

NEED AND PROPOSED COURSE OF STUDY IN FIRST-AID
RECOMMENDED FOR TEXAS JUNIOR HIGH SCHOOLS

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CHAPTER I

INTRODUCTION

Purpose of the Study

The purpose of this study is to show the need for placing the teaching of accident prevention and first-aid into the curricula of all public schools of the State of Texas on a compulsory basis and to prescribe definite criteria for the work.

Importance of the Study

World War II is over and the nation has returned to its peace-time manner of life. There are repercussions, however. After each major world conflict there has been a natural tendency for the people to relax and to be somewhat inconsiderate of the hazards facing them in the home, the street, and their places of business. They have been more likely to become careless and unaware of the many dangers which may kill or injure many people in a world where the battlefield has been stilled. The present time is no exception to the rule. Accidents are increasing at such a rate that the situation is becoming urgent and critical. New methods of travel and work have complicated the situation. A recent report says:

Government agencies report an alarming increase in traffic casualties since last July, and predict that

more than two and one-quarter million people will be injured and 36,500 will lose their lives in 1946. They have appealed to school authorities and law enforcement officers to institute more effective measures of reducing traffic hazards.¹

Traffic accidents are not the only kind that have been on the increase. Thompson says:

The number of deaths of civilians in home accidents in 1945 totaled 33,500 which was a 2 per cent increase over 1944. Injuries numbered five million, and one hundred and thirty thousand of those were permanent disability cases. The cost of these accidents in wage loss, medical expense, and insurance, amounted to six hundred million dollars.²

Not all these accidents have been preventable, but a large number of them have. It is estimated that 20,000 children lost their lives in 1945 needlessly and that some of them would be living today if their parents had used forethought.³ Ninety per cent of all accidents are preventable, it has been estimated. Not all accidents are "bound to happen", because most accidents can be prevented with proper forethought and education. Great industrial organizations realize the importance of accident prevention. Brownell says:

The rayon plant of one large company recently worked 11,361,846 hours without a disabling accident. That record was made possible by the fact that the company had studied the causes of accidents and ways to

¹"Curriculum News and Views", The Elementary School Journal, XLVI (April, 1946), 283.

²Hazel Thompson, "Education for Safety", Journal of Home Economics, XXXVIII (May, 1946), 28.

³D. J. Clay, "20,000 Children Die Needlessly", Better Homes and Gardens, XXIV (May, 1946), 113.

prevent them. Machinery was guarded. Railings were placed to prevent falls. Goggles were furnished to protect the eyes. Each person in the factory was required to follow company rules. Safety in the factory was controlled as far as possible.⁴

It is also true that in a great many accidents the injury is aggravated because of the ignorance and lack of skill on the part of those people present at the scene of the accident. The American Red Cross has taken the lead in sponsoring education for first-aid, and such education has gradually been extended to the schools of the nation.

The placing of safety training in the schools has been a logical outcome of the modern trends in education. There are any number of other organizations --- the home, the church, the government, special service organizations, clubs, and various entertainment devices --- which are capable of performing adequate accident prevention training, but many do not have the opportunity to do so. However, the greatest drawback to training by these agencies is that they do not have the necessary time, skill, and knowledge to conduct an energetic and thorough campaign to prevent accidents and educate the citizen of the state to know how to do the right thing at the right time in case of accidental injury to himself or to someone in his presence. Because the schools have the advantage of having youth in groups and the students are accustomed to working and learning in cooperation, it has been decided that the school is the most logical place to teach accident pre-

⁴L. C. Brownell and J. J. Williams, Active and Alert, p. 91.

vention and aid. Then, too, it has been demonstrated that education does aid in accident prevention. A report of the National Safety Council gives these figures:

Since 1922, the year in which safety education in the schools was begun on a national scale, the greatest progress in accident prevention has been made among children. By 1945 the death rate for 0 to 4 years had dropped 23 per cent and from 5 to 14 years had dropped 24 per cent.⁵

With this knowledge in mind, the schools of the nation have gradually been incorporating safety education into their curricula. The State of Texas makes this general basic requirement:

The law provides that instruction in Physical Education shall be established and be made part of the course of instruction and training in the public elementary and secondary schools of the state. Each elementary school student must receive 150 minutes per week of class instruction in Physical Education each year. A minimum of 15 minutes per day or its equivalent shall be devoted to special health instruction.⁶

This is the provision under which the public schools of Texas operate at the present time in regard to health instruction. A great number of the larger schools of the state have provided a very adequate safety education program under this provision, but a great majority of the smaller high schools do not have a sufficiently comprehensive program. Only a few have a complete first-aid kit ready for emergencies and few schools have personnel sufficiently skilled

⁵National Safety Council, Accident Facts, Condensed 1946 Edition, p. 1.

⁶The State Department of Education, Tentative Course of Study in Health, Physical Education and Safety, (1939), p. 1.

to render first-aid when needed. Then, too, there is no check made to see that the schools actually do teach a proper amount of safety education, and so the amount taught varies with the school, the teacher, and the community.

The progress made by some of the larger schools in safety education has been noteworthy, but the courses of study do not incorporate safety education into the curriculum as a core subject. For example, the Fort Worth Public Schools teach a course in first-aid in the ninth grade, using the American Red Cross First-Aid Manual as their text. Following is a foreword and outline for the course of study:

Foreword. In view of the ever increasing need for first-aid instruction and the increased responsibility of the school in providing this instruction, the Fort Worth Public Schools must incorporate definite and complete first-aid materials in the program of health and physical education.

Outline for Course of Study, 9th grade

1. Needs and uses for first-aid.
2. Shock.
3. Anatomy adaptable to needs.
4. Wounds, requiring additional attention, such as incised, punctured, lacerated.
5. Heat and cold.⁷

The Houston schools, realizing the existing need for instruction in safety education and first-aid, have placed safety education in a definite position in their curriculum. The major headings for the course of study in the high eighth grade consist of the following:

⁷Fort Worth Public Schools, Curriculum Bulletin, No. 205, (1937), p. 268.

1. Preventing accidents likely to occur at home or at school; giving first aid when necessary.
2. Providing first aid equipment and simple remedies.
3. Preventing traffic accidents.
4. Preventing accidents in unusual situations.
 - a. Drowning.
 - b. Contact with charged electrical wire.
 - c. Fireworks and firearms.
 - d. Diving into shallow water.⁸

Efficient as the above courses may be, it is evident that they are not taught as core subjects in the curriculum. The number of accidents that are happening and their effect on the public welfare as a whole are of such import that safety education demands and requires today that it be given a definite place in the curriculum. However, the school curriculum is said to be already overcrowded, and there are some who believe that safety education should be taught incidentally in conjunction with the other core subjects. There is much of safety education that can more easily and properly be taught along with the core subjects, but there are some portions so fundamental to our changing way of life that they should be taught formally as core subjects in themselves. A curriculum must not only be based upon an educational philosophy, but it must meet the practical conditions of life.⁹

However, the Texas public schools within the past decade have added a year to the formal education of its students.

⁸Houston Public Schools, Curriculum Bulletin, No. 43cb69, (1943-1944), p. 28.

⁹A. W. Whitley, "Introduction"; A Guide Book for Safety Education, by National Bureau of Casualty and Safety Underwriter, p. 1.

Most of the schools have placed the extra grade at the end of the elementary year of schooling, and there have been many suggestions and practices evolved for obtaining the material to fill the curriculum for this added year. This condition provides an excellent place for inserting safety education as a core subject in the curriculum, and such a selection would come at a time when students are capable and eager for training. At this stage, too, in education, attendance is probably at its greatest height as many of the students do not complete high school training.

As stated in the beginning of this study, the purpose of it is to show the need for safety education as a part of the school curriculum. It hopes to show that an adequate, efficient presentation of the subject at the end of the elementary curriculum will afford a wonderful opportunity to enrich the curriculum and to benefit materially the welfare of all the people of our society, state, and nation.

Source of Data

The data for this study have been taken from various sources. Permission was obtained from the Fort Worth, Dallas, and San Antonio Public Schools to use the accident reports on file in their offices for the school year of 1945-46. Memoranda, pamphlets, and records of the National Safety Council were obtained from that organization. Various magazines, pamphlets, and articles were utilized; these were obtained from the libraries of North Texas State College and the Demonstration High School of Denton, Texas. Tests for com-

parison purposes were given the students in the Demonstration High School and the results presented in the study. Literature on safety education was studied at every opportunity in order to present all aspects of the study.

Method of Procedure.

This study has been organized into five sections. Chapter I includes the introduction of the study with a statement of the problem, the importance of the study, the source of the data, and the method of procedure. The need for safety education at the present time is stressed in Chapter II. Chapter III traces the development of first aid instruction in Texas. Chapter IV gives the reasons for stressing safety education in the junior high school and presents comparative studies of students who have had first aid training with those who have not had such training. A recommended course of study for teaching safety education is presented in Chapter V. A proposed course of study for safety education is presented in the Appendix.

CHAPTER II

EXTENT OF ACCIDENTS IN THE UNITED STATES AND TEXAS AND NEED FOR TRAINING IN SAFETY AND FIRST-AID

General Increase in Accidents

A perusal of the daily papers today shows the awful toll that is being taken by accidents that happen constantly. There is an accidental death occurring at some place in the United States on an average of one each five minutes annually. Our mortality rate from accidents is almost twice as great as that of any European country and one-fourth greater than that of Canada.¹ These things are true in spite of the fact that the population density of European countries is greater than that of the United States and that the civilization of the United States is regarded as achieving a high degree of intelligence.

The alarming rate of increase of accidents in the United States is not realized by the average person. On the other hand, war is regarded as the most hazardous undertaking existent. The casualty list is expected to be long and there is little surprise when such is the condition. The following statement shows that there are as many, or more, dangers existing at all times on the home front:

¹Idabelle Stevenson, Safety Education, p. 1.

The United States war casualties from Pearl Harbor Day to V-J Day were 261,608 killed and 651,911 wounded or missing. Killed by accidents on the home front during this war period were 355,000 and approximately 30,000,000 others injured. Of this 30,000,000 injured there were 1,250,000 permanently disabled.²

The war casualties were the ones that were highly publicised; the accidental deaths were accepted casually as a matter of course in most instances. Likewise, major disasters and catastrophes are given screaming headlines in the newspapers. These incidents get a wide circulation of publicity, which is not entirely warranted in the face of the great number of individual fatalities which are accepted far too placidly.

There was only one disaster in 1945 with a death total more than 50---the Oklahoma, Missouri, Arkansas tornado---which killed 119. Tornadoes in Alabama and Mississippi killed 43. A collision of two trains caused 34 deaths.³

There needs to be more attention given to accidents which also take a high toll of life. They can often be prevented. A comparison of the accident toll for 1937 with what are called historical disasters is interesting in this respect. Table 1 gives this data.

²Ibid., pp. 3-4.

³National Safety Council, Accident Facts Condensed, 1946 Edition, p. 7.

TABLE 1

COMPARISON OF ACCIDENTAL DEATHS IN 1937 WITH HISTORICAL DISASTERS⁴

Accidental Deaths in 1937	106,000
World War I (U.S. Dead 1917-18).....	50,510
Civil War (Union Men) 1861-64).....	110,070
Revolutionary War (1774-1783).....	4,044
Chicago Fire (1871).....	107
Iroquois Theatre Fire (1903).....	575
New London School Explosions (1937).....	294
Sinking of Titanic (1912).....	1,517
Sinking of the Lusitania.....	1,198
San Francisco Earthquake.....	452
Florida Tornado.....	700
Galveston Flood (1900).....	2,000

Other figures show the importance of accidental death rates in comparison with the other chief causes of death in the United States. Table 2 presents the chief causes of deaths in the United States for the year 1943. Tuberculosis, which is known as the "dread killer", claimed more than 57,000 victims, but accidents caused more than 99,000 people to lose their lives. There were only seven causes surpassing the accidental cause of deaths, and these, except cancer, were diseases of the heart. This accident rate is appalling, especially when it is taken into consideration that most accidents can be prevented. Each year millions of dollars are spent in research in an attempt to find some way of lowering the death rate from disease. Foundations are established; famous scientists work long hours. It is high time more attention was paid to accident prevention.

⁴Ibid., 1938 Edition, p. 8.

TABLE 2

CHIEF CAUSES OF DEATHS IN THE UNITED STATES IN 1943⁵

Cause of Death	Number	Rate per 100,000
Tuberculosis	57,005	42.6
Syphilis	16,263	12.1
Influenza	17,219	12.9
Cancer	166,848	124.5
Diabetes	36,314	27.1
Disease of the Blood	10,692	8.0
Disease of the Nervous System	144,834	108.1
Cerebral Hemorrhage	111,472	83.1
Disease of the Heart	426,391	318.3
Disease of the Myocardium	221,064	165.0
Disease of Coronary Arteries	120,725	90.1
Arteriosclerosis	27,216	20.3
Pneumonia	72,896	54.4
Diarrhea	12,827	9.6
Cirrhosis of Liver	12,527	9.4
Nephritis	99,267	74.1
Congenital Malformation	16,766	12.5
Disease peculiar to 1st year	55,506	41.4
Senility	11,684	8.7
Homicide	6,690	5.0
Suicide	13,725	10.2
Accidental Deaths	99,038	73.9
Conflagration	2,775	2.1

Statistics for 1945, released during the year, showed evidence that accidents were increasing in number and that they would probably rank fifth as an important cause of death in the year's total. The National Safety Council reported as follows:

⁵U. S. Bureau of Census, World Almanac, 1946, p. 672.

In recent years the only causes with more deaths have been heart disease, cancer, cerebral hemorrhage, and nephritis. 'Among males alone, only two causes---heart disease and cancer---have ranked above accidents.' The two greatest causes for 1945 of accidental death were motor vehicles with 30 per cent, and falls with 28 per cent. Burns caused 10 per cent and drownings 8 per cent of the total. In the class of public accidents, which were not motor vehicle, drowning was the most important of the fatal accidents with over one-fourth of all deaths. Falls numbered nearly as many. Transportation accidents---rail, street, air, water---not involving motor vehicles, were responsible for another fourth. Fatal fire-arm accidents were less than one-tenth of the total.⁶

The unredeeming feature of these statistics is more apparent when it is realized that nine-tenths of these accidental deaths were preventable and caused by ignorance and carelessness. Then, too, a large number of deaths could have been prevented had there been someone present at the scene of the accident who knew what to do and how to act promptly to apply this knowledge. In most instances the other deaths, as listed in the table, were from disease and, more or less, unpreventable. Medical science has reached a high degree of perfection at the present time, and the great majority of those who died received attention from a corps of skilled professional men who had the use of technical training, advanced medicines, and the most modern instruments. Millions of dollars are spent each year in research in the field of medicine and surgery. It might well be said that this time and money could be better diverted to the task of keeping well men alive and free from injury,

⁶National Safety Council, Accident Facts, Condensed Edition, p. 2.

TABLE 3

ANNUAL FATALITIES FROM MAJOR CAUSES 1913-1943⁷

Year	Motor Vehicles	Falls	Burns	Drowning	Railroads
1913	4,200	18,700	9,350	10,000	12,500
1918	10,700	16,700	10,700	7,350	10,500
1923	18,400	16,800	9,550	7,000	8,100
1928	28,000	19,600	9,000	8,750	7,150
1931	33,700	21,100	7,650	7,850	5,450
1933	31,363	21,746	5,820	7,465	3,923
1938	32,582	25,454	5,495	7,347	3,376
1939	32,586	22,878	4,831	5,450	3,394
1940	34,501	22,752	5,270	5,308	3,200
1941	39,969	22,235	4,964	5,541	3,550
1942	28,309	22,224	5,159	5,805	3,700
1943	23,823	24,179	5,951	6,095	3,783

rather than to try to enable those organically unsound to cling feebly to life; but this is not the American way of life. America, with its wealth, its high degree of civilization, and its interest in the welfare of all the people, is big enough and powerful enough to devote money, time, and education to disease eradication or modification and safety education, all at the same time.

Causes of Accidental Deaths

A better insight into the causes of accidental death may be gained by examining the accidental death statistics and determining the amount of increase and causes of deaths.

⁷U. S. Bureau of Census, World Almanac, 1946, p. 672.

TABLE 3 -- Continued

Firearms	Poison Gas	Poisons (Except Gas)	Total
2,400	3,550	3,200	82,500
2,700	4,400	2,650	85,100
2,950	2,800	2,950	84,400
3,000	2,800	2,800	95,000
3,150	2,150	2,179	97,300
3,026	1,668	2,800	90,932
2,696	1,459	2,073	93,605
2,582	1,396	1,919	92,623
2,390	1,562	1,870	96,885
2,414	1,464	1,673	101,513
2,741	1,694	1,656	95,889
2,318	2,038	1,743	99,038

In any safety program it would be fundamental to stress the prevention and cure for those accidents most prevalent. Table 3 gives the statistics on accidental deaths for a period of years from 1913 through 1943. The data in the table show that there seems to be no appreciable change in the total number of accidental deaths in the years from 1928 until the latest date for which there are complete records.

Analysis of individual causes of accidental death over the period reveal some significant indications. In 1913 there were only 4,200 deaths caused by motor vehicles, and there were 18,700 caused by falls the same year. However, the number of accidental deaths caused by motor vehicles increased steadily until 1941, the year of our entrance into World War II. Rationing of automobile tires and gasoline curtailed automobile travel during the war years, and in

1943 the total number of deaths due to motor vehicles decreased to 23,823.

Falls.--The number of accidental deaths due to falls is surprising. In 1943 there were more deaths due to falls than to any other accidental causes. The number increased sharply, too, from year to year.

Burns and others.--The number of accidental deaths due to burns decreased almost fifty per cent from 1918 to 1943. There was also a large decrease in the percentage of deaths due to drowning. Railroad fatalities decreased from 12,500 in 1913 to 3,783 in 1943. There was not much change in the number of accidental deaths due to firearms from 1913 to 1943. Deaths from poisoning by gas totaled 3,550 in 1913 but decreased to 1,396 in 1939. In 1943 the number had increased again, and there was a total of 2,038 deaths due to gas poisoning. The number of deaths due to poisons other than gas decreased over forty per cent during the period of time studied.

In studying the statistics it is noticeable that in almost all instances except falls and motor vehicle accidents, the death rates from accidental causes have decreased. This is true in spite of the fact that the nation is becoming highly industrialized and the chances for accidents becoming more numerous. Safety in industry has been stressed a great deal, and it is a tribute to this safety campaign that the number of accidents in industry did not increase alarmingly during the war years when great numbers of unskilled laborers were placed in industry and in hazardous positions.

Motor vehicle accidents.--However, a study of recent statistics show an alarming increase in the number of deaths from motor vehicle accidents in 1945. The death rate from this began to rise slowly at the time of VE Day and rose rapidly following VJ Day and the end of gasoline rationing. According to Pitney, the rate by October was one and one-half times as high as the same month in 1944, and the outlook for the first year of peace was for the highest motor vehicle accident death rate since 1941.⁸ The rate may be expected to increase rapidly now that peace has arrived and people are beginning to spend their war savings by travel and vacationing. The fact that a great number of the vehicles now in use are old and worn and unsafe will add to the hazard of travel. The owners are unable to get spare parts and the automobile mechanics are too rushed to keep the cars in good mechanical condition for safe driving conditions. It will be some time before the automobile industry will be able to supply the demand for new cars.

The National Safety Council has also made a study of the percentage of automobile fatalities per 100,000 people over a period of years extending from 1912 to 1943. Table 4 presents this data as gathered by the Safety Council. In 1912, it is seen from the statistics, there were only 1,758 automobile fatalities per 100,000 persons in the United States, or a percentage of 2.9. Such a low rate is due, of

⁸Elizabeth Pitney, "Results from the Current Mortality Sample", American Journal of Public Health, XXXVI (May, 1946), 475.

TABLE 4

AUTOMOBILE FATALITIES IN THE UNITED STATES PER 100,000
PERSONS FROM 1912-1943⁹

Year	Number of Deaths	Rate
1912	1,758	2.9
1913	2,488	3.9
1914	2,826	4.3
1915	3,978	5.9
1916	5,193	7.3
1917	6,724	9.0
1918	7,525	9.3
1919	7,968	9.4
1920	9,103	10.4
1921	10,168	11.4
1922	11,666	12.4
1923	14,411	14.7
1924	15,529	15.5
1925	17,571	17.1
1926	18,871	18.0
1927	21,160	19.6
1928	23,765	20.8
1929	27,066	23.3
1930	29,080	24.5
1931	30,042	25.2
1932	26,350	21.9
1933	29,323	23.6
1934	33,980	28.6
1935	34,183	28.6
1936	35,761	29.7
1937	37,205	30.8
1938	30,564	25.1
1939	30,468	24.7
1940	32,245	26.1
1941	37,512	30.0
1942	28,309	21.2
1943	23,823	17.8

⁹National Safety Council, Accident Facts, 1944, p.2.

course, to the small number of cars in use at that time. A gradual increase in the rate is noticeable, however, and by 1928 it had reached 20.8 per cent. In 1931 the rate was 25.2, but this dropped to 21.9 per cent in 1932 due to the depression. Franklin D. Roosevelt was inaugurated President of the United States in 1933 and financial conditions of the country began to improve. This was reflected in the greatest upsurge of the automobile fatality rate of any one year of the period, being a gain of 5 per cent in 1934 over the previous year. The peak rate was reached in 1937, but the 1941 rate of 30.0 was only eight-tenths of a point below this. The war years saw a rapid decline in the rate of automobile fatalities, and in 1943 the rate stood at 17.8, the lowest of any year since 1925.

The further seriousness of traffic accidents is emphasized when a comparison is made between motor vehicle fatalities and fatalities caused by other types of accidents. In 1943 there was a total of 94,500 accidents with fatal results in the United States. Table 5 gives the breakdown of these figures into the types of accidents that caused these fatalities. There were 9,700,000 people injured in these accidents, and the total cost of the accidents was estimated to be \$5,000,000,000. This is a staggering sum and should be of concern to the entire nation. It is an enormous waste of lives, time, and money and constitutes a serious threat to the whole economic and social structure of the country.

TABLE 5

NATIONAL ACCIDENT DEATH TOLL IN 1943¹⁰

Type of Accident	Number of Fatalities
Motor Vehicles	23,300
Home	33,000
Occupational	18,000
Public (Not motor vehicle)	15,000
Military Personnel	9,500

Accidental fatalities to children.--One of the tragic phases of this accident fatality rate is that 47,300 of these deaths were children under fifteen years of age. Table 6 shows the cause and number of fatalities of children in 1943.

TABLE 6

CAUSES OF ACCIDENTAL FATALITIES TO CHILDREN
IN 1943¹¹

Cause of Accident	Number of Children Killed
Falls	27,000
Burns	9,600
Drowning	7,500
Catastrophe	3,200

These data show that the accidental fatality rate among children is very high. The large number of fatalities due to falls and burns might be attributed to lack of home supervision, due to the fact that in a great number of instances both parents were engaged in war industries or in military service.

¹⁰National Safety Council, Accident Facts, 1944, p. 3.

¹¹Ibid.

Hayes made a study of accident fatalities according to age groups. Her report was made from results submitted by over 100 schools having enrollments of over 100,000 and are comprehensive in nature. Table 7 presents data from this survey. Hayes, it can be seen, divided the pupils into two age groups; 5 to 15 years, and 15 to 24 years. In 1943 there were 370 more children between the ages of 5 and 14 killed in home civilian fatalities than in 1941. This gain might be attributed to the number of mothers away from home engaged in war industries.

TABLE 7

SCHOOL-AGE CHILD DEATH TOLL IN 1941 AND IN 1943¹²

Age-Group	Motor Vehicle Fatalities		Home-Civilian Fatalities		Other Public Civilian Fatalities	
	1941	1943	1941	1943	1941	1943
5 to 14	2,838	2,150	1,574	1,950	2,096	2,600
15 to 24	8,414	4,150	1,134	1,000	2,739	1,800

These data show that there were 688 more children injured fatally in 1941 in the 5 to 14 age bracket than in 1943, a condition, no doubt, due to the decreased use of the automobile in this period. In the 15 to 24 age bracket, there were 2,664 fewer fatalities in 1943 than in 1941. In

¹²Elizabeth Hayes, "Accident Facts", Safety Education, (March 1944), 248.

accidents other than in motor vehicles and in the civilian homes, there was an increase of 504 in the 5 to 14 age bracket in 1943 over 1941, and a decrease of 939 in the 15 to 24 age bracket for the same period. This latter decrease was due, no doubt, to the large number of boys entering military service at this period, and Hayes did not include accidents to military personnel in her study.

It is evident from these figures that fatal accidents to children under 14 years are increasing. The only decrease shown was in motor vehicle fatalities, and this was due to the war-time curtailment of traveling. These data are more evidence of the need for safety education in the elementary grades at school.

Pedestrian accidents.---Another class of accidents which is closely related to that of motor vehicles is pedestrian accidents, which have a high rate of fatalities. Woolverton has made a survey as to how pedestrians were involved in fatal accidents and conditions bringing about the fatalities. The results are given in Table 8. The data in Table 8 reveal that crossing a street between intersections and at intersections, where there are no signals, are the most dangerous points from the standpoint of fatalities. Coming from behind parked cars ranks second in the list of pedestrian fatalities, and crossing at intersections is only one point behind.

¹³M. Woolverton, "Transportation", Safety Education, XXIII (February, 1944), 265.

TABLE 8

ACTION OF PEDESTRIANS KILLED IN 1942 IN THE 15-24
AGE BRACKET

Action	Per Cent
Crossing at Intersections	
With Signal	6
Against Signal	7
No Signal	18
Diagonally	2
Crossing between intersections	19
Coming from behind parked cars	11
Walking in Roadway	
With traffic, walks available	4
With traffic, no walks available	8
Against traffic, walks available	1
Against traffic, no walks available ..	4
Standing in Safety Zone	1
Getting on or off street car	1
Getting on or off other vehicle	2
Working in roadway	5
Playing in roadway	3
Lying in roadway	4
Not in roadway	3

Other figures which Woolverton presents in his study are: Twenty-seven of the people killed in traffic accidents are pedestrians. In cities, 60 per cent of the people killed in traffic accidents are pedestrians, while in rural communities the rate is only 22 per cent. Fifty per cent of the pedestrian accidents occur between the time of 6 P.M. and midnight.¹⁴ These figures along with those presented in Table 8 are helpful in planning safety education campaigns.

The above discussions have dealt with the accident fatalities of the nation as a whole. Texas, as a single state, differs little from the general picture. In 1946,

¹⁴Ibid.

in traffic accidents alone, the rate was 135 per cent greater between January and August than for the same period in 1945, and deaths were 42 per cent greater.

It has been mentioned previously that the more congested areas have a greater proportion of accidents than the rural areas, especially in traffic accidents. The population of Texas has increased 11 per cent in the last ten years, and all indications point to a much more rapid increase as more industrial firms move into the state.¹⁵ The accident fatality rate, therefore, may be expected to rise.

Need for safety education in schools.--Both national and state governments have and are taking cognizance of the growing menace of accidents to both life and property. The Safety Conference called by President Truman in Washington in the present year, 1946, made the following recommendation:

American schools at all levels should conduct traffic safety programs which will give adequate guidance in accident prevention to more than thirty million young people and prepare them for future responsibilities.¹⁶

Teachers, too, are beginning to be aware of the importance and need for safety education. In a recent study made by an association of Teachers Colleges and The National Safety Council, the following facts were determined:

Seventy per cent of the school administrators believe that safety education is as important as health education; 57 per cent think that safety education is less successfully taught than safety education;

¹⁵World Almanac, 1946, p. 385.

¹⁶Editorial, American City, LXI, (June, 1946), 117.

70 per cent think that the weakness of safety education is due to general lack of interest, lack of adequately trained teachers, lack of time, no specific place in the curriculum, lack of material and equipment, and lack of specified objectives.¹⁷

In this respect, educators have been making surveys of many safety education practices. Danford made a study of 250 schools and school systems in 31 states and found that only 31 per cent of the school districts in communities over 10,000 population kept a record of accidents.¹⁸ This study, too, was made only in schools which were recommended as doing good work in safety and having good safety records. The percentage would undoubtedly fall much lower if the smaller school systems were included. Keeping of accident reports is generally accepted as a good index as to safety consciousness of the administrative leadership of the educational system. It is obvious that proper steps to eliminate hazards and to prevent accidents cannot be taken unless a compilation is made and kept as to the nature of the accidents occurring, and the cause and place of occurrence.

Statistics also show that safety education campaigns conducted in schools bring results. Stevenson says:

In Detroit, the death rate of school children dropped 47 per cent in the first five years following the appointment of a supervisor of safety teaching. Death from traffic accidents to school children have decreased 50 per cent in St. Paul in a like period.

¹⁷J.U. Metz, "Safety Instruction", Industrial Arts and Vocational Education, XXV (June, 1946), 112.

¹⁸H.G. Danford, "Attacking the Child Accident Problem", School Board Journal, CXII (March, 1946), 25.

In St. Louis, the reduction of child deaths from motor vehicle accidents was 48 per cent. In Louisville, the decrease was 66 per cent. In Cleveland, 30 fewer children were killed in the streets and in the homes in the last year of the period than in the first.¹⁹

Experiments have shown, also, that experience is a factor in accidents. In industry, the percentage of accidents shows a very sharp and steady drop with the increase in experience. A survey made in England is significant to this phase of safety education. Table 9 gives the figures from this survey.

TABLE 9
REDUCTION OF ACCIDENT LIABILITY WITH
EXPERIENCE ²⁰

Length of Service	Number of full-time workers	Cases of Accidents	Accident Frequency
6 months and under	512	57	111
6 months to 1 year	278	29	104
1 year to 3 years	357	31	87
3 years to 5 years	637	27	42
5 years to 10 years	814	16	20
10 years to 15 years	470	4	8.5
Over 15 years	459	0	0

The problem that confronts the safety education program in the schools is how to supply experience in such a manner as to eliminate the necessity for experiencing all of these accidents in order to become a skilled craftsman.

¹⁹Stevenson, op. cit., p. 7.

²⁰Ibid.

Evaluation of Safety Education in Demonstration School.--

In order to make this study more concrete and realistic, a questionnaire was given to 110 students in the Demonstration High School of Denton, Texas, and they were asked to fill in the blanks and answer the questions. This questionnaire is reproduced here in order to evaluate the information it contained better than if it were placed in the appendix.

FORM OF TEST GIVEN TO DEMONSTRATION HIGH SCHOOL

AGE _____

GRADE IN SCHOOL _____

(Check if it applies to you)

I have had some instruction in first aid _____

I have a Red Cross certificate in first aid _____

I have had no first aid instruction _____

I have had _____ (number) accidents in the past twelve months which required the services of a doctor.

MARK (+) IF STATEMENT IS TRUE AND (-) IF FALSE

- ___ 1. In case of fainting the first thing to do is apply water to the person's head and face.
- ___ 2. In case of fainting you should elevate the patient's head by placing it on a coat or soft object.
- ___ 3. In case of fainting you should cover a person with a blanket even on a warm day.
- ___ 4. It is advisable to shake an unconscious person in order to bring him to his senses.
- ___ 5. If a phone is available, always call a doctor before giving first aid.

- ___6. An unconscious person needs plenty of fresh air; so the crowd should be kept back in order to give the victim air.
- ___7. The trouser belt lift is recommended for an injured football player gasping for breath.
- ___8. Very few first aid cases demand haste.
- ___9. A good examination of a victim is necessary and may be done slowly.
- ___10. Serious injury, starvation, and disease may cause shock.
- ___11. Always treat a person, who is injured, for shock, regardless of the type of injury.
- ___12. If nothing else were available, it would be permissible to push a dirty rag into a wound to stop severe bleeding.
- ___13. A mad dog should be shot on sight.
- ___14. You should not attempt to sit a patient up, nor help him to stand.
- ___15. You should not permit a person to see his injury.
- ___16. You should always read a medicine label three times in giving it.
- ___17. Burns or discoloration about the lips indicate poisoning.
- ___18. If possible, you should splint a bone before moving a patient.
- ___19. A doctor should always be called at once in poisoning cases.

___20. If you can't feel a patient's pulse, he may be assumed to be dead.

The test, it can be seen, consisted of two parts. The first part was for information on the pupils, and requested his age and grade in school, in order to determine the relationship, if any, of the accident rate and the age-status of the pupil. Then information was requested in regard to the amount of first-aid training the pupils had had in order to classify them into groups with no first-aid instruction, some first-aid instruction, and those with Red Cross certificates in first-aid. In order to determine if there was any correlation between the amount of first-aid instruction and the frequency of accidents, they were asked the number of injuries they had incurred in the past twelve months which had required the services of a doctor.

The second portion of the test consisted of twenty true and false statements, and the students were asked to mark all of these statements according to their best opinion. The questions were made out concerning first-aid beliefs which are commonly held, but which are erroneous and may actually harm instead of aid an injured person. They were questions which do not require any great amount of technical knowledge of first-aid and which would easily permit a person to reason out and come to a logical conclusion, regardless of whether or not the person had been given formal first-aid instruction.

It was found that in this group of 110 students, 51 had

some instruction in first aid, 46 had no instruction, and 13 had Red Cross certificates in first-aid training. The median grade on the test of those with certificates and those with some instruction in first-aid was the same, and this median was $2\frac{1}{2}$ per cent greater than the median grade of those with no first-aid instruction. The arithmetic average of those with some instruction was highest, with 60.4 per cent. The average of those with Red Cross certificates was second with 58.5 per cent, and the average of those with no instruction was 55 per cent.

The group of students having had no first-aid training had more serious accidents than all of the other students combined. This group of 42 per cent of the students had 53 per cent of the accidents. In the group with no instruction, there were 8 students who had had serious accidents, while the group with some instruction had 7 accidents, and the group with Red Cross certificates had no accidents during the 12 month period before the tests were taken. The median age of the fifteen students who had had accidents was 15 years, and their median grade on the test was 55 per cent correct.

The two highest grades made on the test were made by students from the group having had some instruction in first-aid. The two lowest grades were made by the members of the group having had no instruction. The group with Red Cross Certificates was more evenly spaced as to grades than were either of the two other groups. There was a range of only

30 per cent between the highest and the lowest grades, while in the group with some instruction the range was 55 per cent.

The facts presented in this chapter, it is thought, show the urgent necessity of some measures to check the increasing rate of accidental fatalities. Safety education, it has been shown, has been effective in decreasing the number of fatalities where it has been taught.

CHAPTER III

DEVELOPMENT OF SAFETY EDUCATION IN TEXAS SCHOOLS AND NEED FOR ITS REVISION

Evaluation of Present Course of Study and Need for Revision

The existing course of study in accident prevention and first-aid, prescribed by the Texas State Department of Education, was adopted in 1939 and consists of one unit of study. The title of this unit is "The Prevention and Care of Home Accident." This unit is not placed in the curriculum at a definite grade. It is not compulsory with all public schools. It does not adequately cover the subject. The course should be enlarged and brought up to date, be made an integral part of the curriculum, and it should be made compulsory. The supervisor of each district should be required to check on the schools of his district and determine that the program is functioning. The alternative is to set up a committee in each district under a safety supervisor to establish and operate the safety program.

The present course of study is divided into three sections. The first section consists of a home safety check list. This is very complete and would fill a sincere need if used properly. However, a check list for the school building and grounds would appear equally beneficial.

The number of accidents in a group of public schools for the first five months of 1930 show that many of these accidents occur on the school grounds. Table 10 shows the number of accidents that occurred and their location.

TABLE 10

LOCATION OF ACCIDENTS OCCURRING AMONG
SCHOOL CHILDREN IN 1930¹

Home	941
School Ground	593
School Building	397
To and From School	288
Other Places	667

In the light of these figures, a check list for the school building and grounds would be equally desirable. It would probably be much easier to use a school check list as an educative item because it could be better supervised by the teachers and would involve a process of closer relationship to the school situation. A home check list might be resented by some parents.

The second portion of the present course of study presents the problem "How Can I Take Care of Minor Injuries that Might Happen in the Home". The title is rather limiting and the number of injuries presented is equally so. Again, however, the material offered is very good, with one exception. The fourth objective is to demonstrate the application of iodine. This item should be omitted for two reasons. The first reason is that iodine is frequently used

¹N.L. Forney, "Public Safety", National Safety Council, (June, 1930), 14.

improperly, despite proper demonstration, and the second is that stressing its use in a first-aid class tends to promote the wasteful use of iodine as an antiseptic. In many cases there are other antiseptics which are superior to iodine. Iodine should not be used in some instances, and should not be used by first-aid practitioners who do not have the technical knowledge of when and how to use it. Due to these reasons it has been discontinued as a first-aid practice by the American Red Cross. "Leading medical authorities selected by the National Research Council recommended this change."² The American Red Cross does not endorse any commercial product, and it might be construed as differentiating against some of the other antiseptics which are equally as good as iodine. It would not be wise for the public schools to demonstrate one antiseptic and to possibly be in disagreement with the family physician or druggist. Due to the rapid strides in the medical profession and to the improvement of medicines during the war years, we are no longer concerned with the danger of infection to the extent that we were at the time when the present course of study was adopted.

The third division of the unit is entitled "How Can I Take Care of Major Injuries?" This part of the course of study has five objectives. The objective upon which most emphasis is placed is to take care of serious bleeding. "In

²American Red Cross, First Aid Textbook, p. 1.

the control of bleeding, emphasis has been placed upon the use of direct control".³ The medical profession is no longer so concerned as formerly by the danger of infection, and they have changed their opinion as to proper control methods for bleeding. The tourniquet is a particularly dangerous device unless used by a proficient first-aidler or doctor. There is great danger of gangrene setting in and causing further injury. The pressure points are very good, but require the first-aidler to attach himself to the injured person to the exclusion of any other duties. There are some injuries which are almost impossible to control by the pressure point system. Nearly all head injuries are difficult to control by pressure points, and shoulder and back bleeding is also difficult to bring under control. It is still better to permit as much circulation as possible and direct pressure permits of this condition. The medical profession now recognizes the fact that a sterile dressing is better next to a wound in order to combat infection. New methods of fighting infection may be effectively inaugurated later by the doctor. This assumes that a doctor will be available to take steps against infection within a reasonable length of time after the occurrence of the injury.

The present course of study has only fourteen objectives. These are too few to possibly cover the needs existing in safety education today. The only objective in regard to accident prevention is a study of the types of accidents

³Ibid., p. 2.

in the home, causes of the accidents, and ways to remedy these causes. A check list is provided as a guide to the completion of this objective.

The emphasis on home accidents here, in the light of statistics on the places where accidents occur, appears to be biased. Table 11 gives the data from a survey of the places where accidents occurred.

TABLE 11
STUDENT ACCIDENT RATE PER 100,000 STUDENT
DAYS ACCORDING TO PLACE⁴

Place of Accident	Rate
School Building	2.53
School Ground	2.67
Going to and from School66
Home	2.06

These rates were on accidents per 100,000 student days and were based on reports from 7,282 cases. The accidents included all of those requiring a doctor's attention or causing an absence from school of a half a day or more. It is seen that the rate was greater here at both the school building and the school grounds than in the home. Each of these should have a check list in the course of study, which would be as comprehensive as that dealing with accidents in the home.

Subjects Neglected in the State Course of Study

There are other important fields of safety education

⁴Elizabeth Hayes, "The First Peacetime Semester", Safety Education, XXV (May, 1946), 25.

which are left entirely open and which should be included in the Texas school curriculum. In first-aid, transportation is a topic which is invaluable in prevention of injuries. In a large part of Texas, the bite of poisonous reptiles is a constant hazard, and by all means the students should have instructions on the identification of poisonous reptiles and a knowledge of what to do in case of snake bite.

There is no mention of shock in the present list of objectives in the state course of study nor in the suggested materials and activities. In all first-aid cases, shock is present and of paramount importance in a majority of them. Shock certainly deserves a major heading in any course of study, including first-aid.

There are other subjects also that should be given a place in the study of first-aid. Safety education should involve a discussion of the causes and cures of the common cold, which is one of our most frequent maladies. It might presumably be treated in various health courses, but due to its epidemic possibilities, it should be studied in any course of safety education. Corns, ingrowing toenails, abdominal pains, toothaches, poison oak and poison ivy might be studied in health courses, but there are certain elements about them which are closely related to safety education and deserve a more purposeful study in that association. Some illnesses and accidents are closely related.

Auel says:

Everyone is much concerned with the awful toll taken by accidents each year; insistent that something be done to improve the present situation, yet the U.S. Bureau of the Census has stated that for every bread-winner who goes down and out from accidents between six and seven go down and out from sickness.⁵

Sickness, it is seen, takes a far greater toll of man's productive days than accidents. In any phase of safety education this fact should not be overlooked, and instruction given in prevention and remedial measures wherever possible.

Texas needs new legislation in regard to fire hazards in its school buildings today. The state has less fire legislation than forty-five of the other states. Nevada and Arizona are the only states having less fire legislation than Texas for the protection of the school children. There is an average of nine school fires each day in the United States, and the annual fire loss to the schools is estimated at \$8,500,000, with an average loss of life of twelve persons per fatal school fire.⁶ The legislation which Texas does have is very vital, as is shown by the fact that in a group of eighteen laws considered essential, Texas' fire laws rank first, second, fourth, fifth, sixth, and seventh in frequency among those possessed by the other forty-seven states. Texas has no legislation requiring fire drills,

⁵C.B. Auel, "Modern Safety Views", Safety, XVI (November December, 1930), 134.

⁶National Safety Council, "Laws of the Various States Relating to the Protective Construction of School Buildings and Control of the Fire Hazard", Safety Education, Memorandum number 11, p. 1.

while forty-one of the other states deem such legislation vital to fire protection. It has been estimated that smoke is almost as great of a hazard as fire, and to that extent even our best fire resistant buildings are dangerous to the children. Smoke has caused panic in a number of instances, and that in turn has resulted in loss of life. There have been many serious fires where not a life was lost because of a systematic emptying of the building, and conversely, lives have been lost needlessly in fires which were not serious, but which did result in panic.

The problem of traffic accidents is one of our most serious ones, and it has become more urgent in recent months. The Forty-Ninth Legislature of Texas was greatly alarmed concerning this increase, and passed a bill to recognize a driver-training program in the high schools of the state. Many other states have driver-training programs in their public school systems, and the advisability of such a program is apparent. Such a training program should be made a part of the safety education course. There are numerous parents who do not know how to drive a car properly and who will or can not take the time nor opportunity to teach their children safe and sane driving practices. One of a child's greatest ambitions is to be able to drive the family car. Yarbrough says that ninety per cent of all junior and senior high school students in Texas are already driving cars and fifteen per cent of these young drivers obtain driver's

licenses.⁷ The safety education program of the school is a fertile field for teaching safety in driving.

Training Teachers for Teaching Safety Education

Until recently there has been no instruction given Texas teachers in methods of teaching safety education. An effective safety program in the schools will never become dynamic and functional until, and unless, the members of the teaching profession become convinced of its need, see the necessity for it in the curriculum, and become qualified to teach safety and make the program functional.

If a teacher has a proper philosophy of education, the need for teaching accident prevention and first-aid will be apparent, or it will immediately become apparent with very little demonstration by agencies interested in this phase of education. At the present time, there are a great number of teachers in the profession in Texas who are not professionally minded and who are engaged as teachers temporarily as a matter of convenience. Teachers were called into the service and into war industries at higher salaries during the recent World War II, and the ranks of the profession were severely depleted of a number of highly trained professional personnel. There is still a critical condition existing in the teaching profession, and many schools are forced to employ poorly qualified and incompetent teachers.

⁷C. L. Yarbrough, "Does Your Child Drive with a License," Texas Parent-Teacher, XXIV (June, 1946), 8.

These people have outdated philosophies of education, do not employ modern techniques of teaching, and are not greatly interested in developing practical situations for the benefit and educational development of the learners.

There are a number of ways in which the teachers and future teachers can be equipped for teaching safety education. The teacher training institutions should be required to emphasize safety education. A great number of the colleges are beginning to do this at the present time. Texas has more institutions offering summer courses in safety than any other state.⁸ Texas has seven colleges offering nine courses in safety. In this connection, workshops are being conducted at the leading teacher-training institutions in the summer time, and many safety problems are being attacked and worked out through the cooperation of the teachers and the State Department of Education. One of the phases of this work is the study and formulation of a new course of study for the schools in safety education. This is in line with advanced curriculum practices. A curriculum committee studying the prevailing practices in making courses of study says:

To get the best results in the making of a course of study, the combined wisdom of experts, administrators, and classroom teachers should be pooled. In other words, both national and local leadership are needed....

Locally, there is a place for every member of the school department in adjusting the course

⁸Vivian Weedon, "Summer Courses in Safety", Safety Education, XXV (May, 1946), 12.

of study to individual needs of pupils and community conditions. When the classroom teacher herself helps in the formulation of the course of study, she understands its purposes and content, and if she is not in complete sympathy with them, she has a feeling of freedom to criticise them and she is willing to bring her experience to bear in their revision.⁹

The school administrators have ample opportunity to instill safety consciousness into the teachers and their teaching. The administrators might do this through special faculty meetings and programs. The school might join the National Safety Council and receive the very excellent literature which that organization issues to its membership. Bulletin boards might help establish an awareness of safety needs. Articles in school publications, plays, and demonstrations by organizations may serve to stimulate interest in safety. Most of the high schools in Texas now have movie projectors, and these can be used to stimulate thinking along safety lines and preventive safety measures.

In the opinion of many safety associations, it would be advisable if all the teachers in the Texas school system could attend a standard first-aid course as taught by the American Red Cross. Even though the teacher is not going to teach safety, she will be in constant contact with the children, and many opportunities arise in coordinating safety teaching with other phases of the curriculum. First-aid knowledge in the schoolroom is a valuable asset to any teacher; accidents happen there also, as has been shown in this study.

⁹"The Elementary School Curriculum", Second Yearbook, Department of Superintendence, (February, 1924), 54.

If the teachers of Texas become safety conscious, we may rest assured that they will find various and ample opportunities to teach safety and to enrich the students' experiences with both incidental and formal learning in this field. This is assuming that the State Department of Education and the local school administrators sanction and encourage the movement.

Some of the Teachers' Obligations

One of the primary duties of the teacher is to see that the students have a safe place for work and play in so far as it is possible to satisfy these conditions. There will always be some hazards in the environment, but these should be held to a minimum, and the students should be warned of the existence of those which cannot be eliminated.

Each principal should make a daily inspection of the building; for he may not only detect new hazards immediately, but he may also serve as a check on custodial care. This duty should not be delegated, and no part of the building should be considered a private sanctum free from inspection.¹⁰

Greater care and inspection by the school teachers and administrators could help prevent many accidents, both major and minor.

The most dangerous places in the school building are the gymnasium, the stairs, and the vocational shops. "School ground activities resulting in the greatest number of accidents are unorganized play and football".¹¹ Some of the

¹⁰National Safety Council, "Maintaining a Safe School Building", Safety Education, p. 24.

¹¹Ibid.

situations about which the teachers should be on the alert as to cause of accident may be listed for consideration.

1. Are stairs and corridors well lighted, free from obstructions, too highly polished and slippery, overcrowded by poor schedules?
2. Are the classrooms too crowded, aisles kept clear, the seats kept repaired?
3. Is the gymnasium floor too highly polished, and are mats provided for tumbling classes? Are the ends of the basketball court and dangerous posts and corners padded? Is the playing space crowded? Is a first aid kit available?
4. Are all buildings fire-proof, and do the students know how to leave the building in case of fire? Do you have regular fire drills?

This, or similar lists should be made and expanded to fit the needs of each individual school.

There is one danger that will confront the beginning teacher of safety and perhaps tend to make a safety program ineffective and even detrimental to the students. A safety program should be positive in its nature.

The child is strongly negativistic toward suggestions or demands that do not aid him in resolving his own tensions, or that deprive him of chances for initiative. Tell him that he must not put on a certain pair of shoes, and he will discover that this is exactly the pair he wanted to put on.¹²

¹²R.H. Wheeler and F.T. Perkins, Principles of Mental Development, p. 229.

When we continuously tell students not to do anything, they either develop a spirit of rebellion and antagonism or become so timorous and fearful that they act very infrequently on their own initiative. Either case produces a poor learning situation. A safety program may tend to produce a characteristic of over-caution unless it is wisely presented.

Ought we to aim at instilling a safety habit of mind in everybody, and can we do this without at the same time advocating faint-heartedness, lack of adventure and cowardice, as is sometimes claimed? The slogan 'Safety First', the motto of the National Safety First Association, has been attacked on the ground that it is negative and destructive, and that no permanent advance in civilization can be made on a negative principle. Some children are kept so much in cotton wool and shielded from every risk during their early years at home, that they are greatly at a loss when subsequently exposed to the hard knocks of school life and the outside world.¹³

The American people have always been explorers of the unknown, and this characteristic is one which we all admire and strive to develop. This characteristic produces a great number of our improvements and leads to originality in all living situations and should certainly be encouraged among our youth. They should be taught the proper way to do things rather than being taught not to do certain parts with an element of danger. They should be taught fundamental principles which would enable them to see when a situation is foolish and dangerous. Accidents are stupid. It is the ignorant, untrained, unalert boy that gets hurt.

¹³H. M. Vernon, Accidents and Their Prevention, p. 1.

Place in the Curriculum of the Safety
Education Course

The present course of study has no recommendation as to the time or grade in which the subject matter for first aid is to be presented. It is obviously intended for the upper elementary grades, however. The material appears to be at about eighth grade level and it was presented as a course of study at about the same time as a grade was added to the public school system. This grade could be added at any point in the individual school system as the administrators saw suitable, but recommendation is made that it be added at the eighth grade.

The placing of the safety education course as a definite part of the eighth grade curriculum is a step that would seem to be warranted by many studies which indicate that the junior high school age is among the most hazardous age groups in the public schools. Danford made a study of the school enrollment and the number of accidents in the city system of public schools of Madison, Wisconsin. There was a total enrollment of 6,320 elementary pupils, 2,495 junior high school pupils, and 2,886 senior high school pupils. In the space of one year there were 593 accidents at the school and 219 of these accidents required a doctor's care. The junior high school enrollment was twenty-one per cent of the total school enrollment, and forty-two per cent of the total injuries in the school were sustained in this group.

Hayes made another study of the accident rate in all grades. Table 12 gives the figures of this report.

TABLE 12
STUDENT ACCIDENT RATE BY GRADE¹⁴

Grade	Per Cent of Accident Rate
Kindergarten	4.85
1st Grade	8.06
2nd Grade	9.57
3rd Grade	9.80
4th Grade	10.45
5th Grade	10.67
6th Grade	13.67
7th Grade	12.89
8th Grade	14.82
9th Grade	14.15
10th Grade	11.81
11th Grade	11.64
12th Grade	12.27
Unclassified	11.48

This report shows that the eighth grade in this particular study had the highest accident rate with the ninth grade second in number. The rates descend rather consistently in direct proportion to their proximity to the eighth grade.

There is other evidence which signifies that the junior high school age group is the most hazardous which we have in our school system. The following report to the National Safety Council was taken from 19,492 accidents reported. Of this number, 9,492 occurred while the student was under the supervision of the school authorities.

¹⁴Hayes, op. cit., p. 25.

The rate for all school accidents in the seventh through the ninth grades was one-third higher than the all-grades rate, chiefly because of the unusually high accident frequency in school buildings at this age. The rates for school ground accidents and to-or-from school accidents were only 8 per cent higher than the average rate, whereas the rate for school building accidents was 79 per cent above the rate for all school building accidents.¹⁵

The same report states that forty-three per cent of all students injured in school buildings were in the seventh through the ninth grades, although these children constituted only 24 per cent of the entire enrollment. In school ground accidents, the prevalence of injuries of students from the seventh through the ninth grades was noticeable. Of the twenty-six per cent of all school ground accidents in the seventh and ninth grades, twenty per cent were in the seventh and eighth grades and only six per cent were in the ninth grade. It was also found that in the grades of kindergarten through the third grade, there was one injury to every sixty-three children. The ratio in the fourth through the sixth grades was one in forty-three; in the seventh through the ninth grades it was one in thirty-six; and in the tenth through the eleventh grades it was one in fifty-one.¹⁶

This report covers a full nine months and included the months of April and May in 1944 in order to supplement the

¹⁵Elizabeth Hayes, "School Jurisdictional Student Accident Report", Safety Education, XXIV (September, 1945), 7.

¹⁶Ibid.

school year of 1945-46 which was not completed at the time of the report. It, along with the other data submitted, gives conclusive evidence that the age group which needs most of the emphasis on safety education is the junior high school group. General knowledge and practical observation also tend to carry out such a theory. Most of the accidents reported occurred in the gymnasium and happened as a result of participation in football and basketball.

The junior high school age group is just beginning to participate actively in the major sports of basketball and football. The students here do not know how to protect themselves against injuries in these sports at this level because of their lack of skill and newness to these games. This age is generally conceded to be the awkward age and this, combined with the newness of the activities, present multiplied dangers. It is the adventurous age when the boys and girls are beginning to drive automobiles. They are beginning to learn to swim independently and enter pools which are not supervised by life guards. They go boating and fishing by themselves. In fact, it is the age at which they resent advice and correction by their elders most heartily. This is the experimental age and the junior high school is interested in the technicalities of electricity, of gas, and of various and sundry chemicals which can be dangerous. It is the age at which youth begins to stand alone and face some of the real problems of his environment.

But, at the same time, the junior high school age is the impressionable age. Although students of this level resent attempts to dictate to them, they are quick to respond to sympathetic treatment and to become enthusiastic. They will take a more active interest in first-aid and accident prevention and will be an easier group to motivate and stimulate than any other age-group in school. This is evidenced by the great work that has been done by the Boy and Girl Scouts of America. This feature is very likely the most important and most beneficial phase of the work done by these two great organizations in developing proper citizenship among the youth of the country. The teacher who is sincerely interested in the work of safety education will find the junior high school group an appreciative and enthusiastic booster for safety education when it is presented to them in the right manner. For this reason and for the high accident frequency of this group it is strongly recommended that the safety education course be placed in the eighth grade and be made compulsory in all schools.

Points in Safety Education to be Emphasized

There is one other phase of safety education that deserves notice here. In the recommended course of study there is no list of specific accidents and hazards which need to be guarded against. There is no distinction made between the different kinds of accidents. Some kinds of accidents, it has been found, are more apt to occur than others. Which are they?

The best answer to this question can be determined by a study of the large city school systems in Texas where adequate safety education is carried on as a part of the regular school work. The criticisms as voiced in this study apply mostly to the small secondary schools of Texas; the great majority of the large school systems have their own courses of study, patterned of course on the state course of study, and they have instituted and carried on safety education programs much more ambitious than the one recommended by the State Board of Education. A brief study of some of these systems will serve to make this study more concrete and provide a better basis for setting up a recommended course of study.

The Safety Education Program for the
Fort Worth Schools

Fort Worth, one of the largest cities in the state, has an estimated population in 1946 of 306,652 people. The number of scholastics in the city schools, according to the 1946 census, was 45,298 and was divided as follows:

TABLE 13

CENSUS OF FORT WORTH SCHOOLS BY GRADES¹⁷

Grades	Number of Pupils
1 to 8 (White)	19,681
1 to 8 (Colored).....	3,433
9 to 12 (White)	6,987
9 to 12 (Colored).....	936

¹⁷Accident Reports, Department of Health, Fort Worth Public Schools.

The Fort Worth public school system has an active safety education program. The teaching of the Red Cross first-aid course is compulsory and is done at the eighth grade level. Registered nurses on duty at the schools teach the course.

There are twenty-three of these registered nurses on duty during school hours at the various buildings. These nurses or teachers are required to make a report of an injury to a student upon an accident form. These reports are sent in each month to the Department of Health of the Fort Worth Public Schools. The nurse or teacher is required to follow up the case in order to see that its final disposition is satisfactory. The parents or relatives of the injured child are notified when possible, and the family physician is called in on the case for treatment. The accident report is made upon students sufficiently injured to require the services of a doctor or absence from school.

During the school year of 1945-46 the Fort Worth schools had 208 accidents of severe enough nature to warrant the services of a doctor, absence from school, or both. This rate expressed in terms of accident rate per 100,000 student days is approximately 4.6 per cent. For comparison this rate might be examined in relationship with that of the 167 schools reporting to the National Safety Council. This report gives all of the accidents occurring to students regardless of whether they were at home, traveling, visiting, at school, or other places. The Fort Worth report covered only those students coming under the direct supervision of school authorities.

The National Safety Council Report stated that there were a total of 7,282 accidents in the school building and on the grounds of these 167 schools, which was a rate of 5.20 per cent accidents per 100,000 student days.¹⁸ This is six-tenths per cent greater than that of the Fort Worth accident rate. Some of the accidents in the Fort Worth reports occurred while the student was traveling to or from school, but all such accidents were not reported to the school authorities. On the report by the National Safety Council there was an accident rate of .66 per cent per 100,000 student days while going to or from school.¹⁹ It is highly probable that the Fort Worth report would appear to even greater advantage if those injured going to or from school could be excluded.

A preponderance of the number of accidents that happened to the Fort Worth students occurred among those enrolled in the junior high school. This is the group which most frequently plays football, basketball, and baseball without either supervision or equipment. The students of the senior high school play a brand of athletics more conducive to a high accident rate, but they are equipped and taught by skilled coaches in such a manner as to evade possibility of injury.

¹⁸Hayes, op. cit., p. 25.

¹⁹Ibid.

Table 14 shows the causes and number of accidents in the Fort Worth public schools as reported by the nurses and teachers.

TABLE 14

CAUSES AND NUMBER OF ACCIDENTS IN THE FORT WORTH SCHOOLS IN 1945-46²⁰

Cause of Accidents	Number
Falls.....	98
Collisions.....	17
Pedestrian-Car.....	3
Baseball.....	16
Bicycle.....	1
Football.....	10
Basketball.....	1
Volley Ball.....	2
Fights.....	6
Cut by Glass.....	9
Others.....	45

The accidents caused from falls, it is seen, predominate.

Accidents in supervised play activities are few.

Table 15 shows the type and number of injuries suffered in accidents in the Fort Worth public schools.

TABLE 15

TYPE AND NUMBER OF INJURIES SUFFERED IN ACCIDENTS IN THE FORT WORTH PUBLIC SCHOOLS IN 1945-46²¹

Type of Injury	Number
Fractures.....	51
Bleedings (severe).....	102
Sprains and Dislocations.....	17
Bruises.....	12
Others.....	26

²⁰Accident Reports, Department of Health, Fort Worth Public Schools.

²¹Ibid.

Bleedings predominate in the type of injury reported, but the percentage from fractures is high. The injuries are the types that are most likely to occur on the school campus.

Table 16 shows the location and number of the accidents in the Fort Worth schools.

TABLE 16

LOCATION AND NUMBER OF ACCIDENTS IN THE FORT WORTH
SCHOOLS IN 1945-46²²

Accidents as to Location	Number
Playground.....	146
Fences.....	11
Stairways.....	9
Shop.....	8
Lockers.....	3
Other Places.....	1

Accident Report of the Dallas Public School System

The total number of accidents in the Dallas public schools during 1945-46 which required the services of a doctor was 325. The total enrollment in the system was 59,608 pupils; and this was divided as follows: elementary grades, 41,501; junior high school, 4,641; and senior high school, 13,466. The largest number of accidents occurred in the elementary grades where two hundred and thirty-eight accidents occurred. There were sixty-one accidents in the senior high school, and twenty-six in the junior high school. There were three fatal accidents, but the students losing their lives were truants at the time of the accidents.

²²Ibid.

Table 17 shows the type and number of injuries suffered by the students in the Dallas public schools in 1945-46.

TABLE 17

TYPE AND NUMBER OF ACCIDENTS AMONG DALLAS SCHOOL CHILDREN IN 1945-46²³

Type of Injury	Number
Falls.....	17
Fractures.....	66
Burns.....	3
Cuts.....	98
Sprains and Dislocations.....	50
Others.....	48

Fractures, in this instance, predominated in the type of injuries. Falls did not cause many accidents.

Table 18 gives the location and number of the accidents.

TABLE 18

LOCATION AND NUMBER OF THE ACCIDENTS IN THE DALLAS PUBLIC SCHOOLS IN 1945-46²⁴

Accidents as to Location	Number
Pedestrian-Car.....	5
In School Building.....	87
On School Ground.....	238

These figures indicate that there is need for a safety check list for both buildings and grounds.

Summary

The teaching of safety education in the public schools of Texas is not as effective as it should be. The present

²³Accident Reports, Department of Health, Dallas Public Schools.

²⁴Ibid.

course of study recommends several units for the teacher to follow, but many important phases of safety education are not included. There is no provision made for training teachers in safety education, and a teacher who does not know the fundamentals of her subject cannot do effective work. There is no specific place allotted for the teaching of safety education, and teachers are free to teach it or to disregard it. Reports from different school systems have revealed that the preponderance of accidents occur in the junior high school group and that as many accidents happen on the school grounds and in the buildings as in the homes. All of these things are significant in planning any revision of the present course of study.

CHAPTER IV

CONCLUSIONS OF STUDY IN SAFETY EDUCATION

The following conclusions have been reached in this study of accidents and the safety education program in the public schools of Texas:

1. There are more casualties, more injuries, and greater economic loss from accidents than there are from wars fought on a world scale.
2. Accidents ranked eighth as the chief cause of deaths in 1943.
3. Accidents are increasing in number each year.
4. Falls and motor accidents are responsible for the major portion of fatal accidents occurring over a period of years extending from 1913 to 1946.
5. The rate of traffic fatalities has steadily increased except in the war years and is increasing at an alarming rate at the present time.
6. Fatal accidents to children under fourteen years of age are increasing.
7. Safety education programs instituted by large industrial firms, civic societies, and public schools have uniformly reported that accidents have been lessened in areas where the training has been carried on. Education, it has

been shown, is a potent weapon for reducing accidental injuries and fatalities.

8. Texas has become cognizant of the need for safety education as a part of the school curriculum, but an adequate program for all schools has not yet been worked out.

9. The safety education course, as constituted at the present time, is a recommended unit of first-aid instruction. It is not an integral part of the curriculum, is not placed at any specific grade level, and is not compulsory.

10. There is need for a check list in the course of prescribed study for the school grounds and the school buildings, as well as for the present one, for checking accident hazards in the homes.

11. The unit on the care of minor injuries and the one on the care of major injuries should be revised so as to be in agreement with modern medical practices.

12. The objectives of the safety education courses should be increased so as to include emphasis on accidents in places other than the home.

13. There should be additional subjects added to the safety education course, such as shock, snake bite, causes and cures of the common cold, and miscellaneous related subjects.

14. Fire prevention and fire hazards should be given greater emphasis in the safety education program.

15. The driver-training program should be made a part of the safety education course.

16. All the teachers in the public schools of Texas should be given training in safety education.

These recommendations form the basis for the course of study in safety education as worked out by the author of this investigation. This recommended course of study is given in the Appendix and includes units of study as well as safety check lists for the home needed supplies for the first-aid kit, rules for water safety, rules for riding a bicycle, safety principles for the student and teacher, and a suggested form for making out accident reports.

There may be some who will feel that the proposed program is not inclusive enough for the purpose, but it is felt that it is an improvement over the existing course of study as recommended by the State Department of Education. It does make up for several deficiencies now existing and is a step in the right direction. If such a course of study could be used in all the schools, it is believed that the pupils in the smaller high schools might now enjoy some experiences held only by the students in our larger high schools.

APPENDIX

RECOMMENDED COURSE OF STUDY FOR SAFETY EDUCATION IN THE PUBLIC SCHOOLS OF TEXAS

The course of study is divided into a number of major parts and these, in turn, are sub-divided. The major divisions include a general study of first-aid, driver education, and safety in the water.

The unit on first-aid is divided into a study of minor injuries, fractures and joint injuries, burns, artificial respiration, poisons, and the medicine chest. In connection with the latter phase, a list is given showing the needed materials for filling a medicine chest.

The unit on driver education includes study of the mental and physical qualifications of the driver, construction, operation and maintenance of a car, and traffic rules and sound driving practices. Rules for riding a bicycle are also included in this unit.

The safety-in-the-water unit is composed of pertinent information about swimming and learning to swim. Safety rules for swimming are included.

The unit on fire prevention and safety includes a study of the causes and nature of fire problems and fire prevention and protection.

Additional features of the course of study are a safety

check list for the home, school, and school grounds; a list of principles governing safety principles for both pupils and teachers, a safety pledge, and an accident form for teachers to use in reporting accidents.

It is proposed that the parts of safety education relative to first-aid, driver education, safety in the water, and fire prevention be taught for one semester, preferably during the spring and summer terms, in the eight grades in all the schools in Texas. This should consume a minimum of 30 minutes each day during the 18 week period. First-aid should be taught for at least one-half of this time, and the remaining time divided between the other three topics as needed.

It is futhermore recommended that one semester be devoted to safety education and that this be taught either incidentally in conjunction with other courses or formally as a separate subject to equalize the schedule with the other term of required work. This should be made optional with the individual schools but it should be required that it either be taught formally or the equivalent of a term of safety education be taught incidentally.

Criteria for Course of Study

The criteria for the selection of the course of study are as follows:

- a. Is the work at the proper level for students?
- b. Is the subject matter timely?
- c. Is the subject matter of interest?

- d. Is the content useful both today and in the student's future?
- e. Does it have a high degree of transfer value?
- f. Is it arranged with respect to logicalness or psychologically?
- g. Will the learning contribute to the objective?
- h. Is the content flexible?
- i. Does it allow for individual differences?
- j. Does it fill a need of the pupil?
- k. Can the material be sufficiently motivated to insure learning by all participants?
- l. Is the learning mostly of a positive nature?
- m. Will the nature of the subject give satisfactory attitudes?

Unit on First-Aid

General Study of First-Aid

Objectives.---

- a. To learn nature and purpose of first-aid.
- b. To show need for first-aid.
- c. To dispel common beliefs about first-aid practices which are general but actually injurious.
- d. To induce care in examination of an injured person and allay haste which might aggravate the injury.
- e. To prevent first-aiders from overstepping the bounds of first-aid.

f. To give an awareness of shock possibilities whether apparent or not.

g. To learn values and limitations of first-aid procedures.

Activities.--

a. Give purpose and definition of first-aid.

b. Explain how to examine for injury.

c. Give order of treatment of injuries and justify precedence.

d. Send for a doctor and discuss information doctor might need.

e. Things not to do.

f. How to make patient comfortable, and need for cheering patient.

g. Discuss shock and its presence and treatments.

Minor Injuries

Objectives.--

a. To learn to care for minor cuts and bruises.

b. To learn to apply dressings and bandages.

c. To learn types of bandages to use on particular types of wounds.

d. To learn different types of wounds.

e. To learn dangers from wounds.

f. To become conscious of need for caring for minor wounds immediately.

g. To be able to distinguish between arterial and venous bleeding and to control bleeding.

- h. To learn to stop nose bleed.
- i. To learn to remove foreign bodies from the eye.
- j. To be able to care for dog and snake bites, and to identify poisonous snakes and rabid dogs.
- k. To recognize poisonous plants.
- l. To learn to prevent and treat colds.

Activities.--

- a. Discussion for cuts and bruises.
- b. Make bandages; show how to sterilize dressings and to handle so as to keep sterile; practice applying bandages.
- c. Study wounds as to appearance and causes of infection.
- d. Study of circulatory system and pressure points.
- e. To study ways of stopping bleeding.
- f. To study ways of giving first-aid for the eye.
- g. To study kinds of snakes.
- h. To study first-aid treatment for dog and snake bites.
- i. To study poisonous plants.
- j. To study the common cold as to prevention and cure.

Fractures and Joint Injuries

Objectives.--

- a. To learn to identify a fracture.

- b. To distinguish between simple and compound fractures.
- c. To identify a dislocation.
- d. To learn to treat a sprain.
- e. To know symptoms of concussion and first-aid.
- f. To learn symptoms of a strain and its treatment.
- g. To learn to apply fixed and traction splints.
- h. To learn when and how to transport a victim with a fracture.

Activities.--

- a. Study of skeletal system.
- b. A study of types of fracture.
- c. To study needs for splinting.
- d. Methods of carrying a person with a fracture.
- e. Study treatment of concussion.
- f. To study how to improvise splints and stretchers.
- g. Practice in splinting and transporting the injured.
- h. Study strains and sprains and their treatment.

Burns

Objectives.--

- a. To be able to distinguish degree of burn.
- b. To learn to avoid burns.

- c. To learn first-aid and steps for burns of each degree.
- d. To be conscious of dangers of sunburn and to learn to tan properly.
- e. To learn about dangers of chemical burns.
- f. To beware of sunstroke and learn to identify it and heat exhaustion, and how to prevent each.
- g. To be able to administer first-aid for sunstroke and heat exhaustion.

Activities.---

- a. Study different burns and steps for their prevention.
- b. Study first-aid for burns.
- c. Study of danger of sunburn.
- d. To study chemical burns and their treatment.
- e. Study of heat exhaustion and sunstroke and their first-aid remedies.

Artificial Respiration

Objectives.--

- a. To learn need for artificial respiration.
- b. To become conscious of importance of prompt beginning of artificial respiration.
- c. To be able to apply the prone pressure method of resuscitation properly and to make a change while administering.
- d. To learn when artificial respiration should be stopped.

Activities.--

- a. Study of breathing organism.
- b. Study mechanical methods of resuscitation.
- c. Study of proper technique for administering prone pressure method of artificial respiration.
- d. Practice at giving artificial respiration.

Poisons

Objectives.--

- a. To be aware of causes of poisoning.
- b. To know how to give first-aid for poisoning.
- c. To know safety measures to prevent poisoning.
- d. To be aware of kinds of foods and conditions conducive to poisoning.

Activities:---

- a. To study causes of poisoning and means of prevention.
- b. To study first-aid for poisoning.
- c. To study the exceptions to regular first-aid in poisoning.

The Medicine Chest

Objectives.--

- a. To learn what materials should be in a first-aid kit.
- b. To learn to keep the kit complete and available.

Activities.---

- a. Study of a complete first-aid kit.
- b. Discussion of securing and maintaining a complete first-aid kit and keeping it handy.

Needed Contents of Medicine Chest

For the Home.---In every home there should be certain first-aid materials and medicines, carefully selected, carefully labeled, and kept in a cabinet made for the purpose. This cabinet should be placed well out of the reach of children. Medicines prescribed by a doctor should be kept here and not left standing around the house. When the special need for which they are prescribed is passed, such medicines should be thrown away. The following articles should be kept always on hand:

A Clinical Thermometer: For taking temperature.

First-Aid Dressing: Including sterilized gauze for wound dressings, gauze bandages to hold dressing in place, and a roll of adhesive plaster. A number of individual first-aid dressings will be found very useful. These can be purchased at any drug store.

Alcohol: (For rubbing) Six ounces. Use externally to relieve the pains of sprains, strains, bruises, and to refresh the skin during an illness.

Aromatic Spirits of Ammonia: Two ounces. One-half teaspoonful in some water for faintness.

Boracic Acid: Four ounces. Dissolve $2\frac{1}{2}$ teaspoonfuls in a glass of hot water and use as an eye wash.

Carbolated Vaseline: One tube. For external use in treatment of small burns.

Castor Oil: Eight ounces. Dose: one or two tablespoonfuls.

Oil of Cloves: For toothaches.

Tincture of Iodine: 3½ per cent, or individual ampoules, or mercurochrome solution.

Syrup of Ipecac: Dose, one teaspoonful, followed by a drink of warm water, to cause vomiting.

For Traveling:--Small first-aid packets, which can be purchased from many druggists or hospital supply companies, will be found useful, and occupy but little space in a traveling bag. These packets should be a part of the automobile equipment. On camping trips, the equipment should be more elaborate and contain the necessary remedies for burns, ivy poisoning, and snake bites.

For Small Workshops.--A metal cabinet containing the following minimum equipment, placed in a conspicuous location, under the definite supervision of some member of the organization who has had first-aid training is suggested:

Individual package type sterile dressings.
 Individual package type finger dressings, 1½-inch compresses.
 Individual package type 3-inch compresses; a few 4 x 6-inch compresses.
 Assorted gauze bandages of various widths.
 Tourniquet.
 Absorbent cotton, package or roll.
 Splints or yucca or similar material.
 Scissors, pair.
 Aromatic spirits of ammonia-ampoules best suited for first-aid.
 Iodine, individual ampoules, or mercurochrome.
 Adhesive tape, safety pins, and any special equipment for particular type of treatment found necessary in certain industries.

Unit on Driver Education

Physical and Mental Qualifications

Objectives.--

- a. To learn the need for good vision.

- b. To be aware of color blindness and other visual defects.
- c. To be aware of night blindness.
- d. To be aware of resistance to glare.
- e. To realize need for good hearing.
- f. To know of reaction time.
- g. To learn need for coordination.
- h. To be aware of need for mental fitness and intelligence.
- i. To know about carbon monoxide dangers.
- j. To recognize own limitations.
- k. To know about effects of fatigue, alcohol, and drugs on driving ability.
- l. To know about examination for drivers license.
- m. To form good driver attitudes.

Activities.--

- a. Eye examinations.
- b. Demonstrate color blindness, night blindness, double vision, resistance to glare, and distance judgment.
- c. Examine hearing.
- d. Examine reaction time under various conditions.
- e. To study carbon monoxide.
- f. To study drivers license tests.
- g. To discuss attitudes of good drivers.

Construction, Operation and Maintenance of
an Automobile

Objectives.--

- a. To learn about fuel, ignition, and cooling system.

- b. To learn about lubrication.
- c. To learn about brakes.
- d. To learn about safety features of a car.
- e. To learn about economic operation.
- f. To learn about breaking in a new car.
- g. To learn how the engine runs.
- h. To learn about periodic inspections.
- i. To learn to change tires.

Activities.--

- a. Study of principles of gasoline engine.
- b. Study of lubrication.
- c. Study of safety features.
- d. Study of need for breaking in a new car.
- e. Discussion by expert on care and most efficient use of car.
- f. Practice at changing tires and fixing punctures.

Traffic Rules and Sound Driving Practices

Objectives.--

- a. To learn when you have right-of-way.
- b. To learn correct signalling.
- c. To learn to make turns correctly.
- d. To learn safe driving speeds.
- e. To learn to interpret signs and signals.
- f. To learn to respect pedestrians rights.
- g. To learn to pass correctly.
- h. To learn to be alert in dangerous situations.
- i. To learn to drive at night.

j. To learn to take weather into consideration while driving.

k. To learn to back and park.

l. To appreciate skillful handling of an automobile.

m. To learn driving sportsmanship.

n. To learn to avoid dangerous situations.

o. To learn what to do in case of tire blowouts.

p. To learn what to do in case of skidding.

Activities.---

a. Discussion of traffic rules and regulations.

b. To study different driving situations and best driving practices.

c. To observe skilled drivers.

d. To study motion pictures of driving.

e. To be taught by skilled instructors and practice under guidance.

f. Study of car action upon blowout.

g. Study of car action during skidding.

Rules for Riding a Bicycle

1. Obey all traffic signs and rules.

2. Always signal before making turns.

3. Walk across heavy traffic.

4. Ride single file-don't weave about.

5. Watch carefully at railroad crossings.

6. Keep out of car tracks and ruts.

7. Never "stunt" or race in traffic.

8. Avoid all "hitching"-it is dangerous.
9. Never carry passengers or drag children.
10. Carry parcels in racks or carriers.
11. Use extra caution on all sidewalks.
12. Get off the roadway to make repairs.
13. Wear light-colored clothing at night.

Unit on Safety in The Water

When and Where to Swim

Objectives.--

- a. To go in swimming only when you feel well.
- b. To not go in swimming soon after eating or when too hot or cold.
- c. To learn when to discontinue swimming.
- d. To learn your limitations.
- e. To learn to familiarize oneself with the hazards of pools and swimming places.
- f. To learn of the dangers of currents.
- g. To learn to swim in supervised places.
- h. To use the "buddy" system of swimming.

Activities.--

- a. To study dangerous swimming situations.
- b. To study swimming hazards.
- c. Use of experts in instruction.
- d. Use of swimming as illustrated by motion pictures.

Learning to Swim

Objectives.--

- a. To learn fundamental strokes and to float.
- b. To learn to dive.
- c. To learn not to joke in the water.
- d. To learn not to run on the edges of a pool nor to play rough in the water.
- e. To know how to save life in water.

Activities.--

- a. Practice learning to float and swim.
- b. Study of motion pictures on swimming.
- c. Instruction by experts.
- d. Study of safe practices in water.
- e. Practice at life-saving.

Rules Before and While Swimming

1. Go into the water only when you feel well.
2. It is unwise to go in swimming while chilled or over-heated.
3. Do not go in swimming until 2 hours after eating.
4. Get out when you begin to feel tired.
5. Do not go on a long swim unless you have practiced it, and unless a boat is accompanying you.
6. Before going in, find out about the depth of the water.
7. Find out if there are hidden rocks, ledges, or holes.

8. Inquire about currents or undertows.
9. If you find yourself in a strong current, swim with the current, and at the same time, toward the shore.
10. If caught in an undertow, swim diagonally toward shore across the undertow.
11. When swimming in open places, use areas protected by the lifeguard.
12. Do not swim alone. Use the "buddy plan".
13. Stay out of water during thunderstorms.
14. Do not go into swimming pools unless a guard or an instructor is on duty.
15. When swimming in deep water, start back before you become too tired.
16. When in deep water, keep hands off other swimmers.
17. Before diving, wait for others to get out of the way.
18. If you plan a long-distance swim, have two people accompany you in a boat.
19. Avoid running on the edges of pools.
20. Rough play on platforms and diving boards is dangerous.
21. Do not call for help unless you are in serious need of help.

Unit on Fire Prevention and Safety

Causes and Nature of Fire Problem

Objectives.---

- a. To learn cost of fires in material and lives.

b. To learn main causes of fire and to guard against them.

Activities.--

- a. Study of economic cost of fires.
- b. Study of cost in human lives.
- c. Study of some major fire disasters.
- d. Study of causes of fires and how we may prevent them.

Fire Prevention and Protection

Objectives.--

- a. To learn chemistry of fire.
- b. To learn of fire hazards in smoking.
- c. To be aware of building construction hazards.
- d. To learn of causes from spontaneous combustion and electrical deficiencies.
- e. To be aware of dangers by campers in starting forest fires.
- f. To secure cooperation in fire drills.
- g. To know how to extinguish fires.

Activities.--

- a. Study of ways of causing fire.
- b. To study ways careless smokers start fires.
- c. To study electrical wiring and spontaneous combustion in starting fires.
- d. To study ways forest fires are started.

- e. To hold fire drills.
- f. To practice extinguishing various types of fires.

Teaching Aids and Safety Organizations

The teacher of safety education has a number of aids and devices which are educational and have a positive effect in the teaching process. The teacher should be alert to situations where these special activities may be placed in the program. The motion picture is being used to an increasingly great extent in the high school curriculum. The National Safety Council has a variety of film which may be obtained in safety education. Some of the other special activities may be listed as: story telling, posters, dramatic plays, shadow pictures, P T A programs, original safety booklets, school programs, safety campaigns, safety organizations, safety games, assembly programs, bulletin boards, and skits.

Safety organizations have been of inestimable value in saving lives and in training youngsters in habits of safety. They also develop citizenship, leadership, and other qualities of a desirable nature. A Junior Safety Patrol, or similar organization, is almost a necessity in most schools, and the State Department of Education should have a branch to instigate the formation of, and supervise the work of these organizations. The plan for their organization may be obtained by writing to the National Safety Council.

Home Safety Check List

Living Room and Dining Room

1. Are rugs secured to prevent slipping on polished floors, or curling at the edges?
2. Before retiring for the night, is the furniture placed so that it will not be stumbled over in the dark?
3. Is furniture, particularly chairs, kept in good condition?
4. Are small objects, such as buttons, marbles, and pins kept from floors, out of reach of very small children?
5. Are cigars, cigarettes, and matches completely extinguished and placed in non-inflammable containers after use?
6. Is a screen placed in front of an open fireplace?
7. Are portable electric lamps, toasters, heaters, and similar appliances properly installed to prevent short circuits or fires, and are precautions taken to prevent tripping over cords?
8. Are inflammable materials such as draperies and decorations kept away from candles and electric light bulbs?
9. Do you use approved lights, rather than candles, on Christmas trees?

Bedroom

1. Are precautions taken to prevent infants and children from rolling off beds, falling out of cribs, or being smothered in bed?

2. Are safeguards provided to prevent children from falling out of windows, off porches, or down stairs?

3. Have you a light or switch, by your bed for emergency use at night?

4. Do you always close bureau drawers and closet doors after use to prevent someone from falling over or running into them?

5. Do you use a stepladder when hanging curtains and draperies, or when reaching high places, such as closet shelves?

6. Do you make it a rule never to smoke in bed?

7. Is the wiring used on portable lamps, heating pads, and other devices, of the approved type, and is it kept in order to prevent short circuits?

8. Do you always disconnect electric curling irons or electric heaters from the wall or floor socket before leaving the room for any length of time?

9. If you have gas lighting, oil lamps, or candles, are curtains or draperies fastened so they cannot be blown into the flame?

10. Do you extinguish gas lights or other open lights before retiring?

Bathroom

1. To prevent scalds, do you make it a practice to test the temperature of the water before stepping into the tub or shower?

2. To prevent slipping, do you make it a practice to have a rubber mat in the tub or a hand-hold on the wall?

3. Do you always place soap in the container instead of leaving it in the tub or allowing it to remain on the floor after it has been dropped?

4. To avoid electrical shock, do you make it a rule not to touch electrical fixtures or switches when your hands or body are wet or in contact with a metal object?

5. Do you place the electric heater where it, or its cord, will not be stumbled over, and do you disconnect it before retiring or before leaving the room for any length of time?

6. If you use gas for lighting or heating, do you make sure that the gas heater, gas lights, or other gas appliances are turned off completely before you retire?

7. Are all medicines placed out of reach of small children?

8. Are poisons kept in properly marked containers?

9. Do you always turn on lights and look at the label before taking any medicine at night?

10. Do you dispose of broken glass, used razor blades, and other waste materials promptly and properly in order to prevent cuts and scratches?

Kitchen

1. Do you use short ladders rather than stools, chairs, or boxes when reaching up to high places?

2. Are matches kept in metal containers out of reach of small children?

3. Do you make it a practice to turn handles of pots and pans on the stove out of reach of small children?

4. Do you always disconnect toasters, percolators, irons, and other electrical appliances by pulling the plug out of the socket before leaving the kitchen for any length of time or when you are through using the appliance?

5. Are you careful to prevent gas flames from being extinguished by drafts or by the boiling over of liquids? Do you fasten curtains so that they cannot blow into flames?

6. Is the hose for portable gas heaters or cooking appliances in good condition, securely connected, and of the approved type?

7. Are you particularly careful in the storage of kerosene and in the use of kerosene stoves, and do you make it a rule never to use kerosene to kindle wood or coal fires?

8. Are cleaning fluids and powders kept in a safe place and out of the reach of children?

9. Are knives, forks, ice picks, and other sharp instruments kept in a safe place?

10. Do you place broken glass or crockery in paper before placing it in the rubbish container in order to prevent possible cuts?

Laundry

1. Do you disconnect the electric iron from the socket before leaving the room for any length of time?

2. Is moisture-proof wiring used on all electrical equipment in the laundry?

3. If the laundry floor is damp or wet, do you provide a wooden platform or rubber mat to stand on while using electrical equipment?

4. Are washtubs so placed that little children cannot fall into them?

5. Is the electric washing machine properly guarded to prevent persons from being caught by moving parts?

6. Do you place hot irons so that they cannot fall or cause a fire?

7. When the electric iron or washer is not in use, is it disconnected so that children cannot start it?

8. Is the gas water-heater properly connected to prevent leaks?

9. Do you always use non-inflammable bleachers or cleaning fluids, and then only out of doors so that poisonous fumes may be dispersed?

10. To prevent slipping, do you keep soap, soap powders, soap suds, and water off the floor?

Stairs and Basement

1. Are the handrails on all stairs, and are the rails and stair-treads kept in safe condition?

2. Are stairs kept properly illuminated so that the steps can be seen clearly?

3. Are stairs and landings kept free from mops, brooms, cakes of soap, pails, toys, or other objects over which someone might fall?

4. Are electrical switches so placed that the stair light can be turned on or off either from top or bottom?

5. Are rugs and stair carpeting secured firmly to prevent tripping?

6. Are tools kept in safe places?

7. Have gas pipes and fixtures been inspected recently for leaks?

8. Are furnace flues and chimneys cleaned regularly to prevent fires?

9. Are ashes always placed in metal containers?

10. Are inflammable materials, such as rubbish and piles of old newspapers, removed promptly to prevent fires?

Yards and Garages

1. Are sidewalks and steps kept in good repair and clear of objects over which people might trip?

2. Is ice or snow removed promptly, or covered with salt, ashes, or sand?

3. If your driveway is on an incline, do you always set the brakes of your car before leaving it, and if necessary, also block the wheel with a check or wedge of wood?

4. Are garden and automobile tools kept in designated places instead of being scattered around the yard or the garage floor?

5. Do you make it a practice to place sharp tools, such as rakes and saws, in places where no one can step on, or walk into their cutting edges?

6. Do you see to it that nails are withdrawn from boxes or boards, or that the nail points are hammered flat against the board?

7. Do you keep loose boards or other articles off the rafters of the garage, or do you fasten them securely to prevent their falling?

8. If you burn rubbish, do you use covered wire or metal baskets for this purpose?

9. Do you always keep the garage doors open before starting your automobile engine in order to prevent asphyxiation?

10. Do you remove oily rags or other inflammable materials from the garage promptly or keep them in fireproof containers?

Principles Underlying Student Safety Programs

1. Since nine out of ten injuries are due to negligence or activity on the part of the person injured, safety education and thinking decreases the rate of accidents.

2. Haste and rushing account for an increase in accidents about the school.

3. Sluggishness, caused by worry, lack of sleep, dissipation, or overwork should be eliminated as far as possible.

4. Students should acquire habits of caution for their own protection and for the sake of their classmates.

5. Students should develop a safety-conscious attitude of mind.

6. Students ought to give undivided attention when working with machines, handling electrical appliances, driving automobiles, and walking in dangerous places.

Principles Underlying Teacher Safety Activity

1. The teacher should be sensitive in and about the buildings, campus, and vicinity to those hazards which should be removed.

2. The teacher should know his responsibility for the safety of his students and for safety instruction in his subject area.

3. The teacher should continue to develop attitudes, habits, and skills, essential to efficient and safe participation in all phases of school and community life.

4. The teacher should know sources where reliable safety information and instruction may be obtained.

5. The teacher should keep in mind the safety factor when recommending and purchasing new equipment for the school.

6. The teacher himself should practice safety.

School Safety Pledge

I want to help make the streets and highways safer for children, and I am willing to do the following things:

1. Obey the advice of the highway patrol police and school safety patrol.
2. Walk on the left side of the street when there are no sidewalks, and step off the pavement, if possible, when I meet an approaching vehicle.
3. Cross the street carefully.
4. Look both ways before crossing.
5. When crossing, have my mind on it.
6. Will walk with safety zone.
7. Will watch for approaching cars, bicycles, trucks, or other vehicles.
8. Will not dash across street or into street after something.
9. Will not play in street or on highways.
10. Will obey red and green traffic signals.
11. Will not cross in middle of block.
12. Will not dash out from behind parked cars.
13. Will not ride on running board of cars.
14. Will not ride four in front seat.
15. Will not stick my head or hand out of the window of a car or school bus.
16. Will not depend upon driver of car to watch out for me when getting off bus, street car, or automobile, and will not run in front of it.
17. Never ride two on a bicycle.

I will try to set an example for younger children, and will try to obey these rules and tell others about them so that we shall all live long and be happy and healthy.

ACCIDENT REPORT

Department of Health
Fort Worth Public Schools

Date of Accident _____

Child's Name _____ Age _____ School _____ Grade _____

Address _____ Telephone Number _____

Cause of Accident _____

First-aid Given By _____

Parents Notified By Telephone _____ Home _____

Hospital Visit _____ Child Accompanied Home By Nurse:

Yes _____ No _____ By Whom _____

Name of Family Physician _____

Family Physician Takes Case: Yes _____ No _____

Final Disposition of Injured _____ Outcome _____

District Number _____

Nurse _____

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