A STUDY OF SAFETY, SAFETY EDUCATION, AND ACCIDENT REPORTING IN SELECTED SCHOOLS OF OKLAHOMA

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CHAPTER I

INTRODUCTION

Since the health and welfare of the individual is one of the main interests of mankind, accident prevention programs have been developed for almost every activity of an individual's life. There is a considerable amount of statistical data on accidents in most areas; however, data dealing with school-related accidents is almost nonexistent.

The Williams-Steigler Occupational Safety and Health Act was enacted by the Ninety-first Congress and took effect in April, 1971. Its expressed purpose is to assure every working person a safe and healthful working environment. It is generally accepted that since the passage of this act, industrial accidents have been on the decline. Strong (1975) reports that the passage of this act gave added impetus to organized accident prevention programs conducted in our nation's schools.

A good safety program is based upon adequate instruction. It is, however, difficult to implement an accident prevention program without first knowing the causes of accidents. Safety concepts and practices grow from an understanding of factors that contribute to accidents and the performance of necessary tasks in a safety-conscious environment; therefore, adequate records should be kept in order to obtain and develop a data base for the development of a good safety program.

Statement of the Problem

In the face of the fact that federal laws are encouraging states to adopt their own plans to substitute for the Federal OSHA and are requiring such plans to include political subdivisions (including publicly supported educational institutions) within the scope of their coverage, public educators must become concerned with safety education and accident reporting.

Hough (1975) found that there were no occupational safety and health standards legally binding on any state agency or other political entity of the state of Oklahoma at that time. However, House Bill No. 1706 was introduced into the second session of the 34th Legislature (1974) which would have substituted a state controlled agency for Federal OSHA. This legislation failed at that time and it now appears that there are no plans for re-submitting the legislation.

If adequate safety concepts and practices are to be formed, more information about accidents must be gained to implement a good safety program based upon adequate instruction. This would make it mandatory to keep accurate records of all accidents, including an investigation into the cause of the accident. Kigin (1973) says that one of the outstanding weaknesses of present school safety programs is the failure to keep written records of accidents.

The problem with which this study was concerned is the lack of information relative to school accidents that will facilitate the development of school safety programs.

Purpose of the Study

The purpose of this study was to determine if major accidents had occurred within the past three years in a selected sample of Oklahoma public school districts and to assess whether or not procedures have been developed to deal with the associated problems.

Research Questions

Based on the purpose of this study, the following research questions were developed as guides in the collection and analysis of data:

1. Are accidents a problem in the schools of Oklahoma?
2. Are accident reports made?
3. Who keeps records of accidents?
4. Are steps taken to correct dangerous situations?
5. Are safety inspections conducted?
6. Are first aid programs being offered?
7. Is insurance being provided?
8. Have accidents led to legal problems?
9. In what areas are safety problems prevalent?

Scope of the Problem

This study includes 120 secondary schools in the state of Oklahoma. These schools were Area Vocational-Technical Schools, Comprehensive High Schools offering five (5) or more vocational programs, and Comprehensive High Schools offering less than five (5) vocational programs.

Assumptions

This study was designed upon two major assumptions:

1. It was assumed the 120 schools sampled are representative of all the schools of Oklahoma.
2. It was assumed that the responses were made deliberately and sincerely.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this study was to determine if major accidents had occurred within the past three years in a selected sample of Oklahoma public school districts, and to assess whether or not procedures have been developed to deal with the associated problems.

According to the National Safety Council (1972, p. 1), "The responsibility of the school for the physical protection of its pupils has long been accepted by school people and by communities throughout the country." The need for early safety education is now well recognized, and schools have been given the responsibility to teach safe living to the young. The National Commission on Safety Education (1960) states that safety education has become an integral part of the school curriculum. They further state that the schools have a responsibility that goes beyond teaching safety education; they must also provide pupils with a safe environment. They must incorporate the safety lessons they teach into their own school practices and also safeguard pupils from injury while at school or during school-related activities away from school.

Knight (1974, p. 67) says,"OSHA is an attempt to remove ignorance through forced education about compliance with industrial safety codes. Fines and penalties provide OSHA's force."

Strong (1975) indicates that accident prevention is a controlling

process. It represents an ability to control machine performance, human behavior, and the environment in which the individual is performing; therefore, a procedure must be identified for the prevention and correction of unsafe acts and conditions.

Williams (1963, p. 43) says, "The basic responsibility for the organization of the safety education program rests with the school administrator. The most important single factor influencing the school program is the philosophy of the administrator." This philosophy will determine the place of safety in the total educational program, thus the chief school administrator must set the stage for any program of safety.

Since it is physically impossible for the chief administrative officer to supervise all functions of the school programs, he should delegate authority for personal contact with departmental chairmen or supervisors, but coordination must come from top-level administration.

Williams (1963) also reports data from National Safety Council records which shows that accidents within industry are an increasing problem; however, data is lacking to show whether or not this situation exists within our schools.

Accident Reporting

According to Strong (1975), an organized system of accident reporting can contribute to the success of a safety program. Accident discovery and investigation, data analysis, and a contemplation of causes will facilitate a consideration of possible corrective action.

All accidents, no matter how minor, can provide the basis for evaluating the effectiveness of an accident prevention program;

therefore, Williams (1969) says that all accidents should be recorded.

Leaghty (1973) found that 70 per cent of the schools surveyed did not require a written report of accidents. He also found that 70 per cent of the participants did not believe a report should be submitted to a central agency.

Safety Inspections

The frequency of safety inspections varies according to conditions within each school and the type of inspection being conducted. Strong (1975) indicated that all schools should have periodic safety inspections conducted at regular intervals, usually by a professional agency, while continuous safety inspections are made by administrators, teachers and students.

Strong (1975) believes school personnel have the moral and legal obligation to provide a safe environment for the student. At least one safety inspection by a professional agency should be made at the beginning of each school year, and less formal inspections should be a part of the daily routine.

Forty-nine per cent of the schools Leaghty (1973) surveyed had safety inspections, with 18 per cent being performed by outside agencies.

Legal Aspects

Strong (1975) and Williams (1969) both report that teachers should be qualified to give first aid in emergency situations. Kigen (1973) states teachers not only have the legal right to administer first aid, but would in all probability be considered derelict in their duty if they did not attempt to act for the benefit of the pupils. Expert

medical inspection and treatment should be sought immediately for any serious injury sustained by a student. It is the duty of the teacher to obtain this treatment for the student; however, Kigen reports that if "this aid is not available in an extreme emergency, first aid treatment would be upheld in the court even though the results of the treatment might be unknowingly harmful" (p. 97).

Reutter (1976) indicates that in the case of first-aid treatment, the act must be for the benefit of the injured student. A school district has the right and duty to provide emergency first aid treatment for students in connection with school activities. However, as in the case of Guerrieri V. Tyson, courts have held teachers liable for treatment which was not in an emergency situation. Kigin (1973, p. 99) also states, "Primary considerations would relate directly to the care and welfare of the injured pupil. This is paramount."

Insurance

Insurance is a means of protection against the risk of financial loss resulting from a student injury. Strong (1975) states that the courts have ruled that school districts do not waiver their immunity or admit liability by the purchase of liability insurance. Kigin (1973, p. 66) says, ". . . insurance has been referred to as a basic safety device and is considered a vital link in any well-proportioned safety program."

Section 84 of the School Laws of Oklahoma (Oklahoma State Department of Education, 1974, p. 62) states:

> Boards of Education of school districts are hereby authorized to provide, at school district expense, not to exceed Three Hundred Thousand Dollars ($300,000), liability

> insurance to indemnify the members of the board of education, superintendents, principals, teachers, and other employees from civil liability, but in no event shall such insurance provide any protection for any of the aforesaid from prosecution on a criminal charge.

Reuttler (1976, p. 277) reports:

> The courts are not in agreement on the technical point of whether governmental immunity of school districts from liability for tort is waived when school districts purchase liability insurance. Most do not consider the procurement of insurance coverage a direct waiver of district immunity, even though it may have the same effect by permitting recovery.

Smith V. Board of Education of Caney, Kansas in 1970, held that the purchase of liability insurance cannot be deemed to constitute a waiver of immunity by a school district.

School people have, in general, become more liability conscious because of the increasing number of court actions resulting from school-related student injuries. The injury of a student is a serious matter, regardless of the assignment of fault.

Nearly all legal actions against school districts or individual teachers are based on negligency. Strong (1975) states:

> There is no rule of thumb for determining what constitutes negligent action. Each case is different and is decided upon its own merits. It is accepted, though, that every person owes a common obligation to act, or use that which he controls in such a manner as not to injure others (p. 323).

Reuttler (1976) reports, it is well established in common law that school districts are not liable for torts, whether committed by the district itself or by its officers, agents, or employees. This immunity from liability is based on the theory that the state is sovereign and cannot be sued without its consent. This doctrine of immunity is subject to exceptions, for the immunity of districts from liability for

tort does not extend to employees of the district. The possibilities of negligent action by teachers are very great, due to the number and kinds of activities in which pupils engage under the auspices of the school.

Esposito (1968, p. 63) defined negligence as: "The failure to do something which a reasonable man guided by those considerations which ordinarily regulate human affairs would do, or the doing of something which a reasonable and prudent man would not do." He divided negligence into two categories: (1) Contributory negligence is the unsafe actions performed by an individual which results in an accident, after he has received adequate safety instructions; (2) Comparative negligence is where both parties have contributed to the accident and subsequently must share in being liable for the accident.

Kigin (1973, p. 12) defines negligence as the "lack of due deligence or care." He divides negligence into two other categories: (1) Contributory negligence which involves the student's failure to care for his own safety, and (2) Comparative negligence, in which, to some degree, both parties are at fault.

Esposito and Kegin are in agreement except in the terminology used to define their categories; however, Kegin cites court cases which give his terminology more of a legal basis.

Hirschielder (1972) says, that 30 states have enacted laws requiring industrial type safety equipment for all school shops and laboratories; however, Oklahoma only requires eye safety equipment and respirators under section 333 and 334 of the School Laws of Oklahoma. If these laws are not implemented and enforcement procedures developed, there will be a definite case of negligence.

Summary

Schools do have a responsibility in the safety of its students and its employees. This responsibility is both a moral and a legal one and should have its basis well rooted at the top administrative level in each school district. The philosophy of the administrator will determine the place of safety in the total educational program.

It was indicated that safety has been an increasing problem over the years. It was stated by Johnston (1975) that OSHA laws resulted from a recognition of a significant deterioration in working conditions and practices which were accompanied by an unprecedented increase in occupational deaths and serious injury. There is however, a distinct lack of statistical data showing whether or not this increase exists in the schools of Oklahoma.

Accident reporting can contribute to the success of a safety program. This is the best method of gaining information and data upon which to base future decisions regarding the causes of accidents and methods of eliminating these causes. The research in this area found that 70 per cent of the schools surveyed did not require a written report of accidents. School personnel have the responsibility, both moral and legal, to provide a safe environment for their students; therefore, safety inspections should be made and dangerous conditions eliminated before personal injury results.

The laws governing the operation of public schools are based primarily on state statutes and judicial opinion. Practically all legal actions against school districts or individual teachers are based on negligence. Section 84 of the School Laws of Oklahoma authorized each

Board of Education to purchase liability insurance to indemnify its employees against financial loss.

The courts are not in agreement on the technical point of whether governmental immunity from tort liability is waived when school districts purchase liability insurance, but most do not consider this a direct waiver.

First aid training and consequent treatment of an injured student is the legal right and responsibility of school personnel. Failure to act could be considered negligence by the courts. In the case of first aid treatment, the act must be for the benefit of the injured student.

CHAPTER III

METHODOLOGY

The purpose of this study was to determine if major accidents had occurred within the past three years in a selected sample of Oklahoma public school districts, and to assess whether or not procedures have been developed to deal with the associated problems.

Based on the purpose of this study, the following research questions were developed as guides in the collection and analysis of data:

1. Are accidents a problem in the schools of Oklahoma?
2. Are accident reports made?
3. Who keeps records of accidents?
4. Are steps taken to correct dangerous situations?
5. Are safety inspections conducted?
6. Are first aid programs being offered?
7. Is insurance being provided?
8. Have accidents led to legal problems?
9. In what areas are safety problems prevalent?

Study Population and Sample

The population for this study consisted of all of the comprehensive high school districts and the area vocational school districts listed in the 1975-1976 Personnel Directory of the State Department of Vocational-

Technical Education. For the purpose of selecting a study sample, the study population was stratified according to the categories presented in Table I.

TABLE I

DISTRIBUTION OF THE STUDY POPULATION
BY STRATA USED IN THE STUDY

Strata	Number of School Units
Area Vocational-Technical Schools	30
Comprehensive high school districts offering five or more vocational programs	30
Comprehensive high school districts offering less than five vocational programs	371

It was decided that all 21 area vocational-technical school districts would be included in the sample. However, many of the area vocationa-technical school districts have satellite campuses that are relatively autonomous in many aspects of their operations. It is the responsibility of the director of each satellite campus to oversee the policies and practices on his campus in regard to safety. Therefore, it was decided that each campus would be surveyed, making a total of 30 potential respondents in this strata of the sample.

All 30 of the comprehensive high school districts with five or more vocational education programs were included in the sample.

Although several of the larger districts, most notably Tulsa and Oklahoma City, have a number of high schools within the district, it was decided to treat them as a single sampling unit. The rationale for doing so was that most of these districts have a safety director for the system or an individual who has system-wide responsibilities for safety.

A random numbers sampling procedure was used to select a sample of 60 comprehensive school districts from the 371 with less than five vocational education programs.

The Instrument

A listing of possible questions for this instrument was compiled through a review of related literature and research studies in this area and from questions brought up in past safety classes at Oklahoma State University. Additional questions were identified through personal interviews with five superintendents of comprehensive high school districts which were not a part of the study sample.

The list of possible questions was then screened by determining their relationship to the research questions. A prototype instrument was then developed and submitted to a school safety expert for review and recommendations. These recommendations were considered in light of the research questions and the necessary changes were made.

A pilot study was then conducted, using eight elementary principals and two junior high school principals as respondents. The information gained through this pilot study was then used to make final revisions in the instrument (Appendix B).

Collection of Data

Data for this study were obtained by mailing the study instrument. A cover letter (Appendix A) was attached explaining the purpose of the study and the method for responding. The instrument was mailed to superintendents and directors of satellite campuses included in the sample. Superintendents and directors were selected because Williams (1963, p. 43) states, "The basic responsibility for the organization of the safety education program rests with the school administrator."

The first mailing was made on May 10, 1977. Plans were made to send a follow-up letter to non-respondents in three weeks and to follow up with another instrument within six weeks, if a 60 per cent return was not received.

The instrument contained several questions which were thought to be somewhat controversial in nature. Therefore, an additional space was provided to enable participants to write in other items which they felt were important or had been omitted from the questionnaire (Appendix C).

The personal data section was designed to gain background information on respondents in order to place their responses in better perspective. A special section was added to the instrument for the respondents to express any specific concerns they felt to be important.

Treatment of Data

Descriptive statistics and chi square were used to analyze participants' responses. The analysis of data was based on the backgrounds of administrators, selected questionnaire items, school policy and high

accident problem areas. Nine research objectives served as focus for this investigation. The information was coded and transferred to computer data cards for the purpose of analysis. The Statistical Package of the Social Sciences (SPPSS) was used to perform the descriptive and statistical analysis of the data in this study.

In order to obtain meaningful comparison between several of the variables, it was anticipated that it would be necessary to aggregate the data to smaller numbers of groups to eliminate as many zero calls as possible in the chi square analysis. A probability of 0.05 or less was used to determine the statistical significance for each chi square obtained.

CHAPTER IV

RESULTS

The purpose of this study was to determine if major accidents had occurred within the past three years in a selected sample of Oklahoma public school districts, and to assess whether or not procedures have been developed to deal with the associated problems.

This study was designed to answer the following questions: Are accidents a problem in the schools of Oklahoma? Are accident reports made? Who keeps records of accidents? Are steps taken to correct dangerous situations? Are safety inspections conducted? Are first aid programs being offered? Is insurance being provided? Have accidents led to legal problems? In what areas are safety problems prevalent?

The data for this study was obtained from a mail survey of 120 Oklahoma public school district administrators selected from the Personnel Directory of the State Department of Vocational-Technical Education.

The response rate selected as acceptable for this study was 60 per cent. The response rates by school category are listed in Table II. Since a 64.2 per cent response rate was obtained from the initial mailing, the planned second and third mailing to non-respondents was not deemed necessary.

TABLE II

DISTRIBUTION OF RESPONDING SCHOOLS ACCORDING TO CATEGORY

Category	Number of Schools Contacted	Number of Schools Participating	Per Cent Participating
Area Vocational Schools	30	21	70.0
Comprehensive High School Districts offering 5 or more vocational programs	30	22	73.3
Comprehensive High School Districts offering less than 5 vocational programs	60	34	56.6
Total	120	77	64.2

This chapter is organized into the following three sections: Responses related to selected questionnaire items, responses related to high accident problem areas, and chi square comparisons between selected questionnaire items, background of respondents (Appendix D), and high accident problem areas.

Responses Related to Selected Questionnaire Items

Variables used as selected questionnaire items in this study were: written accident report required, severity of accidents reported, law suits against staff, law suits against support staff, mandatory

insurance requirement (insurance required before the student can participate in class activities), funds spent for safety and accidents reported.

Table III summarizes the responses to the selected questionnaire items. The responses to these items show 93.5 per cent of the respondents reporting having accidents of a serious nature during the past three years. The highest accident rate was reported by the comprehensive high schools offering five or more vocational programs and the lowest rate of accidents was reported by the comprehensive high schools offering less than five vocational programs.

Law suits have become a problem with 6.5 per cent reporting law suits against their professional staff and 3.9 per cent reporting law suits against their support staff. A total of 10.4 per cent of the responding schools have become involved in some type of legal action as a result of a student injury.

Written accident reports were required in 70.1 per cent of the responding schools and these records were made if the accident was serious enough to require the attention of the teacher. In the vocational-technical schools 95.2 per cent reported requiring written accident reports while 77.3 per cent of the comprehensive high schools offering five or more vocational programs and 50 per cent of the comprehensive high schools offering less than five vocational programs reported requiring written accident reports.

TABLE III

DISTRIBUTION OF RESPONSES TO SELECTED QUESTIONNAIRE ITEMS BY CATEGORY OF SCHOOL

Selected Questionnaire Items	Vocational Technical School				Comprehensive High Schools Offering 5 or More Vocational Programs				Comprehensive High School Offering less than 5 Vocational Programs				Total					
	Yes	%	No.	%	Yes	%	No.	%	Yes	%	No.	%	Yes	%	No.	%	No Response	%
Accidents reported	19	95.0	1	5.0	22	100.0	0	0.0	31	91.2	3	8.8	72	93.5	4	5.2	1	1.3
Written report required	20	95.2	1	4.8	17	77.3	5	22.7	17	50.0	17	50.0	54	70.1	23	29.9	0	0.0
Law suit against staff	1	4.8	20	95.2	2	9.1	20	96.9	2	5.9	32	94.1	5	6.5	72	93.5	0	0.0
Law suit against support staff	1	4.8	20	95.2	1	4.5	21	95.5	1	2.9	33	97.1	3	3.9	74	96.1	0	0.0
Mandatory insurance requirement	3	15.8	16	84.2	14	63.6	8	36.4	17	51.5	16	48.5	34	44.2	40	51.9	3	3.9
Severity of accidents reported: Requires the attention of:																		
Teacher	13	61.9	8	38.1	9	47.4	10	52.6	11	45.8	13	54.2	33	42.9	30	38.9	14	18.2
Nurse	4	19.0	17	81.0	5	26.3	14	73.7	4	16.7	20	83.3	13	16.9	50	64.9	14	18.2
Doctor	3	14.3	18	85.7	4	21.1	15	78.9	4	16.7	20	83.3	11	14.3	52	67.5	14	18.2
Hospital	0	0.0	21	100.0	0	0.0	19	100.0	3	12.5	21	87.5	3	3.9	60	77.9	14	18.2
Other	1	84.8	20	95.2	1	5.3	18	94.7	1	4.2	23	95.8	3	3.9	60	77.9	14	18.2

Insurance required by the school districts before students can participate in class activities (mandatory insurance requirements), in some programs within the schools operation were reported by 44.2 per cent of the respondents. In 63.6 per cent of the comprehensive high schools offering five or more vocational programs and 51.6 per cent of the comprehensive high schools offering less than five vocational programs reported having mandatory insurance requirements; however, only 15.8 per cent of the vocational-technical schools reported having such requirements.

Table IV is a continuation of responses to the selected questionnaire items and reflects the dollar value of funds spent on safety, with 30 per cent of the respondents reporting that they are spending less than $1,500 on safety related items. Fifty-five per cent of all respondents report spending up to $3,000 and 6.5 per cent report spending over $9,000 for safety items. A greater percentage of the area vocational-technical schools report spending funds for safety than do the other two categories of schools.

The distribution of responses to items related to school policies and practices as shown in Table V, indicates that 66.2 per cent of the respondents require an investigation after the occurrence of a serious accident, and 52.7 per cent reported the principal as being responsible for keeping records of accidents. In 73.5 per cent of the comprehensive high schools offering less than five vocational programs and 70.0 per cent of the vocational-technical schools reported requiring an investigation after the occurrence of a serious accident.

TABLE IV

DISTRIBUTION OF RESPONSES RELATED TO FUNDS SPENT FOR SAFETY BY SCHOOL CATEGORIES

Funds Spent for Safety (Dollars)	Vocational Technical School		Comprehensive High Schools Offering 5 or More Vocational Programs		Comprehensive High Schools Offering Less than 5 Vocational Programs			
	No.	%	No.	%	No.	%	Total	%
0-1500	7	33.3	11	50.0	18	52.9	36	46.7
1500-3000	4	19.1	7	31.0	8	23.6	19	24.7
3000-4500	5	23.8	1	4.5	3	8.8	9	11.7
4500-6000	2	9.5	1	4.5	2	5.9	5	6.5
6000-7500	0	0.0	0	0.0	0	0.0	0	0.0
7500-9000	0	0.0	0	0.0	2	5.9	2	2.6
Over 9000	3	14.3	1	4.5	1	2.9	5	6.5
No Response	0	0.0	1	4.5	0	0.0	1	1.3
Total	21	100.0	22	100.0	34	100.0	77	100.0

TABLE V

DISTRIBUTION OF RESPONSES TO ITEMS RELATED TO SCHOOL POLICIES AND PRACTICES BY SCHOOL CATEGORY

School Policy Variables	Vocational Technical School				Comprehensive High Schools Offering 5 or More Vocational Programs				Comprehensive High Schools Offering less than 5 Vocational Programs				Total					
	Yes	%	No.	%	Yes	%	No.	%	Yes	%	No.	%	Yes	%	No.	%	No Response	%
Investigation of serious accidents	14	70.0	6	30.0	12	54.5	10	45.5	25	73.5	9	26.5	51	66.2	25	32.5	1	1.3
OSHA Inspections	8	40.0	12	60.0	2	9.1	20	90.9	5	14.7	29	85.3	15	19.5	61	79.2	1	1.3
Liability Insurance provided for Staff	16	76.2	1	4.8	7	31.8	4	18.2	17	51.5	8	24.2	40	51.9	23	29.9	0	0.0
Being considered	4	19.0	0	0.0	11	50.0	0	0.0	8	24.2	0	0.0	13	16.9	10	43.5	0	0.0
First Aid programs for Staff	8	38.1	13	61.9	8	36.4	14	63.6	8	23.5	26	76.5	24	31.2	53	66.8	0	0.0
First Aid programs for students	11	55.0	9	45.0	9	40.9	13	59.1	14	41.2	20	58.8	34	44.2	42	54.5	1	1.3
Emergency medical information kept	12	57.1	9	42.9	17	77.3	5	22.7	21	61.8	13	38.2	50	64.9	27	35.1	0	0.0
Written accident records kept by:																		
Teacher			7	23.4			0	0.0			3	7.0			10	9.7		
Nurse			3	10.0			5	16.7			4	9.3			12	11.7		
Principal			15	50.0			15	50.0			24	55.8			54	52.4		
Superintendent			3	10.0			5	16.7			10	23.3			18	17.5		
Insurance Company			1	3.3			2	5.6			1	2.3			4	3.9		
Other			1	3.3			3	10.0			1	2.3			5	4.8		
Total			30	100.0			30	100.0			43	100.0			103	100.0		

TABLE V (Continued)

School Policy Variables	Vocational Technical School				Comprehensive High Schools Offering 5 or More Vocational Programs				Comprehensive High Schools Offering less than 5 Vocational Programs				Total					
	Yes	%	No.	%	Yes	%	No.	%	Yes	%	No.	%	Yes	%	No.	%	Yes	%	No Response	%
Emergency medical information kept by:																				
Teacher			4	17.4			1	4.2			5	13.9			10	12.1				
Nurse			2	8.7			2	8.3			3	8.3			7	8.4				
Principal			11	47.8			14	58.3			19	52.8			44	53.0				
Other			0	0.0			1	4.2			0	0.0			1	1.2				
Not Required			6	26.1			6	25.0			9	25.0			21	25.3				
Total			23	100.0			24	100.0			36	100.0			83	100.0				

Note: Based on number of responses in each category

The percentage of comprehensive high schools offering five or more vocational programs is considerably lower, with 54.5 per cent requiring an investigation after the occurrence of a serious accident.

The principal was reported as being responsible for keeping emergency medical information by 52.8 per cent of the responding schools; however, it was indicated that this information was also kept by other persons within the schools.

The Occupational Safety and Health Administration (OSHA), has been invited into 19.5 per cent of the responding schools to perform safety inspections. Forty per cent of the area vocational-technical schools reported having OSHA inspections while less than 15 per cent of both categories of comprehensive high schools reported having OSHA inspections.

First aid programs were being given for staff members by 31.2 per cent, and for students in 44.2 per cent of the responding schools. The area vocational-technical schools appeared to be offering more first aid programs for both the staff and students than either of the other categories of comprehensive high schools.

Liability insurance for staff members was being provided by the school districts in 51.9 per cent of the responding schools and is being considered in another 16.9 per cent. Liability insurance was provided by 76.2 per cent of the area vocational-technical schools and was being considered by another 4.8 per cent. The comprehensive high schools offering less than five vocational programs provided liability insurance for staff members in 51.5 per cent of the responding schools, with another 24.2 per cent considering such insurance. The comprehensive high schools offering five or more vocational programs reported that the

school districts provides liability insurance in 31.8 per cent of the responding schools and 18.2 per cent were considering this type of insurance.

Responses Related to High Accident Areas

Variables used to describe high accident area of the schools operation in this study were: don't know, transportion, school crossing, buildings, playground, physical education, athletics, shops, science laboratories, drivers education, field trips and total areas checked.

Table VI summarizes the distribution of responses of participants to items related to the identification of high accident areas by schools offering less than five vocational programs, 73.5 per cent reported playgrounds and athletics as their major areas of concern. In the comprehensive high schools offering five or more vocational programs, 45.5 per cent reported playgrounds as the major area, and 36.4 per cent reported physical education activities as their major area of concern. In the vocational-technical schools, 95.2 per cent indicated the shop area was their major area of concern.

Chi Square Comparison Between Selected Questionnaire Items and Background Variables of Administrators

Table VII contains a summary of chi square comparisons between selected questionnaire items and background variables of administrators. The following discussion focuses on the statistical significant chi square comparisons resulting from this part of the analysis.

TABLE VI

FREQUENCY DISTRIBUTION OF RESPONSES RELATED TO THE IDENTIFICATION OF HIGH ACCIDENT AREAS BY SCHOOL CATEGORIES

Problem Areas	Vocational Technical School		Comprehensive High Schools Offering 5 or More Vocational Programs		Comprehensive High Schools Offering Less than 5 Vocational Programs			
	No.	%*	No.	%*	No.	%*	Total	%*
Don't Know	1	4.8	1	4.5	1	2.9	3	3.9
Transportation	1	4.8	2	9.1	8	23.5	11	14.3
School Crossings	0	0.0	1	4.5	1	2.9	2	2.6
Buildings	0	0.0	4	18.2	3	8.8	7	9.1
Playground	0	0.0	10	45.5	25	73.5	35	45.5
Physical Education	0	0.0	8	36.4	14	22.4	22	41.2
Athletics	0	0.0	7	33.3	25	73.5	32	41.6
Shops	20	95.2	6	27.3	9	26.5	35	45.5
Science Laboratories	0	0.0	4	18.2	1	2.9	5	6.5
Drivers' Education	0	0.0	0	0.0	0	0.0	0	0.0
Field Trips	0	0.0	0	0.0	0	0.0	0	0.0

*Based on the per cent of responding schools in each category.

TABLE VII

SUMMARY OF CHI SQUARE COMPARISON BETWEEN SELECTED QUESTIONNAIRE ITEMS AND BACKGROUND VARIABLES OF ADMINISTRATORS

	School Background Variables							
Background of Administrators	Written report required	Severity of accidents reported	Law suit against staff	Law suit against support staff	Mandatory insurance requirements	Category of school	Funds spent for safety	Accidents reported
Years as a teacher	2.383 0.304 df = 2	4.962 0.291 df = 4	2.435 0.296 df = 2	1.165 0.559 df = 2	0.152 0.927 df = 2	6.101 0.192 df = 4	2.858 0.240 df = 2	3.044 0.218 df = 2
Level of teaching	2.814 0.093 df = 1	6.237* 0.044 df = 2	0.118 0.732 df = 1	0.069 0.793 df = 1	0.025 0.873 df = 1	11.964** 0.003 df = 2	0.041 0.839 df = 2	0.034 0.855 df = 1
Subject taught	0.755 0.385 df = 1	2.722 0.256 df = 2	0.223 0.637 df = 1	0.130 0.718 df = 1	0.372 0.542 df = 1	20.382*** 0.000 df = 2	15.346** 0.004 df = 4	0.005 0.943 df = 1
Years in Administration	1.204 0.548 df = 2	4.250 0.373 df = 4	1.432 0.489 df = 2	3.948 0.139 df = 2	1.370 0.504 df = 2	0.939 0.919 df = 4	2.066 0.356 df = 2	2.201 0.333 df = 2

* P 0.05
** P 0.01
*** P 0.001

By comparing these variables, it was found that 53.1 per cent of the administrators with secondary teaching experience reports that an accident should require the attention of the teacher before an accident report was made, 21.9 per cent reported the attention of the school nurse should be required, and 25.8 per cent reported the principal's or doctor's attention should be required before a report would be made. Of the administrators with other than secondary experience 53.5 per cent reported the doctor's or the principal's attention should be required before a report was made, 34.9 per cent reported the teacher's attention should be required, and 11.6 per cent reported the school nurse's attention should be required before a report was made.

Of the respondents reporting that a high amount of funds was expended for safety, 70 per cent had vocational teaching experience. However, 45.5 per cent of the respondents with a non-vocational background also reported a high expenditure of funds for safety.

The school nurse was reported as being responsible for keeping records of accidents by 67.6 per cent of the respondents with 11 or more years teaching experience. Of the respondents with 0-5 years teaching experience, 70 per cent reported that the school nurse was the responsible person for keeping reports; however, 47 per cent of the respondents with 6-10 years teaching experience report the teacher as being responsible for these records.

Fifty-eight per cent of all respondents report that the school nurse was responsible for keeping records of accidents, as compared to 24 per cent reporting that the teacher was responsible, and 17.6 per cent reporting the principal was responsible for keeping these records.

Chi Square Comparisons Between Selected Questionnaire Items and School Policy Variables

Table VIII contains a summary of chi square comparisons between selected questionnaire items and school policy variables. The following discussion focuses on the statistical significant chi square comparisons resulting from this part of the analysis.

The comparison of schools requiring written accident reports with the least severe accidents that would require a written report, a statistical significant chi square resulted. Of all schools responding, 70.1 per cent required a written report. Of these, 57.1 per cent required a report if the services of the school nurse was required.

This was again substantiated by 57.1 per cent of the respondents reporting that if the services of the nurse was required that the nurse would keep these records. In 16.9 per cent of the responding schools, if the attention of the principal or doctor was required the principal kept the records, and in 26 per cent of the schools, if the attention of the teacher was required the teacher kept the records. It should be noted that the teacher, nurse, and principal may all keep a record of some nature when an accident requires the attention of a doctor.

Regardless of how severe the accident, the school nurse was likely to be involved in keeping records. However, when an accident required the attention of the teacher, the teacher was most likely to keep the records, and if the attention of the principal or doctor was required, the principal was most likely responsible for keeping these records.

TABLE VIII

SUMMARY OF CHI SQUARE COMPARISONS BETWEEN SELECTED QUESTIONNAIRE ITEMS AND SCHOOL POLICY VARIABLES

	School Background Variables							
Policy Variables	Written report required	Severity of accidents reported	Law suit against staff	Law suit against support staff	Mandatory insurance requirements	Category of school	Funds spent for safety	Accidents reported
Written accident records kept	9.847**	11.645*	0.112	0.642	4.523	4.804	0.076	0.199
	0.007	0.020	0.946	0.726	0.104	0.308	0.963	0.905
	df = 2	df = 4	df = 2	df = 2	df = 2	df = 4	df = 2	df = 2
Investigation of serious accidents	4.372*	5.084	0.041	0.373	0.221	2.284	0.167	0.041
	0.0365	0.079	0.840	0.542	0.638	0.319	0.682	0.840
	df = 1	df = 2	df = 1	df = 1	df = 1	df = 2	df = 1	df = 1
OSHA Inspections	1.637	0.439	0.320	0.019	0.052	7.301*	0.753	0.149
	0.201	0.803	0.571	0.892	0.820	0.026	0.385	0.670
	df = 1	df = 2	df = 1	df = 1	df = 1	df = 2	df = 1	df = 1
Annual safety inspections	0.151	0.512	0.002	0.034	6.730**	3.940	0.013	0.002
	0.697	0.744	0.968	0.855	0.0095	0.139	0.910	0.968
	df = 1	df = 2	df = 1	df = 1	df = 2	df = 2	df = 1	df = 1
Emergency medical information kept	0.311	3.992	0.396	0.396	0.002	2.393	0.033	0.149
	0.577	0.136	0.529	0.529	0.962	0.302	0.856	0.700
	df = 1	df = 2	df = 1	df = 1	df = 1	df = 2	df = 1	df = 1

TABLE VIII (Continued)

Policy Variables	School Background Variables							
	Written report required	Severity of accidents reported	Law suit against staff	Law suit against support staff	Mandatory insurance requirements	Category of school	Funds spent for safety	Accidents reported
Liability insurance provided for staff	9.287**	3.734	1.138	2.811	4.019	11.001*	0.636	2.885
	0.010	0.443	0.566	0.245	0.134	0.027	0.728	0.236
	df = 2	df = 4	df = 2	df = 2	df = 2	df = 4	df = 2	df = 2
First aid programs for staff	0.129	1.803	1.117	0.306	0.056	1.671	0.184	0.711
	0.719	0.406	0.291	0.580	0.814	0.434	0.668	0.399
	df = 1	df = 2	df = 1	df = 1	df = 1	df = 2	df = 1	df = 1
First aid programs for students	0.157	1.573	0.470	0.035	0.025	1.157	2.450	0.072
	0.692	0.455	0.493	0.851	0.874	0.561	0.118	0.788
	df = 1	df = 2	df = 1	df = 1	df = 1	df = 2	df = 1	df = 1

* P 0.05
** P 0.01
*** P 0.001

NC = Not calculated

A written accident report was required in 69.7 per cent of the responding schools and 67.1 per cent of these have a policy which require an investigation after the occurrence of a serious accident. Of all schools responding 52.6 per cent reported having both a written report and an investigation of accidents, and 15.8 per cent report having neither an investigation nor a written report after a serious accident.

Regardless of whether an investigation, written report, or both were required it seems unlikely that a serious accident will go unnoticed. Some type of data would be compiled and kept for future reference.

Mandatory insurance (insurance required before the student can participate in class activities) was required by 45.9 per cent of the responding schools, and of these 100 per cent reported having annual safety inspections conducted by a professional organization. Of the 54.1 per cent who did not have insurance requirements, 41.9 per cent reported having annual safety inspections by a professional organization. It should be noted that 12.2 per cent had no insurance requirements and had safety inspections conducted by non-professional organizations.

OSHA inspections were conducted in 40 per cent of the vocational-technical schools, 9.1 per cent of the comprehensive high schools offering five or more vocational programs, and 14.7 per cent of the comprehensive high schools offering less than five vocational programs. Of all schools responding, 80.3 per cent reported they did not have OSHA inspections. It seems unlikely that OSHA was being used as one of the major professional agencies for conducting safety inspections.

Liability insurance was being provided by the school districts for staff members in 51.9 per cent of the responding schools and was being considered in another 16.9 per cent of the schools not now providing such insurance. Of these 70.4 per cent require written accident reports. Of all schools responding, 9.2 per cent neither provide liability insurance nor require written reports of accidents.

Liability insurance was being provided by school districts for staff members in 21 per cent of the area vocational-technical schools and was being considered in another 1.3 per cent of those which were not then providing such insurance. In the comprehensive high schools offering five or more vocational programs, 9.2 per cent were providing liability insurance with 5.3 per cent considering it. In the comprehensive high schools offering less than five vocational programs, 22.4 per cent were providing liability insurance, with 10.5 per cent considering such insurance. Forty per cent of all responding schools reported providing liability insurance and another 13 per cent of those not now providing liability insurance are considering it.

Chi Square Comparisons Between Participating Administrators Background and School Policy Variables

Table IX contains a summary of chi square comparisons between participating administrators' background variables and school policy variables. This comparison resulted in only one statistical significant of chi square value.

TABLE IX

SUMMARY OF CHI SQUARE COMPARISONS BETWEEN PARTICIPATING ADMINISTRATORS' BACKGROUND AND SCHOOL POLICY VARIABLES

Administrators' Background Variables	School Policy Variables: Written Accident Records Kept	Investigation of Serious Accidents	OSHA Inspections	Annual Safety Inspections	Emergency Medical Information Kept	Liability Insurance Provided for Staff	First Aid Programs for Staff	First Aid Programs for Students
Years as a Teacher	* 11.369	3.008	2.187	0.790	1.828	0.152	2.180	1.103
	0.023	0.083	0.335	0.674	0.401	0.927	0.336	0.576
	df = 4	df = 1	df = 2	df = 2	df = 2	df = 2	df = 2	df = 2
Level of Teaching	2.500	3.008	0.146	0.046	2.415	0.025	0.017	0.015
	0.287	0.083	0.702	0.830	0.120	0.873	0.897	0.903
	df = 2	df = 1	df = 1	df = 1	df = 1	df = 1	df = 1	df = 1
Subject Taught	3.466	2.478	1.499	1.213	0.031	0.372	0.003	0.316
	0.177	0.115	0.221	0.271	0.860	0.542	0.960	0.574
	df = 2	df = 1	df = 1	df = 1	df = 1	df = 1	df = 1	df = 1
Years in Administration	3.686	0.241	0.444	0.146	3.129	1.370	0.179	1.089
	0.450	0.886	0.801	0.929	0.209	0.504	0.915	0.580
	df = 4	df = 2	df = 2	df = 2	df = 2	df = 2	df = 2	df = 2

* P 0.05
** P 0.01
*** P 0.001
NC = Not calculated

The comparison of administrator's years as a teacher with keeping written accident records shows that 58.1 per cent of these administrators requiring the school nurse to keep records of accidents, while 24.3 per cent of the records were kept by the teacher and 17.6 per cent were kept by the principal.

Administrators with 0-5 years teaching experience, and 11 and above years teaching experience, report approximately 70 per cent of the accident records were being kept by the school nurse. However, administrators with 6-10 years teaching experience report the teacher was keeping these records in 47 per cent of the cases.

It should be noted, however, that these records may be kept by more than one person, but where the school nurses' services were available, they were utilized in the record keeping process.

Chi Square Comparison Between Selected Questionnaire Items and Problem Areas

Table X contains a summary of chi square comparisons between selected questionnaire items and problem areas within the school's operation. The following discussion focuses on the statistical significant chi square comparisons resulting from this part of the analysis.

When comparing categories of schools with problem areas a significant chi square resulted. Area vocational-technical schools did not find the areas of athletics, playgrounds, and physical education as problem areas. Approximately 70 per cent of both the other categories did identify these as problem areas. This would be expected because vocational-technical schools do not become involved in this type of activity; therefore, they would not identify these as problem areas.

TABLE X

SUMMARY OF CHI SQUARE COMPARISONS BETWEEN SELECTED QUESTIONNAIRE ITEMS AND PROBLEM AREAS

Schools' Background Variables	Problem Areas: Don't Know	Transportation	School Crossings	Buildings	Playground	Physical Education	Athletics	Shops	Science Laboratories	Total Areas Checked
Written report required	0.274 0.601 df = 1	0.052 0.820 df = 1	0.023 0.879 df = 1	0.126 0.723 df = 1	2.319 0.128 df = 1	1.130 0.288 df = 1	3.966* 0.046 df = 1	0.001 0.982 df = 1	0.000 0.995 df = 1	4.270* 0.039 df = 1
Severity of accidents reported	0.581 0.748 df = 2	0.881 0.644 df = 2	2.738 0.254 df = 2	3.525 0.172 df = 2	1.361 0.507 df = 2	1.363 0.506 df = 2	2.434 0.296 df = 2	0.004 0.998 df = 2	0.041 0.980 df = 2	3.764 0.152 df = 2
Law suit against staff	0.517 0.472 df = 1	0.087 0.769 df = 1	1.158 0.282 df = 1	0.005 0.942 df = 1	0.045 0.833 df = 1	0.005 0.942 df = 1	0.157 0.692 df = 1	0.045 0.833 df = 1	0.108 0.742 df = 1	0.912 0.340 df = 1
Law suit against support staff	1.333 0.248 df = 1	0.012 0.912 df = 1	2.442 0.118 df = 1	0.217 0.642 df = 1	0.026 0.872 df = 1	0.217 0.642 df = 1	0.092 0.762 df = 1	0.026 0.872 df = 1	0.532 0.466 df = 1	0.00005 0.982 df = 1
Mandatory insurance requirements	0.009 0.923 df = 1	2.805 0.094 df = 1	0.363 0.547 df = 1	0.048 0.826 df = 1	4.262* 0.039 df = 1	0.040 0.842 df = 1	6.177* 0.013 df = 1	4.787* 0.029 df = 1	0.035 0.851 df = 1	2.665 0.103 df = 1
Category of school	0.164 0.921 df = 2	4.659 0.097 df = 2	0.906 0.636 df = 2	4.303 0.116 df = 2	28.309*** 0.0000 df = 2	11.702** 0.003 df = 2	30.102*** 0.0000 df = 2	28.868*** 0.0000 df = 2	7.115** 0.029 df = 2	29.249*** 0.0000 df = 2

TABLE X (Continued)

Schools' Background Variables	Problem Areas									
	Don't Know	Transportation	School Crossings	Buildings	Playground	Physical Education	Athletics	Shops	Science Laboratories	Total Areas Checked
Funds spent for safety	1.563 0.211 df = 1	0.172 0.679 df = 1	0.412 0.521 df = 1	0.021 0.884 df = 1	0.033 0.855 df = 1	1.109 0.292 df = 1	0.007 0.931 df = 1	0.001 0.971 df = 1	0.015 0.903 df = 1	0.475 0.491 df = 1
Accidents reported	1.574 0.210 df = 1	0.010 0.920 df = 1	1.605 0.205 df = 1	0.055 0.815 df = 1	0.124 0.724 df = 1	0.150 0.698 df = 1	0.037 0.848 df = 1	0.089 0.765 df = 1	0.241 0.624 df = 1	0.264 0.608 df = 1

*P 0.05
**P 0.01
***P 0.001
NC = Not calculated

Science laboratories were not identified as a major problem area in 18.2 per cent of the comprehensive high schools offering five or more vocational programs. Of the comprehensive high schools offering less than five vocational programs 2.9 per cent identified this as a problem area. Only 6.5 per cent of all respondents identified science laboratories as a problem area. One hundred per cent of the area vocational-technical schools did not identify science laboratories as being an area of concern. This again is probably due to the fact that science laboratories are outside the realm of the area vocational-technical schools curricular activities.

Shops were identified as problem areas by 95 per cent of the area vocational-technical schools and by 27 per cent in each of the other two categories. This difference is probably due to the fact that shops make up a greater percentage of an area vocational-technical school's total curricular offering than they do in either of the other categories.

Similar results are achieved when comparing mandatory insurance requirements (insurance required before the student can participate in class activities) with the problem areas of shops, playgrounds, and athletics. Of all schools responding 54.1 per cent reported having no mandatory insurance requirements. Approximately 60 per cent of those schools finding playgrounds and athletics as problem areas, reported having mandatory insurance requirement, while 29.4 per cent of those schools reporting shops as a problem area have a mandatory insurance requirement.

With 29.9 per cent of the schools which are finding athletics as a problem area, 60.9 per cent of these do not require a written accident

report of a serious accident. Of the 60.1 per cent of the schools which require written accident reports, 66.7 per cent do not find athletics as a problem area.

Of all responding schools, 70.1 per cent report requiring a written accident report, and of these 59.3 per cent identified one problem area, while 69.6 per cent reported having no required written report and identified more than one problem area.

Area vocational-technical schools identified only one problem area, while 59.1 per cent of the comprehensive high schools, offering five or more vocational programs, and 73.5 per cent of the comprehensive high schools, offering less than five vocational programs, identified more than one problem area, however, 50.6 per cent of all responding schools identified more than one problem area.

Chi Square Comparison Between School Policy Variables and Problem Areas

Table XI contains a summary of chi square comparisons between school policy variables and problem areas. The following discussions focus on the statistical significant chi square comparisons resulting from this part of the analysis.

Playgrounds were identified as a problem area by 45.5 per cent of the respondents and of these 76.5 per cent reported having safety inspections performed by a professional organization. Of the 54.5 per cent that did not find playgrounds to be a problem area, 95 per cent report that they had safety inspections by professional organizations.

TABLE XI

SUMMARY OF CHI SQUARE COMPARISONS BETWEEN SCHOOL POLICY VARIABLES AND PROBLEM AREAS

Policy Variables	Problem Areas: Don't Know	Transportation	School Crossings	Buildings	Playground	Physical Education	Athletics	Shops	Science Laboratories	Total Areas Checked
Written accident records kept	4.349 0.114 df = 2	0.443 0.801 df = 2	1.886 0.390 df = 2	3.757 0.153 df = 2	10.492** 0.005 df = 2	5.911 0.052 df = 2	5.231 0.073 df = 2	4.579 0.101 df = 2	3.705 0.157 df = 2	7.275* 0.026 df = 2
Investigation of serious accicents	1.746 0.186 df = 1	0.0002 0.989 df = 1	0.058 0.810 df = 1	0.028 0.868 df = 1	3.864* 0.049 df = 1	0.874 0.350 df = 1	0.258 0.612 df = 1	0.024 0.877 df = 1	0.020 0.887 df = 1	0.954 0.329 df = 1
OSHA inspections	0.022 0.883 df = 1	0.326 0.568 df = 1	0.036 0.850 df = 1	0.772 0.380 df = 1	3.883* 0.049 df = 1	3.262 0.071 df = 1	4.961 0.026 df = 1	1.076 0.300 df = 1	0.320 0.571 df = 1	8.306** 0.004 df = 1
Annual safety inspections	0.242 0.623 df = 1	0.001 0.975 df = 1	0.252 0.616 df = 1	0.462 0.497 df = 1	2.054 0.152 df = 1	1.089 0.297 df = 1	3.471 0.063 df = 1	4.266* 0.039 df = 1	0.047 0.829 df = 1	1.036 0.309 df = 1
Emergency medical information kept	1.619 0.203 df = 1	0.148 0.700 df = 1	NC	0.210 0.647 df = 1	1.062 0.303 df = 1	0.010 0.919 df = 1	0.009 0.924 df = 1	0.729 0.393 df = 1	0.396 0.529 df = 1	0.079 0.778 df = 1
Liability insurance provided for staff	0.583 0.747 df = 2	1.407 0.495 df = 2	1.924 0.382 df = 2	1.300 0.522 df = 2	4.879 0.087 df = 2	0.900 0.638 df = 2	2.899 0.235 df = 2	0.695 0.707 df = 2	0.268 0.875 df = 2	4.765 0.092 df = 2

TABLE XI (Continued)

Policy Variables	Problem Areas									
	Don't Know[a]	Transportation	School Crossings	Buildings	Playground	Physical Education	Athletics	Shops	Science Laboratories	Total Areas Checked
First aid programs for staff	0.321 0.571 df = 1	0.0003 0.985 df = 1	0.036 0.849 df = 1	0.074 0.785 df = 1	0.041 0.840 df = 1	0.038 0.846 df = 1	1.526 0.217 df = 1	0.618 0.432 df = 1	0.003 0.954 df = 1	0.438 0.508 df = 1
First aid programs for students	0.046 0.831 df = 1	0.102 0.750 df = 1	0.324 0.569 df = 1	0.086 0.769 df = 1	0.005 0.942 df = 1	0.466 0.495 df = 1	0.007 0.931 df = 1	2.329 0.127 df = 1	0.470 0.493 df = 1	0.053 0.813 df = 1

*P 0.05
**P 0.01
***P 0.001
NC = Not calculated

OSHA inspections were conducted by 20 per cent of those schools which identified playgrounds, athletics and shops as problem areas; however, 80.3 per cent of all respondents did not have OSHA inspections. OSHA does not appear to be one of the major inspecting agencies within the schools, and with 19.7 per cent using OSHA inspections, 80 per cent of these did not find playground, athletics and shops to be problem areas.

Of the 45.5 per cent of respondents identifying playgrounds as a problem area, 80 per cent reported having a policy requiring an investigation after a serious accident. Of the 67.1 per cent that had an investigation policy, 53.9 per cent did not find playgrounds as a problem area.

The school nurse was reported as being responsible for keeping accident records by 57.1 per cent of respondents finding playgrounds and physical education as problem areas. Twenty-six per cent report the teacher was responsible and 16.9 per cent report the principal as being responsible for keeping accident records.

Fifty-one per cent of the respondents identified only one problem area while 51.3 per cent reported the school nurse as being responsible for keeping records of accidents. Of the 49 per cent identifying more than one problem area, 63.2 per cent reported the school nurse as being responsible for keeping these records. Of the 26 per cent that reported the teacher as being responsible for record keeping, 75 per cent identified one problem area. It appears that where the services of a school nurse was available that the nurse was responsible for record keeping; however, it is possible that records were kept by more than one person.

Chi Square Comparisons Between Participating Administrative Background Variables and Problem Areas

Table XII contains a summary of chi square comparisons between participating administrator's background variables and problem areas. The following discussion focuses on the statistical significant chi square conparisons resulting from this part of the analysis.

Physical education was identified as a problem area by 43.2 per cent of the respondents with over 11 years teaching experience. Ten per cent of the respondents with five or less years teaching experience and 23.5 per cent with six to ten years teaching experience identified physical education as a problem area. Respondents with greater number of years as a teacher tend to find physical education as a problem area.

Respondents with greater number of years teaching experience tend to identify more problem areas than those with less teaching experience. Of the respondents having 11 or more years teaching experience, 63 per cent identified more than one problem area, and 15.8 per cent with five or less years teaching experience identify more than one problem area.

Physical education and playgrounds were identified as a problem area by 41.2 per cent of the respondents, and of these, 57 per cent had secondary teaching experience. Of those having non-secondary teaching experience, 84.4 per cent did not find physical education and playgrounds to be problem areas. It is more likely that administrators with secondary teaching experience will identify physical education and playgrounds as an area of major concern.

TABLE XII

SUMMARY OF CHI SQUARE COMPARISONS BETWEEN PARTICIPATING ADMINISTRATORS' BACKGROUND VARIABLES AND PROBLEM AREAS

Policy Variables	Problem Areas									
	Don't Know[a]	Transportation	School Crossings	Buildings	Playground	Physical Education	Athletics	Shops	Science Laboratories	Total Areas Checked
Years as a teacher	1.194 0.551 df = 2	0.562 0.755 df = 2	2.056 0.358 df = 2	4.316 0.116 df = 2	0.272 0.873 df = 2	7.274* 0.026 df = 2	3.708 0.157 df = 2	0.620 0.734 df = 2	4.757 0.093 df = 2	6.480* 0.039 df = 2
Level of teaching	0.241 0.624 df = 1	0.029 0.866 df = 1	0.262 0.609 df = 1	1.424 0.233 df = 1	14.100*** 0.0002 df = 1	3.972* 0.046 df = 1	3.122 0.077 df = 1	0.070 0.791 df = 1	0.351 0.553 df = 1	9.828** 0.0017 df = 1
Subject area taught	1.013 0.314 df = 1	0.016 0.899 df = 1	0.193 0.661 df = 1	0.059 0.808 df = 1	8.342** 0.004 df = 1	7.528** 0.006 df = 1	3.485 0.062 df = 1	4.520* 0.034 df = 1	0.223 0.637 df = 1	9.977** 0.0016 df = 1
Years in administration	2.048 0.359 df = 2	1.786 0.410 df = 2	0.690 0.708 df = 2	2.350 0.309 df = 2	3.261 0.196 df = 2	1.632 0.442 df = 2	0.170 0.919 df = 2	4.581 0.101 df = 2	4.031 0.133 df = 2	0.367 0.832 df = 2

* P 0.05
** P 0.01
*** P 0.001

The respondents with secondary teaching experience tended to identify more than one problem area. Of the respondents having secondary teaching experience, 76.3 per cent identified more than one problem area, while 71.9 per cent of the respondents with non-secondary teaching experience identified only one problem area.

Physical education and playgrounds were identified as problem areas by 60 per cent of the respondents with non-vocational backgrounds, while 90 per cent of the respondents with vocational backgrounds do not identify physical education and playgrounds as problem areas.

Shops were identified as problem areas by 63.3 per cent of the respondents with a vocational background, and by 35.6 per cent of the respondents with non-vocational backgrounds. It is likely that administrators with non-vocational backgrounds will identify physical education and playgrounds as problem areas and administrators with vocational backgrounds will identify shops as problem areas.

Two or more problem areas were identified by 66.7 per cent of the administrators with non-vocational backgrounds while 73.3 per cent of the administrators with vocational backgrounds identified one problem area. Administrators who had experience in vocational education tended to identify fewer problem areas than those who had no vocational teaching experience.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to determine if major accidents had occurred within the past three years in a selected sample of Oklahoma public school districts, and to assess whether or not procedures have been developed to deal with the associated problems.

This study was designed to answer the following questions: Are accidents a problem in the schools of Oklahoma? Are accident reports made? Who keeps records of accidents? Are steps taken to correct dangerous situations? Are safety inspections conducted? Are first aid programs being offered? Is insurance being provided? Have accidents led to legal problems? In what areas are safety problems prevalent?

The data for this study was obtained from a mail survey of 120 Oklahoma public school district administrators selected from the Personnel Directory of the State Department of Vocational-Technical Education.

The data analysis was organized into the following four major parts: Responses to selected questionnaire items; responses related to background of administrators; responses related to high accident problem areas, and chi square comparisons between background of school, background of administrators and high accident problem areas.

Conclusions

Research questions were formulated to provide a systematic investigation of safety, safety education and accident reporting in selected schools of Oklahoma. The following conclusions are based on the results of this study and are organized around these questions.

Question 1. Are accidents a problem in the schools of Oklahoma?

It was the finding of this study that 93.5 per cent of the schools reported having accidents of a serious nature during the past three years. The chi square comparison between categories of schools and accidents reported resulted in no significant difference.

Based on these findings it can be concluded that accidents are a problem in the schools of Oklahoma and that the type of school has no effect on the accident rate.

Question 2. Are accident reports made?

It was the findings of this study that 70.1 per cent of the responding schools require a written report of accidents involving personal injury to students during school and school related activities. Investigation of serious accidents was required by school policy by 66.2 per cent of the responding schools. However, the chi square analysis shows a higher percentage of the area vocational-technical schools requiring reports. The lowest percentage requiring reports came from the comprehensive high schools offering less than five vocational programs.

Based on these findings it can be concluded that the majority of schools do require an investigation and a reporting of accidents after a serious accident; however, it is more likely that area vocational-technical schools will require accident reports than comprehensive high schools.

Question 3. Who keeps records of accidents?

The findings of this study show 52.4 per cent of the responding schools reporting the principal as being responsible for keeping records of accidents. The chi square analysis reveals that the school nurse was the person most often held responsible for the keeping of accident records. It was very likely that reports were kept by more than one person but, where the services of a school nurse were available the nurse was responsible for keeping accident records.

Question 4. Are steps taken to correct dangerous situations?

It was the finding of this study that 46.8 per cent of the responding schools reported spending less than $1,500 on safety equipment during the last three years, with an average expenditure of between $3,000 and $4,000.

It was also found that 69.4 per cent of the responding schools require emergency medical information records kept in case of a student accident. These records were reported as being kept by the principal in the majority of schools.

Based on this data it can be concluded that some effort is being made to correct dangerous situations; however, this seems to be a rather low expenditure of funds over a three-year period. This could indicate a need for more effort in this area.

Question 5. Are safety inspections being conduted?

It was the finding of this study that safety inspections were being conducted by a professional organization in 85.7 per cent of the schools of Oklahoma. In 13 per cent of the schools safety inspections were being conducted by a non-professional organization. In only 1.3 per cent of the schools no safety inspections were being required.

The chi square analysis shows that 40 per cent of the area vocational-technical schools, 14.7 per cent of the comprehensive high schools which offer less than five vocational programs, and 9.1 per cent of the comprehensive high schools which offer five or more vocational programs used OSHA as an inspecting agency. Only 19.5 per cent of all responding schools used OSHA as one of their inspecting agencies.

Based on this data, it is concluded that safety inspections are being conducted in the schools of Oklahoma and OSHA is not one of the major inspecting organizations.

Question 6. Are first aid programs being offered?

It was the findings of this study that 31 per cent of the respondents reported having first aid programs for school staff members, and 44 per cent reported having first aid programs for students.

The chi square analysis shows no significant difference between categories of schools and first aid programs being offered. Also this part of the analysis shows that schools offering first aid programs for staff members, also offer first aid programs for students.

Based on this data, it is concluded that first aid programs are not being offered by the majority of schools in Oklahoma.

Question 7. Is insurance being provided?

The findings of this study showed 44.2 per cent of the responding schools having mandatory insurance requirements (insurance required before the student can participate in class activities) in some programs.

The chi square analysis shows 4.1 per cent of the vocational-technical schools, and approximately 20 per cent of the comprehensive high schools requiring insurance in some programs.

Liability insurance was being provided by public school districts for staff members in 51.9 per cent of the responding schools, and was being considered by another 16.9 per cent of the schools not then providing liability insurance.

Based on this data it can be concluded that mandatory insurance requirements (insurance required before the student can participate in class activities) are not found in the majority of the schools of Oklahoma; however, liability insurance for staff members is being provided or is being considered in the majority of the school districts of Oklahoma.

Question 8. Have accidents led to legal problems?

The finding of this study shows 6.5 per cent of the responding schools report law suits against the professional staff, and 3.9 per cent report law suits against the support staff.

The chi square comparison shows no significant difference between the number of law suits against either the professional staff or support staff when compared to the categories of schools.

Based on this data it is concluded that accidents have become a litigation problem within the schools of Oklahoma.

Question 9. In what areas are safety problems prevalent?

The findings of this study showed approximately 45 per cent of the responding schools identifying playgrounds, physical education, athletics, and shops as problem areas. It should also be noted that none of the respondents reported driver's education or field trips as being problem areas.

The chi square comparison between problem areas and categories of schools revealed vocationa-technical schools tend to identify only

one problem area, while comprehensive high schools tend to have more than one problem area. The vocational-technical schools identify the shops, and the comprehensive high schools identify physical education, playgrounds and athletics as problem areas.

Recommendations

1. Since the passage of the Williams-Steigler Occupational Safety and Health Act was enacted industrial accidents have been on the decline, and since 93 per cent of the responding schools reported having serious accidents it is recommended that a central agency be formed for the development of a comprehensive safety program. The responsibilities of this agency should include:
   a. The development and maintenance of an effective program of collection, compilation and analysis of data;
   b. the development of safety training programs to acquaint school personnel with the most modern and effective techniques of accident investigation and prevention;
   c. the establishment of necessary research projects;
   d. the development and decimation of safety education materials and training aids;
   d. the planning and organizing safety conferences and meetings designed for administrators and supervisory personnel.
2. This study found that 70.1 per cent of the responding schools reported requiring written accident reports, however it was revealed that the severity of the accident may well determine

who kept accident records. This study also found that the majority of schools did not require an investigation of serious accidents. It is recommended that every school designate some person as the district safety officer. His/her duty should include:

a. The collection and analysis of accident data;

b. the development of inservice safety education programs;

c. attending safety conferences and meetings;

d. the scheduling of safety inspections;

e. the procurement of safety materials and training aids;

f. the evaluation of the school districts safety program.

3. This study found a low percentage of schools offering first aid programs to students and faculty members. It is recommended that more schools offer first aid programs to both students and faculty members in order to develop safety consciousness.

4. This study found mandatory insurance programs in 44.2 per cent of the responding schools and liability insurance for staff members being provided by the school districts in 51.9 per cent of the responding schools. It is recommended that schools look into the possibility of making mandatory insurance requirements in high accident areas.

5. This study found playgrounds, physical education, athletics and shops as major problem areas. It is recommended that schools compile a data base through an accident reporting procedure and attempt to eliminate accidents in these areas.

6. This study found some effort is being made to correct dangerous situations; however, it appears that there is a need for more effort in this area. It is recommended that data be compiled through the accident reporting procedures and more effort be placed in the area of accident prevention.

Recommendations for Further Study

1. A high accident rate is being reported by all categories of the schools of Oklahoma; therefore, it is recommended that further study be made to investigate the seriousness of these accidents and to find ways in which these accidents could be prevented.
2. Accident reports are being made by 70.1 per cent of the responding schools. It is recommended that further study be made to investigate the uses that are made of this data.
3. The distribution of responses shows the principal as being responsible for accident record keeping and the chi square comparisons shows that the nurse is held responsible for record keeping. It is recommended that further study be made to determine if records are kept by both persons and if the severity of the accident is the key factor in determining who keeps records of accidents.
4. OSHA inspections were being utilized by 19.5 per cent of the responding schools. It is recommended that further study be made to determine whether or not accident rates are lower in schools having OSHA inspections.

5. It was found that 51.9 per cent of the responding school districts provided liability insurance for staff members. It is recommended that further study be made to determine whether or not litigation problems are greater in school districts providing liability insurance.

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APPENDIXES

APPENDIX A

COVER LETTER

Dear Sir:

The school of Occupational and Adult Education at Oklahoma State University is conducting a study of safety and accident reporting practices within the schools of Oklahoma. This study is being done to better understand these practices for the continued improvement of our teacher education program.

When completing and returning this questionnaire, feel assured that your answers will be held in strictest confidence and will appear only in composite form with all other schools.

If you would like to have a copy of the results of this study, please enclose your name and address on a separate card.

Your cooperation in completing and returning this questionnaire is greatly appreciated.

Sincerely,

Donald McElmurry
1300 West Broadway
Ponca City, Oklahoma 74601

Dr. Clyde Knight
Associate Professor
Oklahoma State University
Stillwater, Oklahoma 74074

APPENDIX B

INSTRUMENT

DIRECTIONS:

Please respond to the following questions by placing an X in the appropriate space provided or responding with a short explanation where indicated.

1. Have there been any accidents at your school requiring medical attention by a physician during the last three (3) years?

   _____ Yes _____ No

2. Does your school policy require written reports of accidents involving personal injury to students during school and school activities?

   _____ Yes _____ No

3. How severe does an accident have to be before a written report is made?

   It requires the attention of:

   A. The teacher _____
   B. The School Nurse _____
   C. The Doctor _____
   D. The Hospital Emergency Room _____
   E. Other _____

   If "Other", please specify: _____

   _____

4. Who keeps records of accidents in your school system?

   A. Superintendent _____
   B. Principal _____
   C. Teachers _____
   D. School Nurse _____
   E. Insurance Company _____
   F. Other _____

   If "Other", please specify: _____

   _____

5. Does your school policy require an investigation after a serious accident?

   _____ Yes _____ No

6. Has a law suit been brought against any of your professional staff as a result of an accident during the past three years?

   _____ Yes _____ No

7. Has a law suit been brought against any of your support staff as a result of an accident during the last three years?

_____ Yes _____ No

8. Have you ever invited an Occupational Safety and Health Administration (OSHA) inspector to visit your school to make recommendations?

_____ Yes _____ No

9. Who conducts annual safety inspections within your school?

A. Fire Department _____
B. OSHA Inspector _____
C. School Safety Committee _____
D. PTA Safety Committee _____
E. Advisory Committee _____
F. Other _____

10. Does your school policy require an emergency medical information form to be kept on each student in case of an accident?

_____ Yes _____ No

If Yes: By Whom?

A. Principal _____
B. Teacher _____
C. School Nurse _____
D. Other _____

If "Other", Please specify: _____

_____

11. Do you have mandatory insurance requirements for students in specific programs?

_____ Yes _____ No

If "Yes", please specify: _____ _____

_____ _____

_____ _____

12. Does your school provide liability insurance for your professional staff?

_____ Yes _____ No

If "No", is such insurance now being considered?

_____ Yes _____ No

13. Is an inservice first aid program given on a regular schedule in your school?

_____ Yes _____ No

14. Is a first aid program offered for students on a regular schedule?

_____ Yes _____ No

15. In what areas of your school's operation have most safety problems occurred?

A. Transportation _____
B. School Crossings _____
C. Buildings _____
D. Playground _____
E. Physical Education _____
F. Athletics _____
G. Shops _____
H. Science Laboratories _____
I. Drivers Education _____
J. Field Trips _____
K. Other _____

If "Other," please specify: _____

_____

16. What is the approximate dollar value your school spent on safety equipment during the past three (3) years?

A. $ 0-1500 _____
B. 1500-3000 _____
C. 3000-4500 _____
D. 4500-6000 _____
E. 6000-7500 _____
F. 7500-9000 _____
G. Over 9000 _____

17. How many years were you a teacher?

_____

18. At what level was your teaching experience:

A. Elementary _____
B. Junior High _____
C. Senior High _____
D. Higher Education _____

19. In what subject matter area did you teach?

A. Math _____
B. Science _____
C. Social Studies _____
D. Language _____
E. Music _____
F. Vocational _____
G. Industrial Arts _____
H. Business _____

20. How many years have you been an administrator? _____

21. Would you please list other safety concerns that you have which were not mentioned above?

_____

_____

_____

_____

_____

_____

_____

_____

APPENDIX C

RESPONDENTS' COMMENTS

The following is a list of concerns as reported by the respondents of this study.

Vocational-Technical Schools

1. Liability of shop instructors with students under their supervision, but not actually present in shop.
2. The safety of students under circumstance above.
3. The disparity of theory and practice concerning equipment to be used by students (safety glasses, safety clothing, and etc.).
4. Fork lift and equipment operation by students associated with program, but not a part of the curriculum.
5. Unattended students during break time.
6. Improper clothing in shop. Hanging sleeves in machine shop, masks in auto body, etc.
7. Legal aspects of teachers in carpentry in one room with students operating power saws in another room.
8. Adult students being used as substitutes.

Comprehensive High Schools Offering Five or More Vocational Programs

1. Most accidents are the result of a student not following instructions.
2. Most Hospital and Doctors care result from personal injury to support personnel.

3. Most injuries to support personnel result from not following definite safety procedures.
4. How to develop a program of education and re-educating support staff in good safety habits without undue additional staff.

Comprehensive High Schools Offering Less than Five Vocational Programs

1. The parent is contacted if an injury will require a doctor's attention or any injury that will interrupt the student's class schedule.
2. Parents passing school buses while they are unloading.
3. Playground and shop equipment.
4. Weather safety (tornado).
5. Law enforcement of speed laws in school zones.
6. Faculty cars driven on activity trips.
7. Standard school procedure for handling an injury or emergency.
8. Health nurse who is available at all times to our students.
9. Teacher education departments in training teachers should require more actual training, especially in shop safety measures.
10. I would like to see an adult and parental education workshop to make parents aware of the hazards to children from the time they leave home until returning home. Too often parents feel that their child is the only child in school and if he/she

is hurt the blame is usually placed everywhere except on the part of the child.

APPENDIX D

TABLE XIII

TABLE XIII

DISTRIBUTION OF RESPONSES TO ITEMS RELATED TO THE BACKGROUND OF PARTICIPATING ADMINISTRATORS BY CATEGORY OF SCHOOL

Background of Administrators	Vocational Technical School	Comprehensive High Schools Offering 5 or More Vocational Programs	Comprehensive High School Offering Less than 5 Vocational Programs	Total	%
Years as a Teacher					
0-5	7	8	5	20	25.9
6-10	6	4	7	17	22.1
Over 11	7	9	21	37	48.1
No Response	1	1	1	3	3.9
Total	21	22	34	77	100.0
Years as an Administrator					
0-10	6	7	12	25	32.5
11-20	11	9	14	34	44.2
Over 20	4	6	8	18	23.3
Total	21	22	34	77	100.0

TABLE XIII (Continued)

Background of Administrators	Vocational Technical School	Comprehensive High Schools Offering 5 or More Vocational Programs	Comprehensive High Schools Offering Less than 5 Vocational Programs	Total	%
Subject Area of Teaching Experience					
Vocational	17	5	8	30	39.0
Non-vocational	4	16	25	45	58.4
No Response	0	1	1	2	2.6
Total	21	22	34	77	100.0
Level of Teaching Experience					
Secondary	14	11	7	32	41.6
Non-secondary	7	10	26	43	55.8
No Response	0	1	1	2	2.6
Total	21	22	34	77	100.0

VITA

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Candidate for the Degree of

Doctor of Education

Thesis: A STUDY OF SAFETY, SAFETY EDUCATION, AND ACCIDENT REPORTING IN SELECTED SCHOOLS OF OKLAHOMA

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