC 4106
17.	SRJK(C) Lasah	31100 Sg. Siput(U)	ABC 4107
18.	SRJK(C) Rimba Panjang	31100 Sg. Siput(U)	ABC 4108
19.	SRJK(T) Mahathma Gandhi Kalasalai	31100 SG. Siput(U)	ABD 4110
20.	SRJK(T) Tun Sambanthan Ladang Sg. Siput	31100 Sg. Siput(U)	ABD 4117
21.	SRJK(T) Ladang Elphil	31100 Sg. Siput(U)	ABD 4118
22.	SRJK(T) Ladang Sungai Ladang Sg. Reyla Reyla	31100 Sg. Siput(U)	ABD 4119
23.	SRJK(T) Ladang Dovenby Dovenby	31100 Sg. Siput(U)	ABD 4120

B **SECONDARY SCHOOLS IN SUNGAI SIPUT (U)**

No	Name of Schools	Address	School Code
1.	SM Tok Muda Abdul Aziz	31100 Sg. Siput(U)	AEA 4085
2.	SM RLKT Lasah	31120 Sg. Siput(U)	AEA 4131
3.	SM Methodist	31100 Sg. Siput(U)	AEB 4075
4.	SMJK Shing Chung	31100 Sg. Siput(U)	AEB 4076
5.	SM Datuk Haji Abdul Wahab	31100 Sg. Siput(U)	AEB 4077

Appendix D

Risk Management Questionnaire

Educational Research
Twinning Programme
Universiti Utara Malaysia - Institut Aminuddin Baki
Cohort II

Dear Sir/Madam,

Through a random process, you have been chosen to participate in a survey of **Risk Management Practices** in primary and secondary schools in Sungei Siput (U).

Risk Management Practices are activities, actions, procedures, or steps taken by you as a school administrator to reduce and minimize human and economic losses such as accidents, theft and other losses.

Your frank and open response to each item on the questionnaire is most appreciated.

This survey is confidential. Since your opinions will be handled in confidence, you need not sign your name.

Your opinions are important so that by offering your personal input, it is hoped that accidents and unpleasant incidents can be reduced in schools.

Thank you in advance for your valuable help.

Section A

Personal Information

A. **Please** answer by ticking (√) at one of the boxes provided.

1. Sex: Male ( )

Female ( )

2. Age (next birthday)

a) 31 - 35 years ( )

b) 36 - 40 years ( )

c) 41 - 45 years ( )

d) 46 - 50 years ( )

e) 51 - 55 years ( )

3. Educational Level

a) Certificate of Education ( )

b) Diploma of Education/Management ( )

c) Bachelor's Degree ( )

d) Master's Degree ( )

4. The period you have served as a Principal/Headmaster

a) 0 - 3 years ( )

b) 4 - 7 years ( )

c) 8 - 11 years ( )

d) > 12 years ( )

5. Race

a) Malay ( )

b) Chinese ( )

c) Indian ( )

d) Others ( )

Section B

In this section, please rate how often is the activity, **action,** procedure or step carried out by you in your school.

Please circle one of the numbers in the 'DONE' column.

Never Done	Rarely Done	Sometimes Done	Frequently Done	Always Done
1	2	3	4	5

I SCHOOL ADMINISTRATION

1.	Developing an emergency plan for unforseen circumstances such as accidents	1	2	3	4	5
2.	Having a log book for recording past accidents	1	2	3	4	5
3.	Having a list of telephone number of emergency services	1	2	3	4	5
* 4.	No briefing for the staff on actions to be taken when an accident occurs	1	2	3	4	5
5.	Having a teacher/teachers to be in charge of accidents	1	2	3	4	5
6.	Being available whenever you are needed by the school (the school can contact you anytime)	1	2	3	4	5
7.	Periodic checkup on the electrical wiring system of the school	1	2	3	4	5
* a.	No fire alarm system in the school	1	2	3	4	5
9.	Periodic checkup and refilling of fire extinguishers	1	2	3	4	5
10.	Periodic checkup on the water piping system of the school	1	2	3	4	5
11.	Periodic checkup on the broken and (or) defective school furniture	1	2	3	4	5

Never Done	Rarely Done	Sometimes Done	Frequently Done	Always Done
1	2	3	4	5

12.	Periodic checkup on the broken and (or) defective fixture and fittings	1	2	3	4	5
*						
13.	Not necessary to check on the school fence	1	2	3	4	5
14.	Traffic wardens are positioned outside the school to direct the flow of traffic and helping students crossing the road	1	2	3	4	5
15.	Conduct road safety campaign for all the students	1	2	3	4	5
*						
16.	Not necessary to conduct fire drill in the school as the students and staff will know what to do	1	2	3	4	5
17.	Conduct food safety campaign at the school canteen for nutritious food	1	2	3	4	5
18.	Conduct safety campaign for conditions of the floor conditions	1	2	3	4	5
19.	Conduct safety campaign for conditions of the lighting conditions	1	2	3	4	5
20.	Conduct safety campaign for conditions of the verandahs	1	2	3	4	5
21.	Conduct safety campaign for conditions of the stairways	1	2	3	4	5
22.	Having watchmen to patrol the school office, laboratories and work-shopsduring the night	1	2	3	4	5
23.	Have grilled doors and windows for certain specified and security areas	1	2	3	4	5

Never Done	Rarely Done	Sometimes Done	Frequently Done	Always Done
1	2	3	4	5

II SCHOOL PHYSICAL ENVIRONMENT

Placing of road signs at strategic places in the school neighbourhood such as

24.	speed limit sign	1	2	3	4	5
25.	no entry sign	1	2	3	4	5
26.	one way entry sign	1	2	3	4	5
27.	parking sign for vehicles	1	2	3	4	5
28.	parking sign for motorcycles	1	2	3	4	5
29.	parking sign for bicycles	1	2	3	4	5
30.	Construction of 'road-humps' on the school road to slow down traffic	1	2	3	4	5
*						
31.	Not necessary to have a security guard house at the entrance to the school as it is a waste of money	1	2	3	4	5
32.	The use of a pole barrier besides security guard house	1	2	3	4	5
33.	The use of a log-book to monitor visitors going in and out of the school compound	1	2	3	4	5
34.	The main gates of the school are locked at night	1	2	3	4	5
35.	Having a fence around the school compound	1	2	3	4	5
36.	The placing of fire extinguishers and (or) sand pails at strategic places around the school	1	2	3	4	5

Never Done	Rarely Done	Sometimes Done	Frequently Done	Always Done
1	2	3	4	5

37.	The placing of rubbish bins at strategic places around the school	1	2	3	4	5
* 38.	Classrooms should not have grilled windows and lockable doors as they turned into fire traps	1	2	3	4	5
39.	Locked doors and closed windows of classrooms after school day	1	2	3	4	5
40.	The construction of hand rails for staircases for multi-storeyed school buildings	1	2	3	4	5
41.	The construction of balustrade alongside the verandahs of upper floors of multi-storeyed school buildings	1	2	3	4	5
42.	The use of signs on the staircases for going up and coming down	1	2	3	4	5
43.	Maintenance of clean, non-slippery and functional toilets for students and staff	1	2	3	4	5
44.	Maintenance of trimmed grass and (or) leveled school playing field	1	2	3	4	5
45.	Maintenance of clean water supply for the school	1	2	3	4	5

III SCHOOL OFFICE AND STAFF ROOM

46.	Having fire extinguishers at the office	1	2	3	4	5
* 47.	Not necessary to have first aid box in the office as nobody gets hurt in the office	1	2	3	4	5

Never Done	Rarely Done	Sometimes Done	Frequently Done	Always Done
1	2	3	4	5

48.	School office has grilled windows and lockable doors	1	2	3	4	5
49.	Locked doors and closed windows of office after school day	1	2	3	4	5
* 50.	Documents, correspondence, and rubber stamps need not be locked up after school as nobody wants to steal such worthless things	1	2	3	4	5
51.	Having fire extinguishers at the staff room	1	2	3	4	5
52.	Having first aid boxes in the staff room	1	2	3	4	5
53.	Staff room has grilled windows and lockable doors	1	2	3	4	5
54.	Locked doors and closed windows of staff room after school day	1	2	3	4	5
55.	The practice of not keeping cash and (or) valuables in the office	1	2	3	4	5

IV SCIENCE LABORATORIES

56.	Having first aid boxes in the science laboratories	1	2	3	4	5
57.	Having fire extinguishers and (or) fire blankets at the laboratories	1	2	3	4	5
58.	Laboratories have grilled windows and lockable doors	1	2	3	4	5
59.	Locked doors and closed windows of laboratories after school day	1	2	3	4	5

Never Done	Rarely Done	Sometimes Done	Frequently Done	Always Done
1	2	3	4	5

60.	Display safety instructions and (or) procedures in the laboratories	1	2	3	4	5
61.	Display warning signs and (or) instructional posters besides fume cupboards, corrosive acids and alkalis	1	2	3	4	5

V WORKSHOPS AND HOME-SCIENCE ROOMS

62.	Having first aid boxes in the workshops	1	2	3	4	5
63.	Having fire extinguishers and (or) fire blankets at the workshops	1	2	3	4	5
64.	Workshops have grilled windows and lockable doors	1	2	3	4	5
65.	Locked doors and closed windows of workshops after school day	1	2	3	4	5
66.	Display safety instructions and (or) procedures in the workshops	1	2	3	4	5
67.	Display warning signs and (or) instructional posters besides lathes, drills and microwave ovens	1	2	3	4	5

Thank you.

* These items were recoded during the analysis.

Appendix E

UNIVERSITI UTARA MALAYSIA
06010 U.U.M, Sintok, Kedah Darul Aman, Malaysia. Tel 04-9241801 - 8 Cable : UTAMAS Telex: MA 42052 Fax/DL: 04-924164

Sekolah Siswazah

UUM/SS/T-13 Jld. 3

November 13, 1395

Dr. Adel Yaseen (major)
School of Languages and Scientific Thinking, UUM

Cncik Nasruddin Zainudin
School of Managcmcnt, UUM

Dear Sir/Madam,

APPOINTMENT AS THESIS COMMITTEE MEMBER

It is my pleasure to inform you that the University Graduate Studies Committee, chaired by the Deputy Vice-Chancellor (Academic), has agreed to appoint you as one of the Thesis Committee Mcmbcrs to supervise the following:

Name of Student : Chan Weng Kwai (80 152)
Program : UUM/IAB - 2
Proposed Thesis Title : An Exploratory Study of Risk Management Practices in Primary and Secondary Schools in Sungai Siput (U), Perak

Please inform us immediately of any change in the thesis title. Your support and cooperation in this matter is very much apprcciatcd. (A reply form is cncloscd).

Thank you.

Yours sincerely,

(ASSOC. PROF. DR. IBRAHIM ABDUL HAMID)
Dean

c.c. - Dean, School of Languages and Scientific Thinking, UUM
- Dean, School of Management, UUM
Student

Appendix F

UNIVERSITI UTARA MALAYSIA
06010 UUM Sintok, Kedah Darul Aman, Malaysia. Tel: 04-9241801 - 8 Cable: UTAMAS Telex: MA 42052 Fax/DL: 04-9241641

Sekolah Siswazah

UUM/SS/T-13 Jld. 3

10 Disember 1995

KEPADA SESIAPA YANG BERKENAAN

Adalah disahkan bahawa Encik Chan Weng Kwai, no. matrik 80152 ialah pelajar siswazah program kembar UUM/IAB - 2 Sarjana Sains (Pengurusan) di Universiti ini.

Sukacita pihak tuan/puan dapat memberi kerjasama dan bantuan untuk membolehkan beliau mengutip dan mengumpul maklumat untuk kerja kursusnya.

RAMLAH CHEK
b.p. Dekan

s.k. : Fail Pelajar

BAHAGIAN PERANCANGAN DAN
PENYELIDIKAN PENDIDIKAN,
KEMENTERIAN PENDIDIKAN,
PARAS 2, 3 DAN 5, BLOK J,
PUSAT BANDAR DAMANSARA,
50604 KUALA LUMPUR

Telefon: 2556900
Kawat: "PENDIDIKAN"
Faks: 03-2554960

Appendix G

Ruj. Tuan: KP(BPPP)13/15
Ruj. Kami: Jld.44(448)
Tarikh: 11 OKT. 1995

En. Chan Weng Kwai,
50, Jln. Chung Ah Ming,
Hoover Park,
31650 Ipoh,
Perak.

Tuan,

Kebenaran Bagi Menjalankan Kajian Ke Sekolah-Sekolah, Jabatan-Jabatan Dan Institusi-Institusi Di Bawah Kementerian Pendidikan Malaysia

Adalah saya diarah untuk memaklumkan bahawa permohonan tuan untuk menjalankan kajian mengenai

> "A Pilot Study Of Risk Manaagement Practices In Primary And Secondary Schools In Sg. Siput (U) Perak".

telah diluluskan.

2. Kelulusan ini adalah berdasarkan kepada hanya apa yang terkandung di dalam cadangan penyelidikan yang tuan kemukakan ke Bahagian ini. **Kebenaran bagi menggunakan sampel kajian perlu diperolehi daripada Ketua Bahagian/Pengarah Pendidikan Negeri yang berkenaan.**

3. Tuan juga dikehendaki menghantar senaskhah hasil kajian tuan ke Bahagian ini sebaik sahaja selesai kelak.

Sekian.

"BERKHIDMAT UNTUK NEGARA"

"CINTAILAH BAHASA KITA"

Saya yang menurut perintah,

(DR. ABD. KARIM B. MD. NOR)
b.p. Pengarah Perancangan dan Penyelidikan Pendidikan,
b.p. Pendaftar Besar Sekolah-Sekolah dan Guru-Guru,
Kementerian Pendidikan.

s.k.

Pengarah Pendidikan,
Jabatan Pendidikan Perak.

Timbalan,
Sekolah S i swazah,
UUM.

JABATAN PENDIDIKAN PERAK DARUL RIDZUAN,
JALAN TUN ABDUL RAZAK,
30640 IPOH.

Telefon: IPOH 10335
Fax: 05-547273

Appendix H

Ruj. Tuan:

Ruj. Kami: J.Pen.Pk./SULIT 4757/Jld.6(20)

Tarikh: 23 Jamadilawal 1416
18 Oktober 1995

Encik Chan Weng Kwai,
50, Jalan Chung Ah Ming,
Hoover Park,
31650 Ipoh.

Tuan,

KEBENARAN BAGI MENJALANKAN KAJIAN KE SEKOLAH-SEKOLAH DI NEGERI PERAK

Saya diarah merujuk surat permohonan tuan bertarikh 14 Oktober 1995 dan surat Kementerian Pendidikan Malaysia KP(BPPP)13/15/Jld.44(448) bertarikh 11 Oktober 1995 mengenai perkara di atas.

2. Sukacita dimaklumkan bahawa kebenaran adalah diberi untuk tuan menjalankan kajian yang bertajuk:

" A Pilot Study Of Risk Managment Practices In Primary And Secondary Schools In Sungai Siput (U) Perak ".

di sekolah-sekolah di Sungai Siput (U), Perak.

Sekian, terima kasih.

" BERKHIDMAT UNTUK NEGARA "

Saya yang menurut perintah,

(MOHD TAHIR BIN LOPE, PJK)
Ketua Penolong Pengarah,
Unit Perhubungan dan Pendaftaran,
b.p. Pendaftar Sekolah-Sekolah,
Perak.

s.k. Pegawai Pendidikan Daerah Kuala Kangsar

MIS/pw/Kajian

V I T A

V I T A

Chan Weng Kwai was born in Ipoh, Perak on the 19th of October, 1952. He received his early education at Jalan Pasir Putih English Medium National Type Primary School, Ipoh and at Anglo Chinese School, Ipoh. He graduated from Universiti Sains Malaysia in June, 1976 with a Bachelor of Science Degree (Hons) with Education, majoring in Physics and Chemistry.

He started his teaching career as a Chemistry teacher at Ipoh Technical School from 1976 to 1980. He was the Head of Science Unit of Ipoh Teachers' Training College from 1981 to 1988; Head of Science Department of Kent Teachers' Training College, Tuaran, Sabah from 1988 to 1989: Senior Assistant and acting Principal in SMJK Shing Chung, Sg. Siput (U), Perak from 1990 till now.

In his teaching and lecturing career, he has obtained a Master in Education (1990, USM); Diploma in Marketing (The Chartered Institute of Marketing, 1988, England); Diploma in Insurance (The Malaysian Insurance Institute, 1993) and is a member of many professional bodies, C. Phys. (UK), M. Inst P. (UK), M.C.I.M. (UK), Registered Marketer (UK), A.M.I.C and M.I.P.M.

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