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THE ROLE OF THE SCHOOL
IN DISASTERS

A Paper
Presented to the Faculty of
Eastern Illinois University
In Education 580

In Partial Fulfillment
Of The Requirements For The Degree
Master of Science in Education

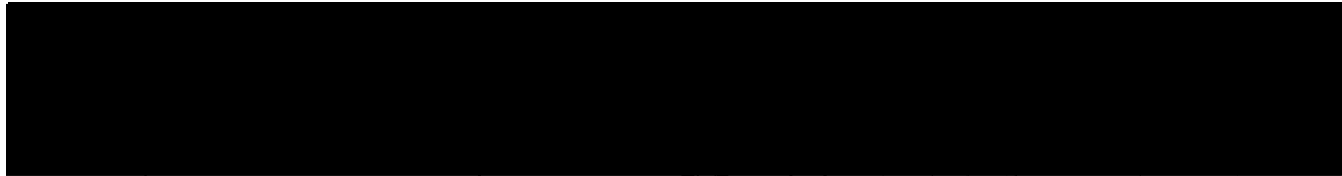
Plan B

By

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April 1962

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CHAPTER I

INTRODUCTION

The purpose of this study is threefold: (1) to survey the need for disaster protection planning, (2) to describe existing plans, (3) and to formulate recommendations for sound planning.

What should the schools be doing about shelters? Is it useless to try to protect against the blast, heat, and fire of a nuclear explosion? In this day and age of constant fear of atomic attack, it becomes necessary to think of that one-fourth of the population, the school children, who are susceptible to the dangers emanating from any type of attack. Fires, floods, explosions and tornadoes have always been of constant concern to administrators of schools. It is therefore a necessity for schools to devise a program of protection for their school population.

What is a disaster? What is civil defense? Webster's dictionary defines a disaster as an unforeseen mischance bringing with it destruction of life or property or the ruin of projects, careers, etc.¹ Certainly some events are unforeseen but we can and should be prepared for them. Everyone believes in some kind of insurance, a protection plan for a school system is another form of insurance plan. It is necessary. Civil defense can be defined as the protection of the home-front by civilians acting under civil authority to minimize casualties and war damage and preserve maximum civilian support of the war effort.²

¹"Disaster," The New American Webster Handy College Dictionary, 1960.

²United States National Security Resources Board. United States Civil Defense. Washington: United States Government Printing Office, 1950, pp. 5-6.

We are faced with an uncertain future and even in peacetime can not be lax but must establish a sound organization for civilian defense.

It is not the intention of this study to try to set up a single protection plan for schools, since each school must plan in light of its own situation.

George Peabody College for Teachers in Nashville, Tennessee, has compiled a book called Disaster Preparedness in Undergraduate Education, an excellent reference with many good suggestions for protecting school facilities. The United States Resources Board has set up a civil defense program in its book United States Civil Defense. There are many unanswered questions in these studies. This study should give some indication of the work to be done and the research needed in the field of disaster preparedness for our public schools.

CHAPTER II

THE NEED FOR A DISASTER PROTECTION PLAN

Schools are civilian agencies, and as such, have civilian defense responsibilities both as a part of their primary function, the education of children, and also as part of a related function, that of providing for the safety and well-being of the young people in the schools.

A protection program is therefore an essential element in the contribution of each school to civilian defense. Such a program has both administrative and instructional aspects.

When a disaster strikes, the people who survive are those who have learned what to do and how to do it. Existing educational programs need to be extended to include the implication of living in an era of nuclear power.³

The majority of those who survive will be those who have been instructed properly in the methods of civilian defense. Each school must have its individual plan for civil defense. Schools should not copy the civil defense plans of another school.

Schools located in heavily populated areas will be concerned with problems relating to evacuation and shelter, while schools located in rural areas may need to consider such other aspects of the program as care of evacuees.⁴

It is of the utmost importance that plans be made for the unexpected. A civil defense organization should be formed in every community.

³Harold S. Jenneman "Civilian Survival in the Classroom," School Activities, XXX, (September 1958), pp. 19-20.

⁴Ibid.

The responsibility for organizing lies in three places, with the federal, state and local governments.

The responsibility of the federal government is to establish a national civil defense plan with accompanying policy, and to issue information of educational material about both.

The responsibility of the state government is to provide leadership of supporting in all planning for civil defense, and direction of supporting operations in an emergency.

The responsibility of the city or county is to operate its civil defense system under appropriate ordinances under the guidance of the state, and make such mutual-aid pacts and other arrangements with adequate staff and facilities for training, assume its share of financial responsibility, and participate in the state program of organized mobile support.⁵

The Nuclear Disaster Threat.--It is unbelievably difficult for us to imagine what World War III could be like. From past experiences in England, Europe and Japan we know the devastation that can result from all-out war. A nuclear-age war would be even more terrible, entire cities could be annihilated. On that very first day we might conceive of the following.

Fast planes streaking over the wastelands of the North, long lean rockets launched at sea from submarines will wreak havoc. Los Angeles, Glendale and Long Beach with their man-made harbors, Santa Monica, Pasadena, all will be destroyed by these planes and rockets. Scorched earth and smouldering ruins will be the only remains.

⁵United States Civil Defense, loc. cit., pp. 5-6.

Detroit, Dearborn, Pontiac and Flint will be destroyed. In a day all assembly lines will be a mass of tangled iron and steel. Major cities and ports will be gone. New York with its dense population will be rocked and jarred from one bomb explosion after another. There will be mounds of rubble where tall lean skyscrapers once stood. It will not end that first day, radioactivity will linger everywhere. Those who survive will have to contend with the dead, injured and contaminated. Only the strongest will survive.⁶

The Natural Disaster Threat.--Natural disasters are always a threat. Floods, hurricanes, tornadoes and fire are yearly occurrences. School buildings offer the best temporary shelter in the case of such disasters. Experience has proved that school buildings are suitable for this purpose.

Schools provided 80% of the shelters set up in the wake of the Donna and Ethel hurricanes in early September 1960. During the peak of the storms, 117,718 persons sought emergency care in 961 such shelters, and the Red Cross estimates that nearly 800 of these shelters were schools.⁷

Florida was the hardest-hit state. Horace O'Bryant, superintendent of schools in Monroe County, Florida, reports that five schools in Key West were used as shelters and feeding stations.

In other coastal states, too, schools were serving evacuees. At Stephen Decatur High School in Ocean City, Maryland, more than 1500 persons sprawled on wrestling mats in the gymnasium, along the corridor walls, and on benches in the cafeteria.

⁶Sylvian G. Kindall, Total Atomic Defense, (New York: Richard R. Smith Publishing Co., 1952), pp. 10-15.

⁷Dorothy L. Bovee and John E. Hogan, "Schools Can Plan for Disaster Service," Nation's Schools, LXVI, (November 1960), pp. 66-67.

Schools were utilized for shelters near the resort areas of Rehoboth Beach, Bethany Beach and Fenwick Island, Delaware. In Norfolk, Virginia, thirteen schools were used similarly, and shelters were opened for 2500 in ten public schools and one parochial school in Biloxi, Mississippi.⁸

Last year alone at least 800 tornadoes ripped across our countryside. Some of them took a toll of lives and property. All were threats to our children. Each year many sections of this nation are swept by floods. Despite the most carefully calculated safety measures, our industrial plants sometimes burst into explosion and flames. If our homes or schools lie in the path of these potentially destructive forces, they are in danger.⁹ There are numerous school disasters each year but two infamous ones need to be mentioned here.

Major School Disasters and Their Lessons For Today.--On December 13, 1958 Chicago, Illinois was horrified to hear of the terrible fire at Our Lady of Angels School.

87 pupils and three nuns died in the fire. Within five days following the fire there were two additional pupil deaths. Six days later, many pupils still were hospitalized, the condition of 13 of these being considered critical.¹⁰

Chicago was stunned! How could it happen? Only a few weeks before the fire, the Chicago Fire Department had inspected the building and approved it.

⁸ Ibid.

⁹ Gayle W. Starnes, "Schools and Civil Defense," American School Board Journal, CXXXV, (August 1957), pp. 21-22.

¹⁰ Marian Telford, "Chicago School Fire - How it Happened," Nation's Schools, LXIII, (January 1959), pp. 82-86.

The building had only one fire escape, narrow corridors and wooden stairwells, yet it still met the requirements of the law. The newer laws did not apply, since they had been passed after the building was built.

The fire had spread very rapidly trapping the children on the second floor. Charles A. French Senior Consultant, School and College Division of the National Safety Council concluded that three main elements contributed to the fast-spreading nature of the fire: (1) open stairways, (2) lack of automatic detection devices and, (3) failure to provide automatic sprinklers.¹¹

A great deal of investigation ensued and a number of recommendations were made for Chicago Public Schools. Three of the more important are:

1. All buildings will be provided with some sort of signaling system, audible in all parts of the building and to be used only for evacuation.
2. All stairways will be enclosed at the top and bottom.
3. An in-service training program for both instructional and custodial personnel should be provided.¹²

Paul D. McCurry, partner, Schmidt, Garden and Eriksen, architects engineers, Chicago, also made some recommendations. McCurry stated that safety depends on rigid adherence to design and construction practices. His recommendations were:

1. All construction materials should be noncombustible.
2. All corridors and stairways should be adequate in size for the circulation accommodated.
3. Stairways, including those in the basement, should be protected by closed doors and should exit directly to the outside.

¹¹Charles A. French, "Every School District Needs Coordinator of Safety Education," Nation's Schools, LXIII, (January 1959), p. 86.

¹²Telford, loc. cit., pp. 82-86.

4. All corridors must not be deadend; stairways must be located to provide 150 feet of travel distance.
5. Rigid maintenance is required to keep all critical areas free of rubbish or other combustible material.¹³

Another major school disaster occurred in 1937 in New London, Texas. The consolidated school was one of the most modern of its kind. It was built near the oil companies on the edge of town. It piped natural gas in from one of the major companies. This gas was used to heat the building. It appears that this gas was piped in underground and then through the basement. Apparently a leak developed and when the arc light switch was thrown the gas ignited. The resulting blast completely destroyed the school. The teachers and pupils did not have a chance. The blast killed 455 teachers and pupils. They were instantly blown, crushed and torn to death.¹⁴

Instead of having experts do the piping the school economized and let the custodial staff do the work. The result was death and destruction. School administrators should be aware of the complicated nature of school construction and engineering.

Behavioral Problems of Disaster Shock.--The United States has never been under direct attack by an enemy power. It has never been subjected to a World War on its own territory. We do not know how the American people would react, but we can make educated guesses.

As the attention of the American public becomes focused more and more upon international tensions and the possibility of another war, the realization that our cities may be destroyed and that millions of American civilians may be killed or injured can

¹³"Architects Point Lessons From Fire," Nation's Schools, LXIII, (January 1959), p. 88.

¹⁴"The New London Disaster," Time, 29, (March 29, 1937), pp. 23-24.

in itself become a powerful stimulus capable of arousing intense emotional reaction.¹⁵

Evidence of this can be seen throughout the United States as evidenced by the continuing expansion of civil defense organizations in all cities. What these organizations would do under an actual attack is difficult to ascertain.

In the event of an atomic attack even those survivors who are not psychiatric cases will be in an extremely-aroused emotional state.¹⁶

Those who have been in the explosion center and have seen the death and destruction, who are apprehensive about the condition of their family and relatives and who are afraid they may be contaminated by radiation are likely to be unpredictable in their reactions.

Under the disorganizing affects of acute anxiety, many uninjured survivors might fail to participate in essential rescue and relief activities.¹⁷

Some method of controlling emotional outbreaks will be needed. There are two recognizable methods. The first consists of a preparatory educational program. The purpose of preparatory education would be to teach the appropriate behavior in an atomic disaster, with an emphasis upon what the dangers are and a corresponding set of "do's" and "don't's." Whenever people realize what the dangers are and have an idea of what to do and not to do, only then will some of their anxiety diminish.

¹⁵Irving L. Janis, Air War and Emotional Stress, (New York: The Rand Corporation, 1951), p. 181.

¹⁶Ibid., p. 184.

¹⁷ibid.

Even when people have been taught what to do, they may fail to use their knowledge when the situation demands it. At this point, the second method of controlling emotional outbreak, on-the-spot communication by some familiar voice, will help to reduce the feeling of helplessness. It would become necessary for this authoritative person to give advice, directions and reassurance in order to reduce emotional excitement. This public-address system would have to be constructed strong enough to resist the initial blast and pressure of a nuclear explosion.

The continued defense of the nation in the event of an attack depends upon the survivors. The morale of the survivor will have to be raised. The survivors must have confidence in the entire program.

During the air blitz against England in the Second World War it became increasingly apparent that the availability of welfare and relief facilities can play a decisive role in minimizing feelings of bitterness, suspicion, free-floating hostility, and other adverse morale effects.¹⁸

Many people have the idea that an atomic attack will be an end-of-the-world catastrophe. The following quotations illustrate some of the typical comments.

I think that the atom bomb would destroy all shelters. So there isn't much anyone could do about escaping from an atom bomb.

I don't think there is any way of preparing for the danger. The bombs are such that it doesn't help out at all to have that sort of thing (civil defense teams) available. It just wouldn't do any good in any case.

¹⁸Ibid., p. 188.

Nothing can be done about the danger of an atom bomb. Once a bomb falls everybody is killed who is anywhere around there and no one can be saved. I believe that there is no protection against it.¹⁹

These notions must be eradicated. The only way to do this is through a good educational plan for survival. This plan must include a number of important points.

¹⁹Ibid., p. 241.

CHAPTER III

FEATURES OF DISASTER PROTECTION PLANS

Features of Selected Existing Plans.--Most existing plans call for some type of evacuation. Paul F. Miller in his article, "Civil Defense in Educational Institutions" has this to say about evacuation.

Radioactive fallout is becoming increasingly a dangerous hazard and shelter will become necessary in a nuclear attack. Evacuation from fallout on the basis of fallout forecasts is²⁰ not considered feasible as a general policy.

Some schools have taken this advice to heart and are now designing and building shelters to house school people.

In Artesia, New Mexico, the Abo Elementary School and Fallout Shelter, now close to completion, is designed to offer survival facilities for 2000 people for two weeks in a completely underground eighteen-classroom unit planned for 540 pupils.

Although New Mexico is not a likely target for an enemy attack, their plans do illustrate what can be done to protect school people.

In New York, Governor Nelson Rockefeller has proposed a plan to use state funds to build fallout shelters in every public and private school to protect the state's 4½ million students and teachers. There would be no provision in the New York shelters for parents and other citizens.

In Norwalk, Connecticut, Norman Heap, business manager for the public schools, has proposed a plan for construction of about twenty-five bomb shelters under school playgrounds.

²⁰ Paul F. Miller, "Civil Defense in Educational Institutions," Teachers College Record, LXI, (January 1960), p. 221.

Each would accommodate about 3000 persons and cost about twenty-five dollars per person to construct. The shelters would house students, faculty and people living in the neighborhood.²¹

During the Second World War Britain used evacuation as its primary defense against an air attack. Today Britain has revised its evacuation plans.

"We do not plan evacuation in the old-fashioned sense," a ministry spokesman said, "In nuclear war there are no safe areas. So these plans are like spreading a pat of butter evenly across the whole slice of bread."

The civil defense organization said safety in nuclear war lies only in very deep shelters. The program as proposed has been rejected by the government.²²

San Francisco has set up a plan for defense against a nuclear attack in its school system. As soon as the alert is received it goes out to all the schools from the main school department. A coding system using colors has been devised.

Blue - Attention Signal
 Yellow - Attack Probable
 Red - Attack Imminent
 white - All Clear

Besides this system the school sends out a letter to be signed by the parents. This letter gives the parents an indication of what the school plans to do in an emergency.

I wish my son or daughter evacuated by first available transportation. Transportation will be provided by parents, by other adults in the area, and by students who drive to school. Every school has provided mimeographed diagrams and instructions for the particular area.²³

²¹"Fallout Shelters and the Schools," Editorial, National Education Journal, (February 1962), p. 23.

²²Joseph Cereitti, "British Revise Evacuee Plan for Atom Age," Chicago Daily Tribune, (April 10, 1962), Part I.

²³"Is Your School Prepared for Atomic Attack," (forum-in-print), Safety Education, XXXVII, (March 1958), pp. 8-9ff.

In Fort Worth, Texas, there is a school disaster plan in the event of: (1) an atomic or hydrogen attack, (2) guided missile attack, (3) tornadoes, and, (4) floods. Part of the plan consists of evacuation. Drills are held twice a month for fire and tornado. A mock mass evacuation was tried and completed satisfactorily.²⁴

Topeka, Kansas, has a two-part disaster plan. For natural disasters, a survey of the safest areas in each school building was conducted. Each student was told what to do. They either stand, lie, or kneel depending on the area of the school they are in. The school with the largest population can occupy safe areas less than three minutes after notification. The entire operation is practiced periodically. Man-made disasters call for an evacuation of the city. Receiving centers and a means of transportation have been outlined on paper.²⁵

Recommended Characteristics of Plans.---There are two closely related aspects which require separate treatment in any disaster plan. First, it is necessary to develop complete and specific plans for personnel and facility protection in case of disaster. Secondly, the instructional program must include treatment of the broad long-range concepts that will prepare students for adult life in a nuclear age. Such a program will also clarify the necessity for a protection program and assist in the total effort toward national survival.

There must be an administrative civil defense planning coordinator in the school who is responsible for the master plans and their revision. The person

²⁴Ibid.

²⁵Ibid.

should work closely with the local civil defense authorities, where technical assistance and advice can be had. This also ensures a conformance to the local civil defense plan and eliminates duplication or divergent effort.

The protection program should be based on the likelihood of nuclear attack or some other type of disaster. The local civil defense authorities and educational authorities need to do this to provide a basis for their course of action.

Educational institutions should tie into one of the 300 warning points set up by the Federal Government, thereby providing for receipt of warning at the earliest possible moment.

One of the best possible defenses against nuclear blast and heat is not to be there. This is not possible. Evacuation is the next best thing. Evacuation depends upon: (1) assumed warning time, (2) geographic location, (3) number and condition of egress routes, (4) number of people to be transported, and (5) transportation facilities available. It is also necessary for reception areas and target areas to plan together for the evacuation and care of people. Decisions regarding evacuation should be made at the local level.²⁶

Evacuation may be either before or after an attack depending upon the warning time. Evacuation has a disruptive affect on the morale of the people and should be utilized only when all other means of insuring safety have been exhausted.²⁷

²⁶Miller, loc. cit., pp. 217-232.

²⁷Safety Education, loc. cit., pp. 8-9.

The Federal Civil Defense Administration states that evacuation is not the best means of escaping from an atomic bomb attack. In the days of small bombs evacuation was much more feasible, but today with the H-Bombs the Federal Civil Defense Administration has admitted the limitations of evacuation. Probably the best means of protection would be shelters. These shelters would have to lie deep under the ground, even then they would be destroyed by a direct or near-direct hit.

The United States Department of Defense recently released its long-awaited pamphlet on shelters. The booklet indicates that a nuclear attack is highly unlikely. However, should a nuclear attack ever occur, certain preparations are necessary. The booklet is concerned primarily with fallout, since it could spread over thousands of square miles endangering the lives of many thousands.

The booklet refers to school involvement in the construction and operation of community fallout shelters. It suggests a shelter under a school playground built of corrugated metal arches buried under several feet of earth.²⁸

Some school buildings are so constructed that there are areas which could be used as shelters. It becomes necessary to identify the best possible shelter areas within a school. This should be done by competent technical personnel.

Some areas of school buildings can be converted at a surprisingly low cost. Multipurpose rooms such as cafeterias would help to keep down costs. New construction should take into account shelter provisions.

²⁸National Education Journal, loc. cit., pp. 24-25.

"The National Plan for Civil Defense and Defense Mobilization" states that families would have to stay in shelters for approximately two weeks. Therefore these shelters would have to provide: (1) appropriate emergency sanitation, (2) ventilation and lighting facilities, (3) adequate supplies of water, food and first-aid equipment. A school shelter would have to supply the same things.

Educational institutions will have to provide protection for vital records and their storage in safe places. Educational institutions will have to plan for a continuity of educational administration. They will have to plan for appropriate precautions so that heating facilities and utilities can be temporarily inactivated in case of fire or flooding. They will have to plan for specific traffic plans, for organization of small groups to fight fires, rescue, first aid, and radiological monitoring equipment to support these groups. All these plans will have to be coordinated with local civil defense plans.

Those areas in non-target locations should have a plan for feeding, housing, clothing and general rehabilitation of evacuees or displaced persons. These areas must also strive for continuation of education, since it would be a major factor in maintaining morale.²⁹

We must realize that to provide shelter protection for all of the people in all places is financially impossible. A shelter program should be designed to protect those in the most critical areas. Shelters would have to be economically constructed and all available existing structures utilized wherever possible. Not a single shelter

²⁹Miller, loc. cit., pp. 217-223.

is of value unless an adequate warning system is in existence. All available communication devices will have to be used. Television, radio, teletype, telephone, telegraph, and other emergency communications will play an important part in civil defense plans.³⁰

Why should schools be used for emergency disaster situations?

Measures preparing the school for service as a disaster relief center would make the school still more important to the community. Far more than mere shelter is ready at hand in our school plants, if we will but recognize potentialities.³¹

Schools not only have gymnasiums and other rooms which can be converted quickly into dormitories, but also are usually equipped with a lunchroom, a kitchen and an experienced staff skilled at feeding a large number of people in a short time.

Red Cross chapters frequently make arrangements with school superintendents to use the building before a disaster strikes. Schools are chosen by the Red Cross because they usually fulfill these basic requirements: (1) a safe and healthful location away from the danger area, (2) a structurally sound building with safeguards against other hazards, (3) suitable space for sleeping quarters, offices, an infirmary, and storeroom, (4) an adequate supply of safe water for drinking and for other purposes, (5) adequate heating and lighting equipment, (6) provision for cooking, serving and storing food, (7) toilet and bathing facilities, (8) adequate fire protection, and (9) usually accessible transportation.

School administrators are eager to offer the school since they realize that people in need

³⁰ Ibid., p. 35.

³¹ Walter Rein, "School Plant Studies," The Journal of the American Institute of Architects, Reprint, (March 1958).

might turn to the school, just as they would to the hospital and church.³²

Civil defense training should become a part of the educational program of every school.

For the present as for the predictable future, disaster protection is an inescapable part of the American way of life. The schools have the key role in training young America for that way of life. Furthermore, they have entry into the majority of American homes and are a singularly effective medium for carrying the message of civil defense to millions of Americans who have already left school.³³

There are two points of view about how civil defense should be handled in the schools. The first view suggests that it should be taught incidentally in connection with other subjects.

Science courses provide understanding of the weapons of nature and man, and of our defenses against these. The social studies interpret the restless world about us. Civics and citizenship describe our roles in local, state and national affairs.

Civil defense as such does not include a precise body of knowledge, but is related to nearly all fields of education. It can be accomplished best by incorporation into existing elementary and high school courses.³⁴

The other point of view suggests that civil defense is best taught as a distinct course in the high school. When it is taught incidentally with other courses it becomes difficult to recognize as a unit. A suggested course outline for high school students might be organized in this manner.

³²Bovee and Hogan, loc. cit., pp. 66-70.

³³Lamars, loc. cit., p. 2.

³⁴Miller, loc. cit., pp. 217-223.

(1st Semester)

- A. Fire fighting
- B. General principles of civil defense relating to citizenship, government, etc.
- C. Biological warfare, city and farm
- D. Chemical warfare, city and farm
- E. Home sanitation
- F. Six steps to survival

(2nd Semester)

- A. First aid (American Red Cross Text)
- B. Emergency action to save lives
- C. Medical aspects of atomic weapons³⁵

The State of Illinois delegated to the Superintendent of Public Instruction the task of making the people aware of atomic defense. In September of 1955 all colleges and universities in the state were asked to send representatives to a meeting to study the problem. The result of this meeting was the initiation of three types of civil defense courses. A background course for high school teachers in this general area was suggested. An atomic defense course outline was set up with the following topics:

- A. General theory of nuclear energy
- B. Physical effects of nuclear explosions
- C. Radiological detection
- D. Biological and medical effects of nuclear explosions
- E. Civil defense counter-measures
- F. Psychological effects of nuclear explosions
- G. Peaceful uses of nuclear energy

The representatives also decided that the best method to teach atomic defense was to incorporate the subject into the general science course.³⁶

³⁵Bovee and Hogan, loc. cit.

³⁶Edwin J. Schillinger, "Educating the High School Student for Atomic Defense," School Science and Mathematics, LVIII, (May 1958), pp. 371-384.

Teachers must receive proper training in educational psychology to prepare them emotionally and professionally to function under disaster conditions. In this state there is some work being done to prepare teachers for disasters. Recently the Superintendent of Public Instruction in the State of Illinois released a plan for the survey of the public schools in the state regarding their preparations for disasters.

CHAPTER IV

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

Summary.--It is only natural that school administrators be concerned with disaster protection. Thousands of children are dependent upon the school to provide them with adequate protection in case of an emergency. We do not know whether our preparations for a nuclear disaster will be needed but in the event they are, we must be prepared. Natural disaster planning must be thought of as a part of everyday planning, since our control over nature is limited.

It is the responsibility of the school to protect its children. Some people believe that it is wrong for children to live in constant fear of war, and protest when any action is taken in the schools. The school has the problem of overcoming these negativistic attitudes. Those in control of the school disaster program should try to discover the personality of the local and area civil defense directors before they are invited to speak. Once the type of personality has been determined it then can be decided whether or not to invite the local or area directors to speak and plan with the local school board and staff. It may be prudent to invite the area director and forget about the local director if his personality and approach clash with the school board. Speakers should stress the part that civil defense plays in all fields of instruction. This is one possible way to get the full support of the community.

Recommendations.--Since school construction and engineering is complicated, administrators should let experts do all construction or repair work. Disasters such as the one in New London, Texas can be prevented with appropriate precautions. We would not want anything less than a qualified teacher instructing our children so why should we tolerate inexperienced people trying to build or repair our schools? It is difficult enough trying to avoid accidents even with the best-laid plans. Contributory acts can be avoided.

Schools have long used the fire drill to train children to evacuate burning buildings and to move into safer areas. When schools are threatened with flood, wind and snow, officials exercise their best judgments and in some cases dismiss children to their homes or elsewhere. These and similar operations are pre-disaster evacuation procedures. School officials are urged to make a realistic survey of what disasters threaten their schools and in close cooperation with local civil defense, to set up such pre-attack evacuation plans as are warranted. Schools are warned against making plans independent of community plans.³⁷

All disaster planning should include provisions for the following: (1) a warning system, (2) an evacuation plan, (3) some type of shelter, (4) drills, (5) instruction for staff and pupils, (6) a method of converting schools into make-shift hospitals, (7) supplies for any emergency, (8) an adult education plan, and (9) a means of transportation in case of evacuation.

³⁷Safety Education, loc. cit., XXXVII.

Conclusions.--One of the difficulties in trying to achieve the above provisions is a lack of money. Those districts which can still finance their schools by bond issues, may find it easier to convince the electorate of the desirability of the school if the plan provided for tangible disaster relief and protection for the population in addition to teaching facilities for their children. If the people can be made to understand that their money will pay off doubly, will serve two different purposes, will buy two commodities at almost the price of one, and that the buildings erected with the funds will serve double duty, they may be more inclined to vote in favor of a school bond issue.

The states, hard-pressed to finance school buildings in districts which have exhausted bonding capacity, have so far been unable to finance anything but traditional essentials. Federal aid for school construction, if it had been adopted by Congress, might have been another way to finance a conversion program because financing disaster aid is a federal responsibility.

Civilian protection is wanting to an alarming degree. The problem of preserving human lives and reducing human suffering under attack has been approached from various angles. Whatever plan is decided upon will be worthwhile if it can save one human life.

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