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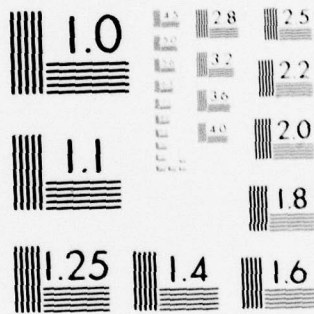
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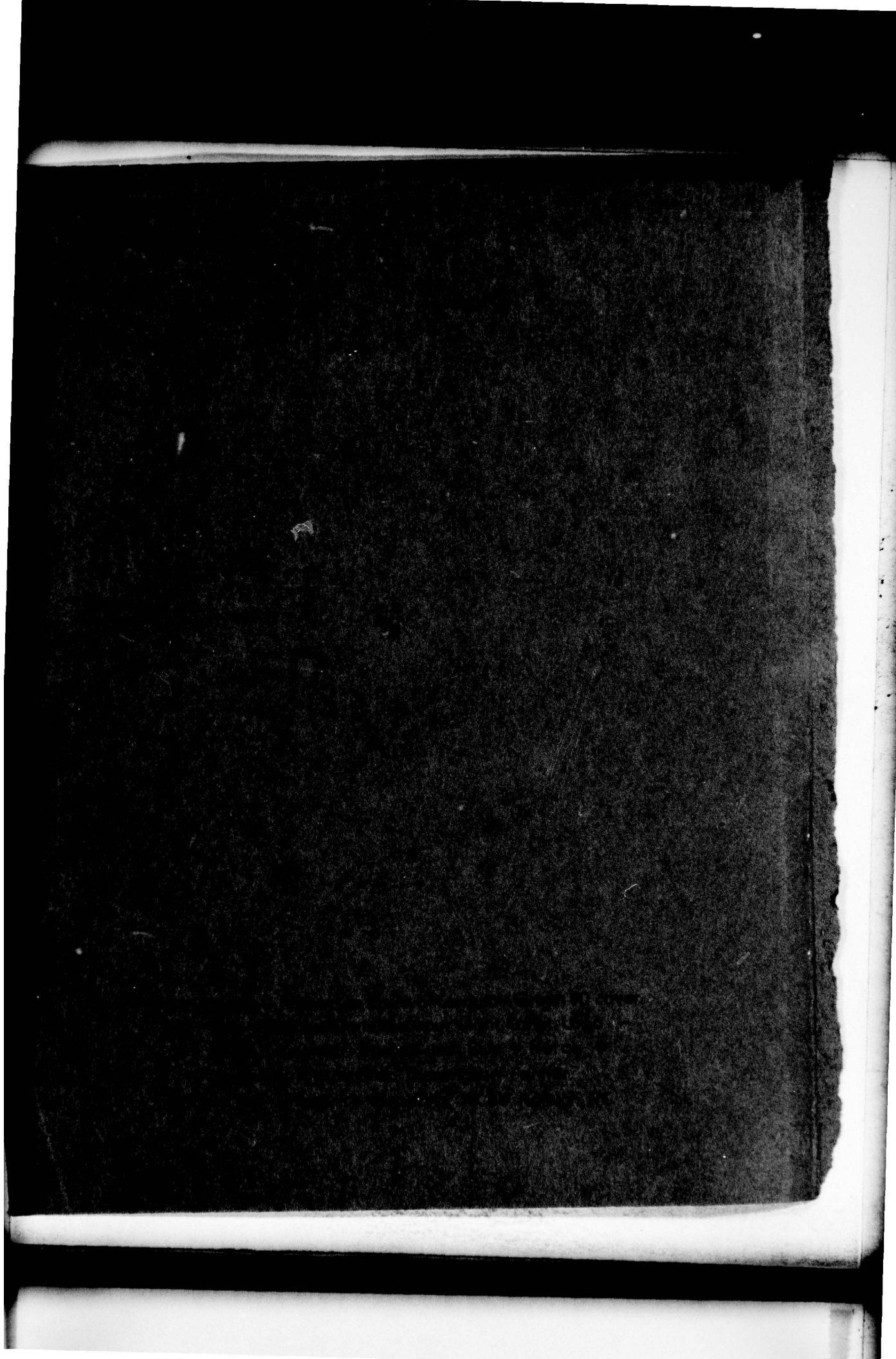
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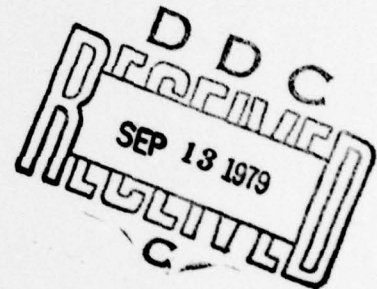
EMERGENCY PREPAREDNESS  
EDUCATION PROGRAM FOR NORTH CAROLINA SCHOOLS

Final Report, March 31, 1979

Submitted by  
Richard M. Ripley, Project Director

for  
Defense Civil Preparedness Agency  
Washington, D.C. 20301

DCPA78-C-0159  
Work Unit 4432-D



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Division of Civil Preparedness  
North Carolina Department of Crime Control and Public Safety  
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<p>The project reported, supported by the Defense Civil Preparedness Agency (DCPA), is concerned with the development of a civil preparedness educational program for integration into elementary and secondary school curricula.</p> <p>The objectives of the project are to design and develop an educational program which will significantly broaden and enhance</p>		

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(20) emergency preparedness education for young people. The program is designed to include: (1) nature of and protective measures in natural and man-made disasters including nuclear attack; (2) environmental problems and emergencies; (3) individual's responsibilities as a citizen in the community.

The educational delivery system planned for the project includes: (1) development of study guides for grades kindergarten - three, grades four - six, grades seven - nine, and grades ten through twelve; (2) instructors manuals for each study guide; (3) a handbook for educators covering all facets of civil preparedness as concerns K-12 education; (4) a teachers in-service training program; (5) development of multi-media instructional aid prototypes to complement the study guides; (6) a handbook for local civil preparedness coordinators to help them in educational program support.

The general procedures in study guide development visualized the use of experienced teachers in a major role for development of a study guides learner performance objectives and learning experiences. Starting at kindergarten and proceeding through each grade level, the spiraling experience or block-building approach was used to design the study guide for each grade group or cluster.

A six step method was used to develop the study guides. These steps included: (1) preparation of a draft framework of learner objectives and activities; (2) selection of teachers to participate in study guide development; (3) a teachers workshop to develop the study guide; (4) classroom field test of the study guide for one school year; (5) revision of the study guide during a second workshop to incorporate teacher inputs; (6) limited expansion of program use pending completion of the project work.

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SUMMARY

Emergency Preparedness  
Education Program for North Carolina Schools

Final Report, March 31, 1979

Submitted by

Richard M. Ripley, Project Director

for

Defense Civil Preparedness Agency  
Washington, D.C. 20301

Contract No. DCPA01-78-C-0159  
Work Unit 4432-D

Division of Civil Preparedness  
North Carolina Department of Crime Control and Public Safety  
116 West Jones Street  
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This report concerns a project for the development of a civil preparedness education program designed for integration into elementary and secondary school curricula. It is designed to "fit in" or supplement grades K-12 curricula. The North Carolina Department of Public Instruction has cooperated in the developmental process. It is expected that project work will require three years for completion. This report describes the first year of project work.

The primary interest of the research project is reaching one of the largest population sectors within any community - the youth who are attending elementary and secondary schools. This includes approximately 25 percent of a community's population. The education of these young people, as concerns civil preparedness education, at present is limited. Hence, upon graduation from high school, these young men and women enter their communities poorly prepared to assume meaningful roles in emergency preparedness or to help themselves in such situations. This makes adult civil preparedness training and participation tasks more difficult. What is needed is emergency education which adequately provides our children the opportunity to learn the knowledge, attitudes, and skills necessary to better cope with the world in which they live.

The civil preparedness educational delivery system planned for the project includes: (1) development of educational program study guides for grades kindergarten through three, grades four through six, grades seven through nine, and grades ten through twelve; (2) development of instructors' manuals for each study guide, (3) a civil preparedness handbook for educators, covering all facets of civil preparedness as concerns K-12 education; (4) develop a teachers' in-service training program to train participating teachers; (5) develop multi-media instructional aid prototypes to complement the study guides; and (6) prepare a handbook for local civil preparedness coordina-

tors to help them in educational program support.

The general procedures used in the study guide development visualized the use of experienced teachers in a major role for development of a study guides' program goals, performance objectives, and learning experiences. Beginning at kindergarten and proceeding through each grade level, the spiraling experience or block-building approach was used to design program goals, learner objectives, and activities which related to each grade level and pupils' learning capacities. This approach, by building from the preceeding grade level, provides for the logical flow and sequencing of the civil preparedness concepts, objectives, and activities from kindergarten through grade twelve. While each grade level was considered in the developmental process, the study guides were designed to cover a grade span or cluster. This allowed for flexibility in school unit and classroom programming.

A six-step method was established to develop the study guides. These steps included: (1) preparation of a draft framework of learner objectives and activities; (2) selection of teachers to participate in study guide development; (3) a teachers' workshop to develop a draft study guide using the framework developed in step 1 as guidance; (4) classroom field test of the study guide for one school year; (5) revision of the draft study guide during a second workshop to incorporate teacher inputs; and (6) limited expansion of program use, pend-

ing completion of the project work.

Currently, the project has completed the grades K-3, 4-6, and 7-9 study guides. Instructional aids development, during the first year, concerned the activity sheets which are an integral part of each study guide. A draft resource manual for educators, while adequate, requires more comprehensive information. Work on a comprehensive manual continues.

Teachers report that classroom use of the study guides indicates that the civil preparedness program is compatible with K-12 curricula. They also state the program is particularly adaptable with the language arts, social studies, science, and healthful living curriculum content areas. Teachers in grades K-6 express difficulty in dealing with nuclear disaster instruction, while science teachers in grades 7-9 state nuclear instruction is readily integrated into science education.

The project tasks for the second and third year include development of the grades 10-12 study guide and the other delivery system components mentioned previously. Many educators in North Carolina have recognized the need for civil preparedness as part of elementary and secondary school education. It is believed the program has considerable potential for enhancement of civil preparedness readiness in North Carolina and the United States.

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## I. Introduction

This report describes our work in the development of civil preparedness curriculum for integration into public school curricula for grades kindergarten through twelve.<sup>1/</sup>

Since January 1978, the North Carolina Division of Civil Preparedness, supported by a Defense Civil Preparedness Agency (DCPA) contract, has undertaken the development of emergency preparedness education for use in elementary and secondary education. The education project, a three-year program, is being developed in cooperation with the North Carolina Department of Public Instruction. This report concerns the first year of the project. It is expected that the program, when completed, will be integrated into the school curricula in the North Carolina public school systems and will serve as a pilot program for use in public school systems throughout the United States.

The civil preparedness education curricula will be designed to include such areas as: (1) nature of and protective measures in natural and man-made disasters including nuclear attack, (2) environmental problems and emergencies, (3) concepts of civil preparedness, and (4) individual responsibilities as a citizen in the community.

<sup>1/</sup>The terms civil preparedness, emergency preparedness, disaster preparedness, emergency management, and civil defense are synonymous as used in this study. The terms imply those measures and actions undertaken by a community and governments at the local, state, and Federal levels to prepare for and respond to any type emergency or disaster situation including man-made or natural disasters.

Present plans in the project include the design and development of an educational delivery system, which provides for the integration of emergency preparedness education into the public school programs; i.e., the instruction will be designed to "fit in" or supplement public school curricula and will not be added as separate curricula. Hence, this instruction will be incorporated into the "regular" curricula, such as science, health, social sciences, etc., where it is most logically applicable. This makes sense because the knowledge, attitudes, and skills to be learned should build over the school years as part of the normal or routine course of learning to live and cope with life's chances in the community. Emergency preparedness education should not be treated as something special or unique.

The educational delivery system planned for in this project includes the following five tasks: (1) the development of educational study guide packages, which include instructional media for grades kindergarten through three, grades four through six, grades seven through nine, and grades ten through twelve; (2) the development of teachers' manuals for each study guide package; (3) writing a comprehensive educators' handbook or reference, covering all facets of emergency preparedness, which sufficiently reduces the need for use of other reference materials; (4) the preparation of a teacher in-service training program which would orient participating teachers; and (5) the development of a pamphlet for local coordinators, which would aid the coordinator in supporting public school education.

## II. Background and Need for K-12 Civil Preparedness Education

The origins of civil preparedness in the United States trace from early settlement of the nation. Since that time, civil preparedness has always focused concern for protection where disaster strikes - at the local or community level. Noticeably, since World War II, the nature and priorities of emphasis in civil preparedness have been largely influenced by national and international political and economic conditions. Since schools are an integral part of the community, these factors have also influenced education in these institutions.

The Office of Civil Defense was established at the Federal level in 1941 to coordinate efforts for protection of the civil population and facilitate participation in furtherance of the war programs. It was disbanded in 1945.

After World War II, the Cold War and the development of nuclear weapons in 1949 by the Soviet Union led to the enactment of the Federal Civil Defense Act of 1950. This Act, with some modification, remains in effect to the present. The primary concern of the Act of 1950 is protection against nuclear attack. During the 1950s and 1960s, peaking during the Cuban Missile Crisis, civil preparedness at the national level gave high priority to nuclear attack protection. The current SALT talks have again focused on protection of the population from nuclear attack.

Based on the Defense Act of 1950, organizational mechanisms for nuclear protection were established at the national, state, and local

levels of governments. Since then, state and local governments have combined natural disaster preparedness with the existing nuclear coordination structure, because of the practical problem related to dual disaster coordination systems at these levels.

While disaster preparedness coordination is combined within the States, it exists under separate agencies at the national level. The Defense Civil Preparedness Agency (DCPA) is responsible for nuclear protection and the Federal Disaster Assistance Administration (FDAA) is responsible for natural disaster protection. This separation of responsibilities has made coordination difficult within the states. For this and other reasons, President Carter, in 1978, directed the consolidation of all disaster preparedness agencies as a responsibility of the new Federal Emergency Management Agency (FEMA) to be established in 1979.

One constant which has remained throughout the shifts of priorities and emphasis in civil preparedness is the ultimate responsibility of local governments, through mutual cooperation of the citizens in the community, to provide disaster protection for all community members. This is in consonance with our democratic system.

Civil preparedness education has been primarily concerned with adult education. The focus of the adult education is training to facilitate effective participation of professionals and citizen volunteers. Civil preparedness education in the school, if any, was directed mainly to that necessary for school emergency plans. Only in recent

years has civil preparedness education been concerned with education throughout elementary and secondary education.

Civil Preparedness (CP) education at the elementary and secondary public school levels (K-12), where it exists, is dealt with in varying degrees of interest in school systems throughout the United States. The variations in educational emphasis are reflected in the literature search. A study conducted by the Far West Laboratory for Educational Research and Development (Hutchins, et al, 1972) on civil preparedness education for children, ages 12-14, supports this view.

The Far West Laboratory study, from discussions with State Civil Preparedness Directors regarding public school CP education, determined that:

...An examination of Civil Defense (CD) education in seven states reveals a kind of 'hodge podge' from which it is difficult to make generalizations, but which does yield some conclusions: In practice, CD education, since it is cross disciplinary, has been fragmented into various subject areas, and receives varying degrees of attention, depending upon the point of view of a teacher or the pressures exerted by an administrator. ...In general, the situation in the schools reflects the fact that only recently has attention been focused on CD education below the adult level... (Hutchens, et al, 1972, p. 5)

The study concluded that CP education is just beginning to receive attention at the elementary and junior high school levels, that the quality of education ranged from poor to good, approximately 10 percent of children were receiving CD education, and that "the process of further extending CD education in the schools

will benefit from a good deal of planning and coordination" (Hutchins, et al, 1972, pp. 6-7).

While CP education has focused at the adult level, recently efforts have been made to include CP education in K-12 curriculum. During the 1950s and 1960s emphasis was placed on education concerning nuclear attack, and with consideration given to other man-made and natural disasters to a lesser degree. The Office of Education, U. S. Department of Health, Education and Welfare, in its publication Education for National Survival, A Handbook on Civil Defense for Schools, 1955, page 42, stated:

...Civil Defense education should be part of the experience of every school age person. It prepares the student to survive physical disaster and enables him as a future citizen, to protect himself and others, serve his community, and help strengthen the Nation in time of emergency...

S. M. Brownwell, Commissioner of Education, in his Foreword to the Handbook, stated "Education is the most important element in an effective civil defense effort. The need for including civil defense measures as one of the responsibilities of our schools should be made clear to school administrators, teachers, pupils, and parents."

This reference includes a curriculum planning guide for integration of civil defense education into elementary and secondary school curriculum content areas. The curriculum guide places primary emphasis on nuclear attack protection, but does include protection measures in natural disasters.

In 1966, the American Association for School Administrators (AASA) published A Realistic Approach to Civil Defense, A Handbook for School Administrators. This handbook identifies 21 topics of school curriculum subject matters which relate to CP education. All topics, developed by the National Education Association (NEA), relate to protection against nuclear attack. The NEA indicated that these topics were required instruction in only 10-15 percent of the nation's public schools.

The AASA handbook (1966, p. 2) identified the need for CP education:

...In completing a recent NEA project, personal site-visit interviews were conducted with school administrators throughout the country. One conclusion - expected but nevertheless very important to this publication - pinpointed the area of greatest need for accurate information among our school people. The area is that of student protection under conditions of nuclear disaster.

It should be understood that the school defense program today includes provision for all kinds of disasters, natural and man made...

Since 1970, efforts have been made at the national level and by a number of states to develop K-12 CP curriculum programs. Significantly, during the 1970s, the thrust in CP education has been toward an "all-hazard" curriculum content, with emphasis on protection and recovery from all natural and man-made disasters. For example, the Alabama Department of Education's publication, The Challenge of Survival, 1972, provides knowledge content for instruction in Alabama schools on several types of disaster.

Some CP educational programs reflect curriculum designs incorporating learner objectives, learning activities, and suggested resources materials. Examples include the Louisiana State Department of Education's Emergency Preparedness Curriculum Guide, 1974, for grades K-12, and the Kentucky Department of Education's Disaster Preparedness, An Elementary Curriculum Guide, 1975, for grades K-6.

While a number of state-developed curriculum guides reflect a significant advancement toward incorporation of the knowledge, attitudes, and skills in CP educational curriculum development, the curriculum typically identifies with disasters potentially dangerous to that state. This is logical since any state which is interested in expending time, money, and effort to develop a CP curriculum will develop it for that state's use. Hence, it is difficult to generalize the curriculum for use in schools in other areas of the nation. Further, duplication of effort is evident. There is also a growing appreciation by state and local educators in recognition of the need for providing CP education in K-12 curricula.

Since 1972, the Defense Civil Preparedness Agency (DCPA) has published several curriculum guides for use in K-12 education. The curriculum guide titled Your Chance to Live, 1972, developed for DCPA by the Far West Laboratory for Education Research and Development, is an example of a comprehensive curriculum development effort. The curriculum guide covers a wide variety of natural

and man-made disasters, and provides suggested learning objectives and activities and classroom evaluation. Coordinating instructional media including films, film strips, and audio cassette packages were developed. Also, DCPA arranged for the production of these materials and provided for general distribution.

While the "Your Chance to Live" CP educational package is a significant advancement in K-12 CP education, it is limited in that it appears to be designed for the junior high school level. This is not necessarily bad if the intent was to integrate CP education at an age level where development of CP knowledge, attitudes, and skills may be particularly significant. Research (Garrett, 1971, pp. 25-26) indicates that children at the grade 7-9 levels "are forming attitudes toward many public issues, including civil defense, which will remain relatively stable over the rest of their lives." From the short-range view, this introduces CP education on a limited scale where results might convince public school educators that school curriculum change is practical. Viewed in the long-range, the use of the "Your Chance to Live" curriculum guide presents a problem to classroom teachers in K-12 grade, other than grades 7-9.

It is well recognized that K-12 curriculum should provide for the building of attitudes and values, along with knowledge and skills, throughout the 13 school years. Unless CP educational objectives and learning experiences are appropriately developed with all the vertical K-12 curriculum periods in mind, it risks staying at the specific age-grade period for which it was designed.

Few K-6 grade teachers have the time or are willing to take the time to translate and apply grade 7-9 learner objectives and activities to their classroom situations. Needed is an approach that considers the entire K-12 curriculum.

Two DCPA publications do provide CP educational learning objectives and activities for use in grades K-12. The book Government in Emergency, MP-56, 1974, furnishes suggested performance objectives, activities, classroom evaluation, and recommended resources for teaching. The second DCPA document, Games That Teach, MP-59, 1975, offers similar instructional guidance, with emphasis on learner activities for elementary and secondary schools. While both references are well designed, each has been limited to the social studies content area. Thus, there remains the problems as to how they may be used to reinforce learning and be integrated with other content areas.

While the need for CP curriculum is recognized in varying degrees by educators, much of it is recognized in the form of finding solutions to the immediate problems of the moment. Considerable emphasis by educational systems throughout the country focuses on school emergency preparedness plans. Logically, the safety and protection of pupils, staff, and facilities is of paramount importance to a responsible administrator. Certainly good school emergency preparedness is important when one considers that approximately 25 percent of the population is in K-12 public school classrooms each school day. However, practice drills and testing

school emergency plans are but a first step in K-12 emergency preparedness education. It falls short in providing the appropriate knowledge, attitudes, and skills essential for these persons to face life's chances outside the classroom or after they complete school.

Such is the status of CP education in North Carolina's school system. With few exceptions, CP education is limited to immediate school emergency requirements. In the last few years, more and more administrators and teachers who are responsible for educating North Carolina's children have recognized the need for CP education in K-12 curricula. As mentioned previously, the situation in North Carolina appears to be typical of the situation in other states.

While many educators applaud the revisions and greatly enlarged curricula made in recent years as necessary enrichment, they also recognize that the school day has not grown in proportion. While the need for CP education may be recognized, the appropriate inclusion of this education into public school curricula presents a very real problem for the educator. The development of CP curriculum which is treated as a separate or unique educational requirement, risks non-acceptance in face of higher priority curriculum requirements. If, on the other hand, CP curriculum was not developed as a unique program and separate from regular school curricula, but as an integral part which reinforces present school curriculum content areas, it may stand a better chance of being taught in the classroom.

In summary, while some efforts have been made in recent years toward the development of K-12 CP curricula in response to the growing recognition of needs, the results cannot be generalized for use in K-12 education throughout the United States. Further duplication of effort and variations in quality and utility exists in K-12 curriculum efforts thus far.

The problem which this project addresses is the development of a K-12 educational package which can be integrated into the North Carolina K-12 school curricula and in school systems throughout the United States. The CP educational curriculum should provide flexibility of content so that it permits optimum utilization in any type K-12 school system.

### III. Project Research and Development Objectives

The purpose of the project is to conduct educational research to develop a prototype civil preparedness education program for use in grades kindergarten through twelve (K-12) in the North Carolina schools. Further, the education program and related materials developed by the project will be made available to the Defense Civil Preparedness Agency (DCPA) to be used, if desired, as a prototype for use in other states. The project is being conducted in consultation and cooperation with DCPA and with the North Carolina Department of Public Instruction. To insure that the developmental program is compatible with the N. C. Department of Public Instruction's established educational procedures, we

are coordinating the field testing and evaluation of the program in the North Carolina school systems during the developmental stages.

The research project is directed toward the development of a K-12 civil preparedness educational program which can be integrated into elementary and secondary school curricula. The educational delivery system, as presently visualized, includes: (1) study guides for grades K-12, (2) instructors' manuals, (3) a civil preparedness handbook for educators, (4) a teachers' in-service training program, (5) instructional media, and (6) a handbook on K-12 civil preparedness education for local civil preparedness coordinators.

It is expected that it will take three years to complete the entire project. During 1978, the first year of the project under DCPA contract, our work was concerned with development of K-9 curriculum study guides, development of instructional media, and work on the educators' handbook.

The K-12 program will provide curriculum guides for integration of instruction into school curricula which will include, but will not be limited to, such problems as:

- A. Nuclear attack and other man-made disasters.
- B. Natural Disasters of all types.
- C. Environmental problems and emergencies.

The CP educational program will be designed to integrate CP instruction throughout the students' K-12 school career thereby

providing the opportunity for the development of cumulative knowledge in:

- A. The purpose, functions, and recommended organizations of CP agencies from DCPA down through the local level.
- B. The individual's responsibility as a citizen to support a viable CP program.
- C. The nature of and protective measures necessary to guard against the hazards of nuclear attack and other man-made disasters.
- D. The nature of and the protective measures necessary to guard against the hazards of natural disasters.
- E. The importance of and the need for trained volunteers at the local civil preparedness level.

The following specific tasks which this report addresses were undertaken by the project during 1978:

- A. Task 1. Development of grades K-6 study guides.
- B. Task 2. Development of grades 7-9 study guides.
- C. Task 3. Writing an educators' civil preparedness resource manual.
- D. Task 4. Development of instructional aids.

#### IV. Theoretical Concepts of Civil Preparedness Education and K-12 Curricula

##### A. Concept of Civil Preparedness

Disaster - the word and the reality - is not new. Disasters of all kinds have occurred throughout history. Only the form of some of the dangers has changed. Disaster, the sudden or precipitant

disruption of social interaction, with resultant loss of life, injury, and destruction of property continues to be very real in our lives. Whether disasters strike individuals or masses, the hazards of living are still with us - and can still be modified or controlled by action.

Civil preparedness (also called civil defense, emergency preparedness, or emergency management), the area which is designated for protection against the effects of major disasters, is not new. Since the early settlement of the nation, people have developed civil preparedness and organized their communities with local governments to provide the necessary protective services as an essential guardian of life, and as an integral part of government and the community.

While man's concern for protection and survival from disasters is not new, some of the qualities have changed. First, we exist in a changing world. We live in a society which is growing increasingly complex and interdependent. The individual's existence in the community is dependent on others in the community and beyond. Often the individual's safety and survival depends on the actions of others. Also, science and technology, along with the benefits, add new dimensions to the potential dangers already present.

In both natural and man-made disasters, civil preparedness is organized to play a major role. It operates through the basic principle of cooperation for mutual protection - by the individual,

by groups, by communities, and by the nation as a whole. Without this cooperation, no community would be able to cope with the widespread chaos that would result from a major disaster.

Civil preparedness focuses at the community level where people live; that is, in the towns, cities, and counties throughout the nation. Ordinarily, people do not give much thought to handling a disaster until it happens. When disaster strikes, the mechanics for handling it must already be present in order to cope effectively with the situation. Civil preparedness means that a jurisdiction is prepared to respond promptly to save life and to protect property, if it is threatened by a disaster of any type, coordinating the use of all resources available.

The community government, with the legal and material support of the state and nation, is charged with the alleviation of suffering, saving lives, and rehabilitation of the people in disaster situations, whether nature-caused or man-made. Civil preparedness is not an occasional assumption of extraordinary power and function in local government. It is part of the governing function in the same way as police or fire protection. Civil preparedness differs only that its function is to provide for extraordinary emergencies, whereas the police and fire protection functions are organized to provide for the ordinary emergency situations in the community.

Civil preparedness implies that the local government has made provisions for expansion of its normal functions to meet any

extraordinary emergency, and is able to coordinate the operation people, and agencies required to assist citizens under condition of the extraordinary emergency or disaster situation.

Mutual cooperation by local government and responsible citizen is the key to civil preparedness in any community. Each citizen needs the knowledge, attitudes, and skills essential for meaningful participation. The knowledge accumulated in dealing with disasters, the nature of disasters, social action in the community, and all other aspects concerning individual and community involvement, in disaster situations, can best be disseminated in the schools. Schools are in a strategic position regarding the development of the knowledge, attitudes, and skills required. A significant part of our nation's population, approximately one-fourth, is associated as students and educators.

#### B. Implications for Education

Analysis of the civil preparedness concept derives several important implications for education in elementary and secondary schools. The implications are:

1. The fundamental purpose of civil preparedness is to save lives and property.
2. Although the threat and dangers of disasters exist, the hazards to living can still be modified or controlled.
3. Our society continues to grow more complex. The individual's existence in the community depends on others, to a significant degree, and often the individual's safety and survival

depends on others. Because of this, each person should understand the dynamics of group and community interaction.

4. Civil preparedness is not a special or unique function of government, but is local government and citizens working together to protect lives and property.

5. Since mutual cooperation between local government and citizens is the key to civil preparedness, it is important that each citizen have acquired the knowledge, attitudes, and skills essential for meaningful participation.

6. The accumulation of civil preparedness knowledge is part of that other knowledge, which is relevant to dealing with societies' problems. When these interrelationships are revealed through education in the schools to rising generations, they will be better equipped to deal more wisely with societies' problems.

#### C. Concept for Learning and Teaching

When working with curriculum design and development the educator's perception of learning affects teaching, and curriculum content, and process (Milhollen, et al, 1972, p. 8). This part of the report describes the theoretical concepts of learning and teaching which link curriculum, teacher, and student, as used in this project study. According to Milhollen, et al (1972, p. 8): "Teaching is an activity which emerges from some conception about how learning occurs." Further, curriculum design serves as the framework for teaching decision-making (Anderson, et al, 1965, p. 75).

Teaching is reviewed as directing or managing the learning process. Hence, the teacher's perceptions of how pupils learn will largely determine how the educator will approach the teaching-learning process.

Most people will agree that learning is behavior change which results from the individual's interaction with his environment (Bigge, 1964; Stiles, 1974). However, disagreement occurs as to how the environmental interaction effects learning or behavior change. Basically, there are two divergent philosophical and psychological viewpoints as to how learning occurs - behaviorism and phenomenology (Milhollen, et al, 1972, p. 9).

The behavioristic position, exemplified by B. F. Skinner, considers the individual to be passive and governed by stimuli furnished by the external environment. Man lives in an objective world governed by the universal laws of science. The individual is mainly controlled by the environment. According to those teachers who profess this position, teaching is simply the arrangement of contingencies of reinforcement under which the student learns.

The phenomenological approach, typified by Carl R. Rogers, considers the individual to be the source of all his actions. The individual is free to make choices, and through his self-awareness, is the actual generator of new behavior. Man lives in a subjective world of private feelings, emotions, and perceptions. Within this unique personal world, the individual may make decisions for

courses of action. Thus, it is the individual who controls the environment. The educator professing this belief views the teacher as a learning facilitator concerned with helping the student as a self-directed learner; i.e., inquiry and discovery learning through flexible program structuring.

The position taken in this study is that a choice between the two divergent schools of learning theory is not necessary. Both positions appear to contain truth. Man is influenced by his environment and he also controls it.

The working definition of learning used in the study is: learning is a change in an individual, resulting from the individual's interaction with his environment as he perceives it, and which helps him to cope with his environment, and to fulfill a need.

In learning, emphasis includes behavior change in the learner, his interactions in the learning situation, and a need which he perceives as meaningful. His environment includes the biological, psychological, sociological, and cultural determinents, which contribute to the development of his unique personality, and which he uses to deal with himself and others. The element of motivation is perhaps the most personal aspect of the learning process. Since each individual's personality is unique, his perceptions of the learning situation are also unique.

Teaching is directing or managing the learning situation. This implies guiding the learner, as well as facilitating, encouraging, or serving as a learning resource. The teacher's

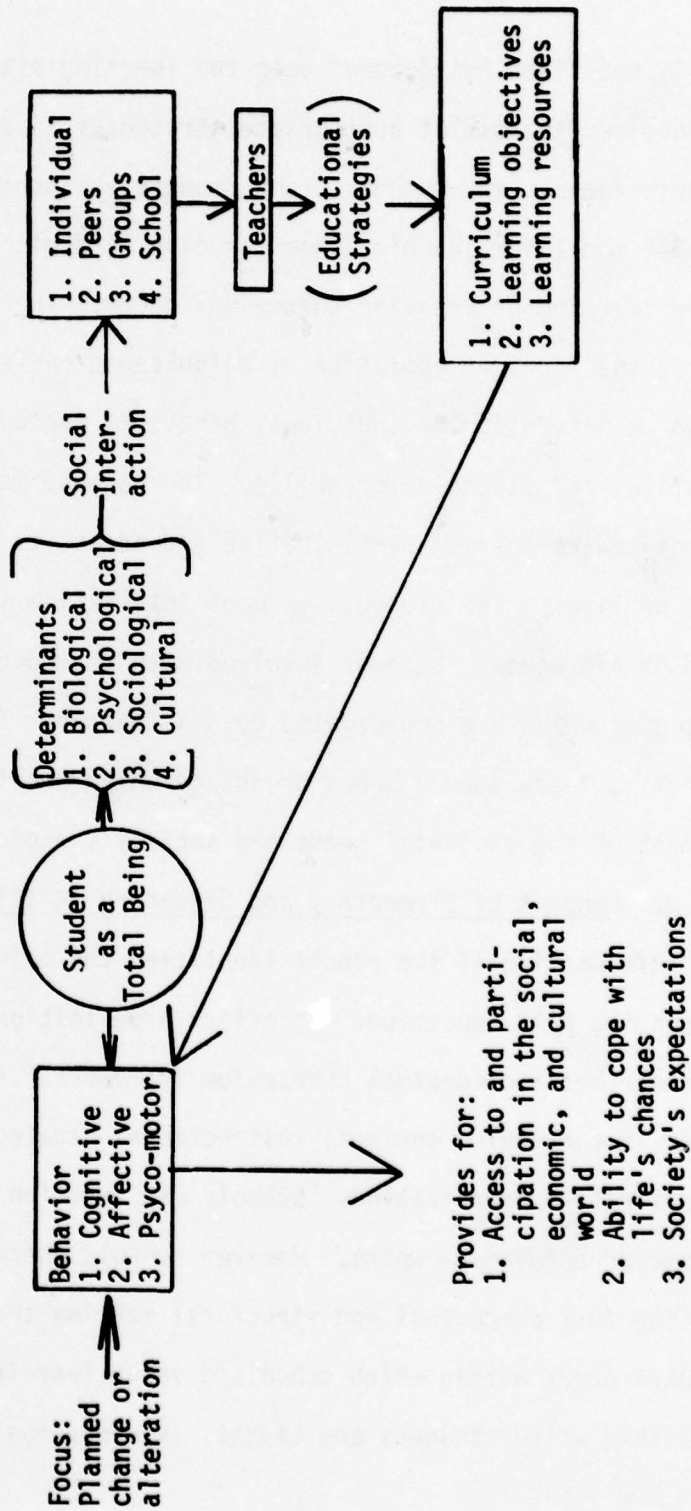
role is not fixed but depends upon the learning situation. Teaching involves the use of appropriate strategies to bring the students and course content into a productive association.

The model for learning shown on page 22 depicts a schematic on how learning or behavior change may occur. The model demonstrates the focus of education as being concerned with planned change or alteration of individual behavior, including cognitive, affective, and psycho-motor skills. The purpose is to help the student toward optimum participation and access to the world in which he lives. The student, through interaction in the social world of his school, becomes involved with the educational strategies which are coordinated by his teacher. This involvement, hopefully, leads toward behavior change which provides for fulfillment of the students' needs and society's expectations.

#### D. Concept of Elementary and Secondary (K-12) Curricula

This section of the report identifies the major forces influencing K-12 education. It offers a definition of curriculum and describes a conceptual curriculum framework. All schools may differ in curriculum content, instructional strategies, or administrative organization. Schools may function either by mandate or autonomous units. However schools operate, they must function in a conceptual and structural setting that sets forth the parameters within which schools develop learning programs and within which students are taught. A conceptual understanding

SCHEMATIC OR MODEL FOR LEARNING



of elementary and secondary education is essential, prior to going from the general to the specific, in integration of civil preparedness education into K-12 curricula.

Schools do not function as a closed system. Rather, the school is a dynamic social system, influenced by inputs from other systems in society, and produces student outputs for society. The external influences, such as parents, educational and governmental agencies, continuously interact with the schools internal influences, including educators and pupils. Socio-cultural changes continuously make an impact on educational purpose, curriculum content, and organization of the schools.

The basic goals and functions of public schools have been a viable issue, by both professionals and laymen alike, for as long as schools have existed as a concept and as one of society's major institutions. For some time the treatment of "What shall the schools teach?" has been philosophical and intellectual in approach. But the tremendous social changes in more recent years have forcibly redirected the attention of professionals and laymen to the schools' programs and operations.

The thrust of current attention toward the school reflects one important difference: concerns for the major purpose and function of education, perceived in terms of the individual and his interrelationships with the elements of today's society. According to Tanner and Tanner (1975, p. 450) during the late 1960s and early 1970s:

...it was becoming more evident that the chief problem of our society is not how best to organize the exploding knowledge but how best to marshal this knowledge for an effective attack on the exploding problems of society...

The wave of recent innovations in education are efforts of strengthening and more fully effecting the national ideal of universal education. The moving force behind this is a concern for education which is learning behavior oriented, rather than content structure oriented. While content and structure are not being pushed aside, they are being reviewed in a new perspective. Content is becoming more interrelated, and structure or organization is viewed as strategy, or a means to an end.

There is perhaps no single answer to the question of what schools should teach. It is apparent that each society's answers are temporal. The question requires reexamination as society itself changes. Thus curricula must be a continuous development and reassessment processing in order to insure relevancy. There are, however, some constants which endure in the total fabric of K-12 education.

What is curriculum? The changes taking place in the schools have caused changing conceptions of curriculum. Definitions which allude that curriculum is an educational end, or that it is the total knowledge offered, present only a partial definition. On the other hand, defining curriculum as all organized educational experiences that students have under authority of the school is so general that it does not differentiate learning derived from

school and non-school sources. A working definition used by this project is: curriculum is the planned and guided learning experiences and intended results developed through a systematic reconstruction of knowledge and experience, under school authority, for the students' continuous and purposeful growth in self-socio-cultural competence.

Curriculum is viewed as being dynamic. It actively inter-relates knowledge with the learner's life experiences rather than teaching only the cumulative tradition of knowledge. Thus curriculum is concerned not only with present knowledge, but also with emerging knowledge. Curriculum is a means to an end, not the end itself.

#### 1. Division of K-12 Curriculum by General Content Areas

Analysis of the innovations and changes made, or in process, suggest certain broad areas of curriculum content that are not in dispute. Rather, what is in contention is the rigid standardization of content within these broad content areas, and the manner of approach to that content which causes concern. Thus, it is reasonable to perceive a curriculum, in terms of these broad areas of content, that spans the entire K-12 continuum.

These curriculum areas are deeply rooted in tradition, but are also contemporary, providing the framework for the innovations of today. They represent a synthesis of the purposes and goals of education. The six broad content areas identified in this concept are:

- a. Citizenship Education - the social studies, including economics, history, government, sociology, and human relations.
- b. Communications - including all languages and all phases and applications of English-language arts.
- c. Cultural Arts Education - including the fine and performing arts, recreation and avocations, and addressed to both performance and consumer objectives.
- d. Healthful Living Education - including personal and community health, physical education, recreation, and safety.
- e. Mathematics and Science Education - including thorough general education content sequences and substantive advanced elective sequences.
- f. Occupational Education - included in the K-12 curriculum design from awareness through exploration to specialization.

## 2. Vertical Division of K-12 Curriculum by Primary Functions

The implementation of the six broad content areas, in a total program, is reflected in three generalized vertical divisions which denote the primary purposes or functions of the school. These vertical divisions comprise the total K-12 educational program: the early childhood period, which usually includes kindergarten and the first three years of regular schooling; the middle period, which normally spans the fourth through the eighth or ninth years; and the terminal or culminating period, which includes the last three or four years of the school program.

A K-12 curriculum model, based on the six broad content areas, is shown on page 28. The vertical divisions denote general demarcations or transitions in emphasis. This is consistent with the generally held belief of the total K-12 program, as being divided into three generalized periods of emphasis: the readiness and learning foundations period; the basic knowledge and skills building period; and lastly, the concentration or specialization period. It should be noted that various combinations of these functional divisions are possible. Conceptually, these combinations are variations of the generalized periods used in the model.

A closer look at these periods, or segments of transitional emphasis in curriculum, helps to establish a rationale and to identify some of the more significant factors to be considered in educational program development.

a. Readiness and Learning Foundations. This is the early childhood period upon which all other education is based and depends. The program focuses mainly on the child's smooth transition from the home environment to the school environment; on progression from total dependence to emerging independence; and on psychological, social, and emotional adjustments related to moving into the role of pupil and member of the school social structure. Academic learning is phased in gradually to supplement and complement the personal-social developmental tasks of the child. Content from the six broad areas, adapted to the maturity

K-12 CURRICULUM DESIGN to Accommodate Individualized Learning/Behavior Objectives				
BROAD CONTENT AREAS	Readiness and Learning Foundations Program	Basic Knowledge and Skills Program		Concentration and Specialization Program
	K-3	4-6	7-9	10-12
Citizenship Education (Social Studies, including History, Government, Economics, Sociology, and Human Relations)				
Communications (Languages, all phases of English - Language Arts)				
Cultural Arts Education (Fine and Performing Arts, Recreation and Avocations)				
Healthful Living Education (Personal and Community Health, Physical Education, Recreation, Safety)				
Mathematics and Science Education (General education content sequences and substantive advanced elective sequences)				
Occupational Education (K-12 developmental design)				

(Based on Curriculum Design, North Carolina  
Department of Public Instruction)

and experience of the learners, is included. A high degree of correlation and integration of content is especially significant at this level.

b. Basic Knowledge and Skills. Content from all the six broad areas of curriculum is included in the educational program during this segment of school experience. During this time, emphasis is given to the acquisition of knowledge and to the development of basic skills which is essential to the continuation and application of learning. A high degree of internal flexibility in the program is needed to serve the special needs of both the student and of contemporary society.

The extent of content, in each of the broad areas, and time allocated to each area are normally matters to be determined by educators at the local school level. The large number of specific learning areas in this phase makes content correlation essential. Inter- or multi-disciplinary structuring of content should be considered. It should be noted that all content and all learning are not necessarily sequential; also, there may be choices in sequences.

c. Concentration and Specialization. This is the period of individualized concentration and specialization applied to public school education. The broad curriculum areas are implemented through courses of study and learning activities which are more advanced and intensive in nature. Emphasis may center around specific disciplines or subject areas.

At this stage, pupil programs are tailored in accordance to individual interests, abilities, aptitudes, and aspirations. Pupil plans are designed to be flexible and well-protected against a "locking-in" effect. This rationale should allow for maximum involvement and unreserved consideration for discovering and provide for optimum development of each pupil's talents and potential. The overall program for each pupil should reflect a meaningful design based upon interests, abilities, and aspirations. In addition, through content, teaching, and learning processes, the program should contribute to the competencies, attitudes, and skills which help to make a full and satisfying life for the individual, and to serve the needs of contemporary society.

### 3. K-12 Organization for Instruction

School organization, viewed in its proper context, is instructional strategy rather than structure, or institutional grade descriptions. It is flexible and dynamic rather than rigid and static. Organization does not determine purposes and activities. As strategy, organizational determinations emerge from goals and objectives stated in terms of results expected from students.

The framework for public schools is basically a two-level one - elementary and high school. The junior high has acquired status as an intermediate unit between the two major components. Other variations have been introduced in recent years which reflect various administrative criteria and constraints influencing school organization. When viewed as instructional strategy, structural

variations by grade grouping do not change the conceptual framework described in this study. Any number of workable organizational combinations are possible. There is not an adequate body of fact, or expert opinion, to support a claim that any one pattern or age group composition for schools is superior to others. What is important, is the recognition that organizational choice is the means for instructional strategies and is not an educational end in itself.

E. Considerations for Merging Civil Preparedness Education into K-12 Curricula

Examination of the background of civil preparedness and the more recent efforts toward identifying civil preparedness education with K-12 education reflects recognition of need at the State level. This is also noted to some degree at the local school system level. Thus, much of the interest concerns the practical problem of pupil protection while in school. However, preparation and implementation of school emergency plans involves educators and pupils, in the practical application of civil preparedness, as part of the overall community emergency preparedness needs.

Is it feasible or realistic to expect that civil preparedness education can be integrated into contemporary K-12 curricula? Analysis of the civil preparedness concept, educational implications, and of the K-12 curriculum framework indicates that civil preparedness education can be readily incorporated into K-12 curricula. In the case of civil preparedness subject matter, some cogent points are:

1. Much of the material is not new to contemporary K-12 curricula. It is simply being given fresh illumination.

2. Relating civil preparedness to the student's own life and future provides an emotional, self-involving kind of motivation that enhances the interest and teachability of these contemporary problems of living.

3. The civil preparedness content can be appropriately included as units within existing courses. The material readily interrelates and reinforces K-12 curriculum content. This helps to make civil preparedness and K-12 programs more meaningful.

Conceptually, a curriculum design for the integration of civil preparedness education into K-12 curriculum is to first identify general civil preparedness content areas with the six broad content areas in the K-12 curriculum framework. Next is to relate civil preparedness content areas in more specific terms with the K-12 course of study. That is, to develop civil preparedness learner objectives (including knowledge, attitudes, concepts, and skills) in consonance with the K-12 program, purpose, and content as related to the course of study for each of the six broad curriculum-content areas. Civil preparedness curriculum would be introduced throughout the K-12 curricula through a "spiraling" arrangement for grade placement in the various curriculum areas. Essentially, this was the approach used in our study and is discussed further in the methods section.

Three possible alternative approaches for development of a K-12 civil preparedness education program were considered:

1. Alternative 1: To develop a curriculum planning guide which fits civil preparedness educational content areas and subjects into appropriate places in the K-12 content areas.

2. Alternative 2: That a group of civil preparedness and K-12 curriculum specialists would design and develop a complete K-12 curriculum program. The program would include learner objectives and learning experiences, and would specify content areas, instructional subjects, and sequences where civil preparedness subjects would be taught.

3. Alternative 3: Develop civil preparedness study guides which will include program objectives, learner objectives, and learning experiences. The guides would be developed through the "spiral" arrangement within the K-12 curriculum framework, allowing for choices in content areas and sequences. Development would be accomplished by a group of civil preparedness specialists and classroom teachers.

Our analysis of each of the three alternatives was as follows:

Alternative 1: Civil preparedness subjects would be identified with K-12 curriculum areas throughout the three structural phases; i.e., readiness and learning foundations, basic knowledge and skills, and concentration and specialization. This would link civil preparedness content with K-12 curriculum; but, basically that is all this option does. Essentially, as a planning guide,

it is a first step toward a curriculum program. It leaves the educator with the problems of determining goals and organizing and developing behavioral objectives, sequencing, etc. It is doubtful any classroom teacher has or will take the time to research and complete the instructional process. While this approach appears to provide considerable flexibility for the educator, it actually locks the K-12 content areas with specific civil preparedness subject matter without addressing content progression and interrelationships.

Alternative 2: This option is the opposite of alternative 1. Basically, it provides a complete civil preparedness curriculum program. Development of the curriculum by civil preparedness and K-12 curriculum specialists would provide authenticity to the program. Obviously, this is no small task, but it could be done. One inherent problem, posed by this approach, is that portions of the curriculum would become obsolete soon after publication. K-12 curriculum, as stated previously, is in a continuous process of change; it is not static. This alternative, while doing a thoroughly detailed job, does not permit flexibility within the classroom; neither does it provide for the differences which exist in school systems.

Alternative 3: This is a compromise between options 1 and 2. Civil preparedness specialists and classroom teachers would be involved in the development of program study guides for each phase in the K-12 curriculum framework. The study guide format

would include program objectives, learner objectives, learning experiences, evaluation, and suggested instructional materials. The "spiral" arrangement, providing for sequential content development with essential overlap, would provide a logical flow across the K-12 curriculum. A significant feature of this approach is that the design allows for differences in school systems. It permits school units and teachers to apply program content and sequence to reinforce other K-12 subject matter, and schedule civil preparedness instruction appropriate to their situations.

Alternative 3 is the approach that is used in the K-12 development work for this project.

#### V. Project Methods for Educational Program Development

The theoretical considerations, discussed in the preceeding section, provide the conceptual framework that is being used in the project for the development of the K-12 civil preparedness educational study guides. Development of the study guides has been done in coordination with a State elementary and secondary school curriculum framework.

The project work was accomplished by a research and development (R&D) staff group assigned to the Division of Civil Preparedness, North Carolina Department of Crime Control and Public Safety. The R&D staff consisted of three professional education specialists and one administrative assistant. The project contract was administered through the North Carolina State government system and followed both State and Federal procedures and guidelines.

The developmental approach perceived for the project included the need for the cooperative efforts of volunteer teachers in the study guide development. Next, the field testing of the guides was followed by limited expansion of use at selected schools. Finally, the program will be diffused throughout the State educational system after completion of the project's work. Obviously, acceptance and legitimation of project work by the educational systems and school units is most important. In view of this, the first step taken before initiation of project work was to obtain from the North Carolina Department of Public Instruction (NCDPI) acceptance and agreement to coordinate project developmental efforts. The NCDPI is the primary State government department responsible for the administration of North Carolina's elementary and secondary education.

Project acceptance and coordination arrangements were readily obtained from the NCDPI. In fact, the need for civil preparedness education had already been recognized by some of the principle staff educators. Legitimation of the project led to the establishment of a steering committee. This committee consisted of eight principle staff members from the N. C. Division of Civil Preparedness and the NCDPI. The purpose of the steering committee was to furnish policy guidance and to overview the project. The NCDPI's Director, Division of Health, Safety and Public Safety, as a steering committee member, was designated the primary staff contact person. This individual advised the project staff and expedited project work to the appropriate NCDPI staff agency.

The general procedures used in the study guide development process visualized the use of experienced teachers in a major role for the development of the study guides' program goals, performance objectives, and learning experiences. Beginning at kindergarten and proceeding through each grade level, the spiraling experience, or block-building approach, was used to design goals, objectives, and activities which are related to each grade level and to pupil learning capacities. This approach, by building from the preceeding grade level, provided for the logical flow and sequencing of the civil preparedness concepts, goals, objectives, and activities from kindergarten through grade twelve.

While each grade level was considered in the developmental process, the study guides were designed to cover a grade span or cluster. This allows for flexibility in school unit and classroom programming. The civil preparedness curriculum designed for each grade level, as discussed in the conceptual framework, would be too inflexible for programming purposes, and it would not be compatible with present day K-12 curricula.

The project plan, initially, was to develop study guides for grades K-6, 7-9, and grades 10-12. During the developmental work, the K-6 study guide was split and redesigned into two separate guides, one for grades K-3 and one for grades 4-6. The reasons for this change are discussed in the Findings and Project Status section of this report.

The study guide design and development proceeded through six major steps. These steps were: (1) the preparation of a draft study guide program plan, (2) the selection of participating schools and teachers, (3) conducting a teachers' workshop for preparation of initial draft study guide, (4) field-testing of the draft study guide, (5) conducting a follow-up teachers' workshop for the preparation of a revised study guide, and (6) limited expansion of the program to selected schools.

Step (1): A draft study guide program plan was prepared for use in the initial teachers' workshop. The plan included the proposed program objectives and the general framework for performance objectives, content areas, and activities. The program plan was deliberately set in draft form to encourage, through the workshop, innovation and change. The draft plan was considered as the starting point and not as a fixed direction. Resource materials and on-shelf media were identified for possible workshop and field test use.

Step (2): The criteria for the tentative selection of schools and teachers involved random selection of school units, with choices made to provide for a cross-section of regional, cultural, and school system organizations in North Carolina. A true random selection was not possible due to the practical constraints of time, travel distances, and funds. Final selection of teachers and schools was, of course, predicated on gaining their acceptance to participate in the project. In the few instances where agreement

could not be obtained from the targeted school, it was possible to locate another school in the same geographical areas.

Between ten and fifteen schools and teachers were selected for participation in development of each study guide program. Ideally, this provided for three or four experienced teachers, for each grade level, within the study guide grade cluster. The final selection of teachers was predicated on the individual's interest and willingness to participate.

The identification of master or highly skilled teachers was expedited through discussions with student teaching consultants. These consultants are associated with the Schools of Education at the State universities which furnish a large share of the teachers found in the elementary and secondary school systems across this State. Ordinarily, these university representatives who monitor student teachers' training can identify the name of highly qualified or master teachers, as well as their grade levels and subject areas.

Prior to discussions with individual teachers, coordination was established through two existing organizational channels. The first channel involved the elementary and secondary school system, beginning at the NCDPI, through its eight regional district offices, down to the county and city school administrative offices; and finally, to the specific school principal. A project orientation was given to responsible administrators, superintendents, and school principals. During this time, approval was obtained for school participation in the project.

Finally, the targeted teachers were solicited to participate in the development workshops and to field test the study guides.

Concurrent with the cooperative effort in the public school system, contact was made with the State Civil Preparedness system. Coordination was established with the areas Civil Preparedness Coordinators and their county and city local Civil Preparedness Coordinators where a school had been targeted. Typically, the coordinators have a personal working relationship with the school administrators in their service area. This relationship assisted in the legitimation process.

Step (3): The teacher study guide workshops were conducted during the summer months. Consultant fees and travel expenses were provided to participating teachers. In most cases, the teacher's administrative unit granted certificate renewal credit for participation in this project. The development workshop finalized preparation of the initial draft study guide which included learning objectives and activities. This workshop included one and one-half days of civil preparedness concept orientation for participants, one-half day for organization of work, and from three to eight days for the preparation work on the development of the study guides' learning objectives and activities.

Step (4): The study guide developed at the teacher workshop was field tested by the participating teachers during the following school year. Project staff members provided consultive and support services to the teachers. Evaluation data was obtained from the

teachers through interviews and a mailed survey questionnaire. The questionnaire, designed for use in the project, is shown in Appendix A.

Step (5): A second workshop for participating teachers was held during the summer following the field test period. The purpose of this workshop was to review and incorporate project evaluation and teacher experience into a revised draft study guide. This revised guide was used as the basis of the developmental work made for the study guide for the next grade cluster.

Step (6): After revision of the study guide, arrangements were made to expand the program to other schools. Ten to fifteen additional schools were identified by the coordination methods previously discussed. Of necessity, program expansion was limited to that which project funds and project staff work could support.

## VI. Project Status, Results, and Findings

This section of the report describes the project's results and status of the contract's objectives and tasks. The project's purpose, scope, and objectives were discussed in Section III, Project Research and Development Objectives, page 12.

### A. Factors Influencing Project Methods and Results

Prior efforts toward establishing a civil preparedness education program in North Carolina schools significantly influenced the curriculum developmental methods undertaken during the project's contract period. Procedures for grades K-9 study guide development

were established and a considerable amount of task work was initiated before December 19, 1977, the effective contract date.

Initial efforts, which began in 1971 with discussions between representatives of the Defense Civil Preparedness Agency, the North Carolina Department of Public Instruction, and the North Carolina Division of Civil Preparedness, proved unsuccessful when funds failed to materialize. The program remained dormant until 1974.

During the three year period between 1974 and 1977, three successive Federal contracts were negotiated which provided limited funds for project work. During 1974 and 1975, the first and second contract periods, major emphasis was placed on encouraging the development of school emergency plans by local school administrative units. Additionally, efforts were made at giving educational credibility and visibility to the purposes of assisting school personnel with the development of emergency preparedness instructional program. No specific developmental action was initiated on the civil preparedness education program for schools.

With limited Federal funds available during 1976, the third contract year, major emphasis was placed on the initiation of developmental work at the grades K-6 level of the program. Twenty teachers of the North Carolina Public Schools, representing grades K-6, assisted in the development of draft study guides. Individual

study guides were prepared for grades k, 1, 2, 3, 4, and 5-6. Also, an initial draft civil preparedness education resource manual was prepared for use with the study guides in providing general teacher background material.

Although Federal funds to support the civil preparedness education program ceased in late 1976, the project continued with limited State funds being made available. The grades K-6 study guides were field tested and evaluated during the 1976-77 school year by the teachers who participated in the study guide preparation. Approximately 250 additional teachers also participated in the evaluation program.

During the summer of 1977, 20 teachers who had participated in the grades K-6 development and evaluation assisted in revising the draft study guides. Based on the field test, evaluation, and recommendations of participating teachers, the grades K-6 study guides were divided into two packets, K-3 and 4-6.

Additional project work in 1977 included initial efforts toward development of the civil preparedness educational program at the grades 7-9 levels. Nine teachers representing North Carolina junior high schools participated in developing a draft grades 7-9 study guide. The draft civil preparedness education resource manual was also revised to support the grades 7-9 program.

The grades 7-9 study guide and the resource manual were field tested and evaluated during the 1977-78 school year. This was accomplished by the teachers who participated in the study guide draft preparation.

During the summer of 1978, the nine teachers who had worked on the grades 7-9 study guide preparation and field test assisted in revising the draft study guide. Additionally, based on the evaluation of the resource manual, it was determined that a more comprehensive reference was needed.

In October 1977, the North Carolina Division of Civil Preparedness submitted a proposal for a three-year project to complete the development of a K-12 program package. The first year's contract, effective December 19, 1977, incorporated the completion of the grades K-9 study guides, revision of the resource manual, and development of supporting instructional media.

It is evident that the developmental methods, which had evolved over a number of years, influenced the methods and results for the 1978 contract period covered in this report. Essentially, methodology specifics were modified and revised through trial and experience.

#### B. Project Status

The project's objectives and tasks, discussed in Section III, Project Research and Development Objectives, page 12, specified four major tasks for the 1978 contract period. The status of work for each of the tasks is as follows:

##### 1. Task 1. Development of K-6 Study Guides

This task is completed. Following the field test of the draft K-6 study guide, evaluation determined that the K-6 study guide should be redesigned and divided into two grade clusters. Two

study guides were developed, one for grades K-3 and one for grades 4-6. Currently, during the 1978-79 school year, the K-3 guide is being used in 11 schools.

There are 15 primary contact teachers using the K-3 study guide. Additionally, each teacher shares the study guide package with several other teachers, numbering from two to six additional teachers.

Six of the K-3 grade level teachers are new to the program. While selections were made to expand the program, selections were also made to provide a method for comparison with the evaluations made by the original group of teachers. We selectively limited orientation of the new teachers in order to better determine what information, beyond that provided in the study guide, is required for effective teaching. These inputs will provide information to be used in the development of the instructors' manuals and the in-service training program for teachers. Similarly, new teachers were selected for the same reasons in the grades 4-6 and 7-9 programs.

The grades 4-6 study guide is being used in eight elementary schools. There are 12 primary contact teachers participating in the program. Each of the primary participants also shares the program with several other teachers. Six of the twelve teachers are new participants.

## 2. Task 2. Development of Grades 7-9 Study Guides

This task is completed. The initial draft study guide was field tested during the 1977-78 school year. Nine teachers who had participated in the field test attended a workshop, conducted in the summer of 1978, to incorporate their experiences and evaluation into the study guide revision.

The grades 7-9 study guide is being used in 12 junior high schools. There are 17 primary contact teachers using the study guide. Eleven of these teachers are new participants.

## 3. Task 3. Development of a Teacher's Civil Preparedness Education Resource Manual

This task is not complete. A draft manual initially was prepared for use with the grades K-6 study guides. Following this, in 1977 a revision was made to the manual to incorporate information required to support the grades 7-9 study guide. After completion of the field test during the 1977-78 school year, evaluation determined that a more comprehensive reference was needed. Essentially while the manual is a good general reference, it does not provide sufficient in-depth information necessary for instructional preparation. As a result, additional research by the teacher is necessary. Since the revised manual was designed for grades K-9, the utility of the manual for the grades 10-12 study guide must also be considered. Presently, the grades 10-12 study guide is not developed.

The 118-page draft resources manual includes a section which concerns the concept of civil preparedness and two major sections for natural and man-made disasters. Each section covers a general description of the nature and protective measures for the disasters which are included in the study guides. A description of resource materials, references, and films are included for each type of disaster. The natural disasters contained in the manual are earthquake, flood, hurricane, thunderstorm, tornado, and winter storm. The man-made disasters discussed in the manual are fire, nuclear, and pollution.

Work on a comprehensive manual was started in the summer of 1978. It is expected that this reference will be completed during 1979. Planned is an eight chapter book for use by elementary and secondary school educators, both administrators and teachers. The major topics which the book will include are: (1) concept, need, and roles of civil preparedness; (2) national civil preparedness; (3) civil preparedness at the state and local governments; (4) natural and man-made disasters and emergencies; (5) nuclear defense and civil protection; (6) the school and civil preparedness; (7) the home and civil preparedness; and (8) behavior of people and society in disaster. The outline for the book is shown in Appendix B.

#### 4. Task 4. Development of Instructional Aids

This task is not completed. Project plans anticipate that the entire three-year project period will be required to finalize prototype development. Primary efforts during the 1978 contract

period concerned the development of activity sheets for use with the grades K-9 study guides. The activity sheets are an integral part of each study guide and are designed to complement learner objectives and learning experiences included in the guides. Hence, development of the activity sheets was essential for completion of the study guide tasks. Additionally, research was done to identify and make available current on-shelf instruction media for use to complement the education programs. Films, filmstrips, slides, and other materials were identified and incorporated into the study guides.

Manpower limitations and other task requirements limited any extensive research toward design and development of prototype instructional aids other than the activity sheets. One additional project staff person is required for media development during the remaining two years of the project. Provisions for an additional project staff person were included in the proposal for the second year of project work.

C. Study Guide Content Areas, Learner Objectives, and Learning Activities

The following civil preparedness educational concepts and content areas were incorporated into the grades K-9 study guides:

1. The concept of civil preparedness including civil preparedness organizations and functions and emergency preparedness responsibilities of individuals, the community, and governments.

2. The nature of and protective measures in natural disasters. The specific natural disasters included in the programs are: tornado, hurricane, flood, winter storm, thunderstorm, and earthquake.

3. The nature of and protective measures in man-made disasters. The man-made disasters incorporated into the study guides are: fire, pollution, and nuclear. Additionally, chemical and radiological accidents were added to the grades 7-9 study guide.

The learner objectives and activities provide the educational framework within each grade-cluster and provides for educational progression across the grades K-9 programs. The objectives specify what the student is expected to be able to do after completion of an instructional unit. The objectives are designed so that a teacher has the option to use the objective-activity framework as written or to develop more specific behavior objectives for subunits within each study guide unit. Again, flexibility was considered essential to allow for differences in teachers' preferences and school unit programming.

The learner objectives and activities are critical to the study guide framework. They must be educationally feasible for each grade level and provide for logical progression within and across the K-9 programs. The major purpose of employing teachers to participate in designing these critical elements was to help insure these criteria were built into the study guides. Further,

since teachers were involved, it was expected the programs had a better chance of actually being used in the classroom. Such has been the case. Additionally, teachers who were involved in study guide development shared their experiences with other teachers at their schools. The workshop commitments carried over to the school units and aided in the implementation of school programs.

It is not possible to include in this study a description of all objectives and activities contained in the grades K-3, 4-6, and 7-9 study guides. Therefore, a sample of objectives and activities is included in this report. The purpose is to demonstrate how the objectives and activities were written and how educational progression was considered. The content area selected is hurricane, with knowledge progression integrated into the concept of weather in science. The examples of learner objectives and activities associated with hurricane weather are shown on page 51.

The K-3 learner objective (page 51) concerns the characteristics and associated dangers of a hurricane. The specific activity requires the learning and use of hurricane weather terminology. The activity sheets numbered 15 and 15a provide for identification of weather terms. Also included are the sequences of weather events associated with a hurricane. The learning abilities needed for the activity place the learning experiences in the upper grade levels in the grades K-3 cluster. The picture board resource displays a photographic picture of a hurricane and could be used by a teacher at the lower grade levels to show and explain the basic elements of a hurricane.

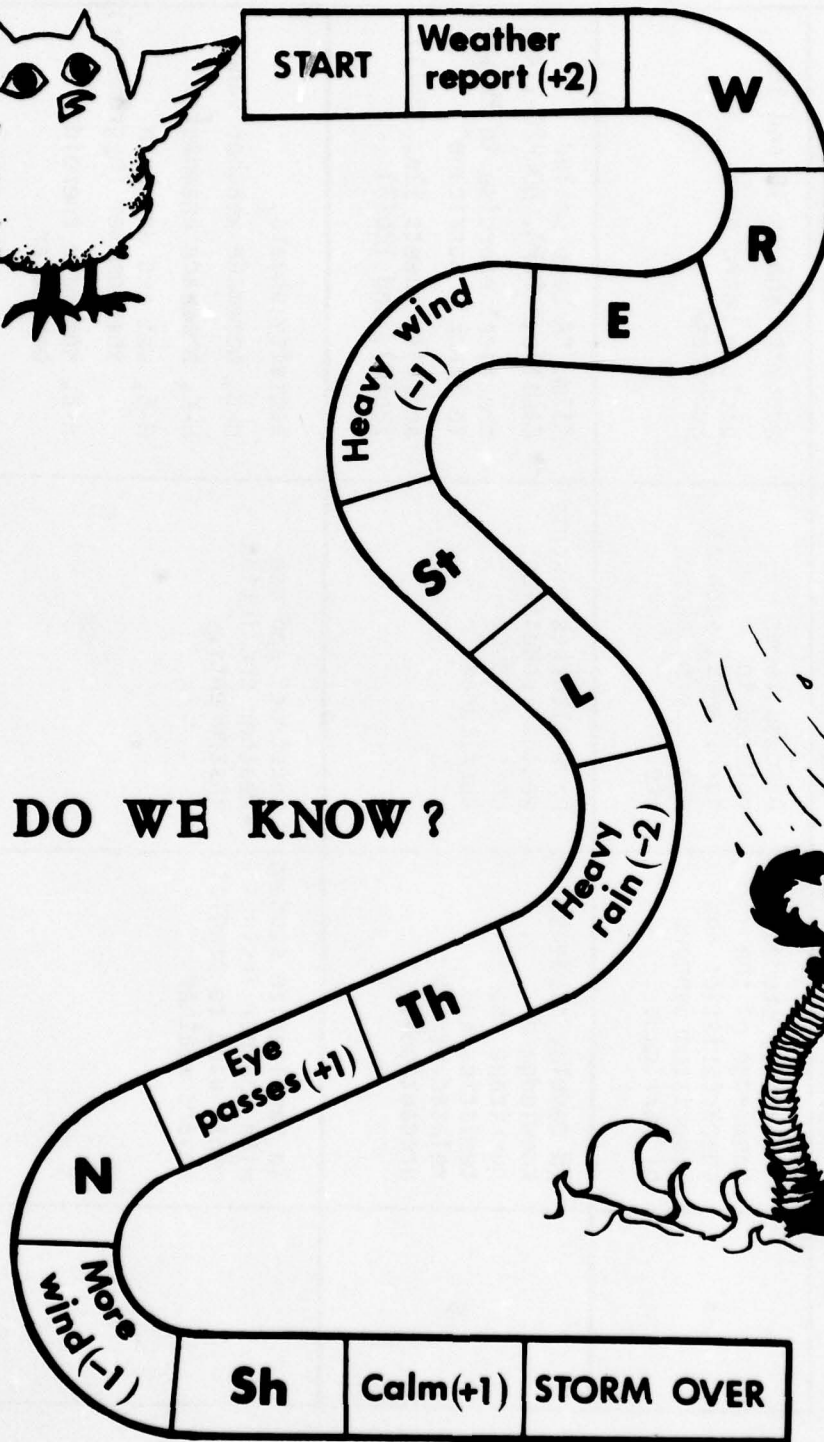
Examples of Learner Objectives and Activities Associated with Hurricane Weather

Study Guide	Learner Objective	Learner Activity	Resource
K-3	To develop student knowledge of the characteristics and associated dangers of hurricanes.	Discuss terms related to hurricanes, such as: eye, storm, surge, etc.	activity sheets 15 and 15a picture board of a hurricane
4-6	To develop student knowledge of hurricane characteristics and related safety precautions.	Have students discuss weather conditions which produce hurricanes.	film, "A Lady Called Camille," DCPA, DDCP20-274 practical exercise in "How to Track a Hurricane" activity sheets 12a, 12b(1), 12b(2), and 12b(3)
7-9	To familiarize student with weather instruments used to predict severe weather	Construct and use weather prediction instruments.	activity sheets: H-3, homemade weather vane H-4, homemade anemometer H-5, wet and dry bulb thermometer (hygrometer) H-6, homemade aneroid barometer

# A HURRICANE IS NEAR-



## HOW DO WE KNOW?



### A Hurricane Is Near

Equipment: One die, disks, corn kernels, etc., for pieces to move.

Instructions: Move spaces indicated by die.

- 1) Follow math instructions on word blocks after identifying what words in the block mean. Move appropriate spaces backward or forward.
- 2) On "letter" blocks, form word related to hurricane using initial consonant(s) in block.

Choose words from word list if necessary:

Wind	Lightning
Rain	Thunder
Eye	Noise
Storm	Shelter

Objectives: To teach chronology of hurricane; teach initial consonant sounds; teach simple addition and subtraction.

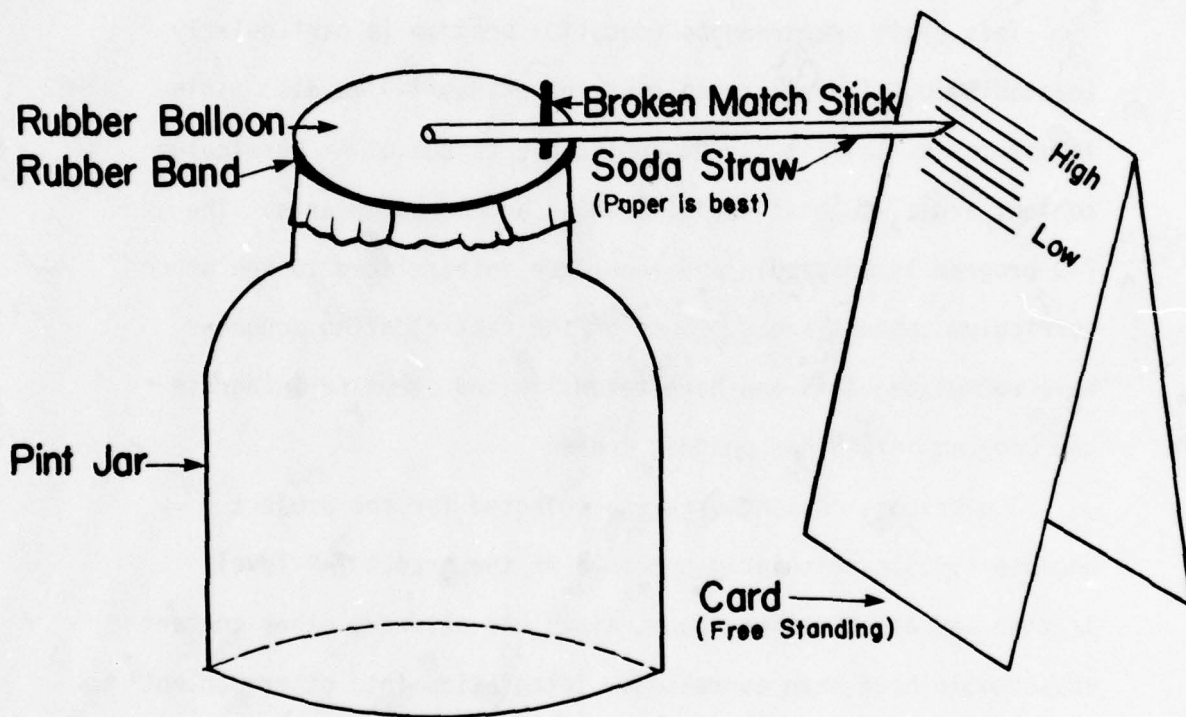
The grades 4-6 activities, page 51, involve the students more specifically in hurricane weather conditions. The students are shown a film of a hurricane to see weather conditions and to learn the importance of hurricane tracking and weather prediction. The activity sheets, 12a, 12b(1), 12b(2), and 12b(3), which are not included in this report, do include a hurricane tracking chart and a series of prepared weather reports which the students use to track the hurricane. The students use the information to plot and track the hurricane and determine the weather events associated with the hurricane.

The grades 7-9 objective, page 51, is to familiarize the student with the weather instruments used to predict severe weather such as a hurricane. The activity requires laboratory work to construct the various instruments indicated for activity sheets H-3 to H-6 (page 51). A sample of the activity sheets, activity sheet H-6, Homemade Aneroid Barometer, is shown on page 55. The students at the grades 7-9 level are involved in more specific learning concerning the science of weather and weather prediction.

This sample of objectives and activities demonstrates educational progression for a specific content area. Obviously, the concept of weather is integrated throughout the study guides. Likewise, it does not require much imagination to see that this concept could be readily integrated into the various major curricula content areas.

# HOMEMADE ANEROID BAROMETER

**purpose: to measure atmospheric pressure**



**PROCEDURE:** 1) Stretch a rubber sheet (balloon) over the rim of a clean and empty pint jar. 2) Secure sheet with a rubber band. 3) Paste a broken matchstick near the edge of the sheet. 4) Use paste or glue to attach the straw as shown above. 5) Set up a card to one side of the jar. The straw should touch the card. 6) Mark the card where the straw touches.

**TO READ THE BAROMETER:** Listen to the weather forecast or read a daily newspaper to obtain the correct pressure system for your area on a specific day. Label the mark you have already made either "high" or "low" according to your information. For example, if the pressure is "low" for the day and the next day the straw points lower on the card, the pressure can still be measured as "low." If the straw points higher on the card, the pressure has risen and is called "high."

The sample objectives and activities also reflect that the grades K-3 and 4-6 study guides were generalized for all K-6 major curriculum content areas. Conversely, the grades 7-9 study guide was designed and integrated specifically into the science curriculum content area.

This civil preparedness education program is particularly adaptable to science curricula at the grades 7-9 levels. This is not to say that it is not applicable to the other curriculum content areas, such as social studies and language arts. The 7-9 program is adaptable and should be interrelated to the other curriculum content areas. Some of the participating schools have recognized this and have taken limited steps to integrate the program into other content areas.

The science content area was selected for the project because it is particularly suitable at the grades 7-9 level. If time and other project constraints had allowed, other content areas would have been addressed. Integration into other content areas is important as it aids to reinforce instructional objectives.

Evaluation comments received from grades K-6 teachers indicate that the learner objectives and activities, typically, are used in the following curriculum content areas:

1. Language Arts - reading, creative writing, spelling, vocabulary study, and role-playing.
2. Science - general, physical, and earth.

3. Social Studies - human relations, government, and economics.

4. Healthful Living - safety, first-aid, personal and community health.

These teachers report little use of the civil preparedness program in mathematics or in occupational education.

Particularly significant is, that with one exception, all the grades K-6 teachers have stated that all civil preparedness concepts and objectives in the programs were easily used and with high student interest. The exception is nuclear disaster. The only other difficulty expressed on non-nuclear learner objectives and activities related to the activities which required pupils to seek and obtain information from agencies outside the school. Most teachers state the students at the grades K-6 levels are not yet ready for such activity.

The observations expressed by teachers concerning nuclear instruction typically reflect the teachers' statements that students become "overly frightened" by the instruction or that the instruction is not applicable. Additionally, and perhaps more enlightening, is that the teachers can easily relate all, or most, disasters to the pupils' community experiences. These events are real to the teachers and students. It is possible that since on-shelf type instructional aids are presently being used that the films and other media are not applicable or useful at the grades K-6 levels. This problem requires further study.

At the grades 7-9 levels, all teachers involved in the project have reported experiencing no problems with any of the civil preparedness program objectives and activities. Significantly, nuclear instruction is particularly well received in grades 8 and 9 science education. The students at these age-grade levels study science which includes the physics and chemistry of nuclear matter as part of their curriculum. Hence, nuclear accidents and potential disasters are linked with the world they endeavor to understand.

The instructional aids were designed to complement the learner objectives and activities in each of the grades K-9 study guides. The instructional aids, as an integral part in the grades K-3, 4-6, and 7-9 guides, consist of activity sheets (puzzles, paper and pencil games, role-playing games, coloring sheets, etc.) which are designed to tie together civil preparedness concepts, characteristics of natural and man-made disasters, and protective measures for survival and recovery. Furthermore, the learner objectives are reinforced by the films, filmstrips, and slides identified from research of current media literature. Research in original media prototypes is also underway.

Time requirements for preparing the initial draft grades K-3 and 4-6 study guides necessitated use to a large degree of existing published activity sheets. Some original activity sheets were designed by teachers during workshop participation to match the learning activities which were developed with the intent

that further original activity sheet work would be substituted as additional staff became available to the contract project. Review and revision of the activity sheets were accomplished during the revision of the grades K-3 and 4-6 study guides. Original activity sheets have been designed for all the objectives and activities contained in the study guides. A few of the published activity sheets were retained where evaluation determined their relevancy enhanced the instructional program. The activity sheets retained have been adapted from Games That Teach, published by the Defense Civil Preparedness Agency and the Owlie Skywarn series published by the National Oceanic and Atmospheric Administration.

The activity sheets, as compared to other media, have been particularly popular as a teaching tool and are easily used in the classroom setting. The quantity of activity sheets has been determined primarily by the nature of each learning objective and activity. No attempt has been made to set a quota of activity sheets as this was considered an unrealistic approach. There are sufficient activity sheets to allow for teacher selection preferences.

The instructional aids developed for the grades 7-9 study guide evolved both from teacher workshops and those designed by project members. The activity sheets designed in the workshops, namely by science teachers, are in the form of science experiments

to be carried out in appropriate laboratory settings. Other activity sheets consist of vocabulary lists, crossword and word-search puzzles, creative writing and role-play exercises, and student research activities.

As in the grades K-6 study guides, the criterion for the grades 7-9 study guide activity sheets considered the applicability and relevancy of these aids to the learning objectives and learning experiences. The actual number of these aids was considered less important.

The specific problem concerning the need for an additional project staff member was discussed previously in the status of the instructional aids task.

D. Diffusion of the Civil Preparedness Study Guide Programs

How should the civil preparedness educational programs be implemented in a state educational system? Once developed, the programs need to be integrated into state educational systems in a manner which will sustain program use over the long-term. This could be accomplished in one of two possible approaches. First, once the prototype study guides, instructional aids, and other portions of the delivery system are developed the prototypes could be turned over to the responsible state department of education for final production and program implementation. Ideally, if this was done the civil preparedness program would become part of the total educational responsibility of the state educational programs.

A second approach would be for the Defense Civil Preparedness Agency to produce all the materials required in the total civil preparedness education program package and coordinate program implementation either through a national education agency (HEW) or directly to the states through civil preparedness channels.

Although the question stated above is a legitimate one and the approaches mentioned indicate possible alternatives, the resolution of the question is not within the purview of this project study. The purpose of the project is to develop prototype programs. Project funding thus far has allowed for the production of prototype materials and the limited program expansion discussed earlier. This is proper since little would be gained in broad program expansion while project development is still underway and subject to revision. It is expected that the issue will be brought into focus during 1980, the last year of the project.

It is believed that certain methods and procedures used in the project have application for diffusion of the civil preparedness education program throughout a state educational system. In North Carolina, it is expected that program expansion will essentially be a continuation of the early project methods and limited expansion already established. Consideration of program expansion was a factor in selection of school units for project participation. Essentially, the six-step methods, outlined and discussed in Section V, Project Methods for

Educational Program Development, page 35, will be followed. The coordination system established for the project will continue to function. Project experience has determined that by using these methods there has been no difficulty in gaining acceptance from teachers and administrators. Many had already recognized the need for such a program. Most readily accepted participation once they were assured the program had State educational administration endorsement. Growing interest, at this stage of project work, is indicated by the number of requests for program materials. More requests continue to be received than can be handled by the project at this time. Many of the requests are based on word-of-mouth information.

The six-step methods and expansion work already achieved would be modified during program expansion in that teacher in-service training workshops would be substituted for the developmental workshops which would no longer be necessary. Initially, the in-service workshops would be designed to train selected teachers at strategic locations throughout North Carolina - the purpose being to "train-the-trainers." Once a trained cadre of State educators was established, the continuation of in-service training for all other teachers would be the responsibility of the State Department of Public Instruction.

The approach discussed above, together with the methods described in Section V, could be used in those states where no statewide program has been established. In those states with well-established programs the steps themselves could be reduced or modified.

At the stage where the limited in-service training for selected teachers was initiated, consideration should be given to transfer program responsibility to the State Department of Public Instruction. Essentially, this would shift responsibility for final expansion and supervision to the State agency responsible for administration of all education. At this point the answer to the question "Who will pay for the program?" becomes critical. Concurrently, the State Division of Civil Preparedness should continue its interest and maintain its supportive role in elementary and secondary civil preparedness education. Primary interest would rest with the State agency responsible for administration of all K-12 education.

Once diffused, will the civil preparedness education program be sustained? It is a question that cannot be fully answered at this time. It is a research question which this project is endeavoring to answer. It is believed wrong to assume that once the programs are published and implemented that the programs would automatically continue over the long-term. Many factors influence teacher priorities in classroom instruction. The State civil preparedness system should continue an active supporting role to assist educators when requested and to help insure that these programs remain current.

As stated earlier, every school unit administrator is concerned with the practical problem of school emergency plans. Logically, assistance for school emergency planning rendered by

local Civil Preparedness Coordinators should be tied with the civil preparedness education program at the school. Recognizing that approximately 25 percent of the community population during the school year is situated in schools, it becomes clear that the local Civil Preparedness Coordinator must be concerned with schools. In this regard, project experience shows that the local coordinators require information concerning the civil preparedness education program as it relates to elementary and secondary education. Most coordinators, while interested, are not educators and require factual information so that they can effectively perform their school support functions.

The project will continue to evaluate the grades K-9 program. As part of this evaluation, the degree that school units will sustain the programs will be analyzed. Several teachers, who originally participated in the program development, have since transferred to other schools and are no longer participating in this project. The schools with former participants are now being used as research control units to help determine methods for sustaining the programs. It is quite possible, as the project proceeds through the second contract year, other methods for program diffusion will develop. These findings will be incorporated into future reports.

Finally, one external factor which potentially impacts on finalization of project work concerns the pending reorganization

for emergency preparedness at the national level. It is understood that organization of the Federal Emergency Management Agency (FEMA) may occur in 1979. The project work, thus far, has not addressed this reorganization. All civil preparedness concepts in the K-9 study guides and the reference handbook relate to the current organizational concepts. This situation bears watching to preclude final publication of K-12 programs of which portions of the programs may already be obsolete. This situation has not impacted adversely on current task completion dates.

## VII. Conclusions and Recommendations

### A. Conclusions and Implications

The results and findings of the project's efforts lead to several conclusions. First, experience has shown that the concepts of civil preparedness education are readily integrated into elementary and secondary school education. These concepts include the knowledge, attitudes, and skills, which concern the fundamentals for protection and survival in emergency or disaster situations, in a complex society. This education interrelates with and helps to reinforce elementary and secondary school curricula. Our findings have determined that civil preparedness education is particularly adaptable for reinforcement of educational curricula in the major content areas of language arts,

science, social studies, and healthful living education. The need for civil preparedness education, as part of education which helps the individual to better deal with his environment, is recognized by many educators. This was evidenced by the interest toward the program expressed by the North Carolina Department of Public Instruction administrators and other educators throughout the State. Obtaining agreement from teachers to participate in the program was not difficult.

During 1978, the first contract year, the project's task objectives were a continuation of developmental work previously initiated. The study guide approach used in the civil preparedness education program provides the flexibility necessary to allow for differences in school unit curricula, organization, and teachers' preferences. The employment of teachers to assist in the development of the study guide learner objectives and learning experiences has enhanced production of a sound educational framework. The teachers helped to insure that the learning activities were educationally feasible and that proper sequence and learning progression were taken into account.

While work on the grades K-3, 4-6, and 7-9 study guides is completed, additional work on development of instructional aids for these programs is required. Also, developmental work on the grades 10-12 study guide must be initiated. Preparation of the 10-12 program was not included in the first year's task objectives.

The total educational delivery system associated with the grades K-12 study guides also includes the instructors' manuals which accompany each guide, a comprehensive civil preparedness *handbook for educators*, a teachers' in-service training program, instructional aids, and a handbook to assist local civil preparedness coordinators in their educational support roles.

The development of the grades K-9 study guides is a significant accomplishment. However, a great deal more project work remains to be completed. Manpower and funds have allowed for limited program expansion. It is not deemed advisable to expand K-9 program use any further, pending completion of the other major project tasks. Until these tasks are completed, premature expansion of these programs could impact adversely on final program implementation.

The development of instructional aids will require the entire three-year project period for task completion. Thus far, the major effort toward instructional media development was placed on the design and preparation of activity sheets which are an *integral part of the learning activities in the K-9 programs*. Additional research was made to identify and obtain on-shelf instruction aids to use with the programs. The primary media requirement, at this stage of project task work, is the design and development of prototype instruction aids such as films, filmstrips, etc., for use with the entire grades K-12 program.

The general expansion and implementation of the civil preparedness education program will require funding for materials production and publication. Once the prototype materials are accepted and approved, the agencies responsible for publication and distribution of materials need to be identified.

The coordination systems presently established, between the North Carolina Division of Civil Preparedness and the North Carolina Department of Public Instruction, for development of the civil preparedness education programs should continue to be used for the general implementation of the programs. The school units presently participating in the programs were selected, partially, for reasons of providing a base for general program expansion. Once the project work is completed, the North Carolina Division of Civil Preparedness should continue to actively support the educational programs.

The project's procedures established for initiation and implementation of civil preparedness educational programs in North Carolina should also be feasible in other states. It is believed these methods could be followed with little modification.

Finally, during the project's existence, the classroom use of the program should continue to be evaluated. This will help identify information for program improvement, assist in the development of the grades 10-12 study guides, and furnish inputs for the instructors' manuals, in-service training program, and instructional aid requirements.

Two implications are deduced from the report conclusions. First, the grades K-12 civil preparedness programs have great potential toward the enhancement of civil preparedness readiness throughout the United States. Second, the civil preparedness programs could help reinforce development of positive attitudes toward responsible citizenship and community participation.

Subsequent to the implementation of these programs, young persons upon graduation from high school would have received a relatively extensive education in civil preparedness. The knowledge, attitudes, and skills acquired by these young citizens would be diffused throughout the country. In face of emergency or disaster, they would be better able to provide for themselves and to assist others, including their families and communities. Certainly the civil preparedness posture of the United States would be enhanced.

It is doubtful that the great majority of young citizens, who complete secondary education at the present time, have received civil preparedness education to any significant degree. Hence, civil preparedness educators are mainly concerned with adult education and training. This training must compete with the various interests and responsibilities that adults have. Participation research has determined that only a small percentage of citizens in a community either have the interest or the time to participate in voluntary community activities. At best, only a relatively small percentage of community members ever become

involved with civil preparedness training. Because of this, these persons are usually trained as cadres to hopefully serve as trainers to provide essential training to other citizens during a crisis or emergency period.

These problems would be eliminated if civil preparedness education was included in elementary and secondary education. Certainly, civil preparedness education is compatible to the fundamental purposes of elementary and secondary education. Ultimately, the lack of this education must be carried over to the adult community where necessity requires resolution to the educational gap.

The attitudes acquired from civil preparedness education, in addition to the knowledge and skills, are particularly significant. It is possible when students realize the importance of individual and group participation in community emergency preparedness, this recognition can also help reinforce attitudes and values associated with participation in other community activities. While civil preparedness education would be only one factor in development of attitudes towards such participation, the cumulative positive reinforcement of the need for participation throughout 13 years of education could contribute toward attitudes favorable to community participation and responsible citizenship.

#### B. Recommendations

It is recommended that the project work be continued toward completion of the development of the total grades K-12 civil

preparedness educational delivery system. While the grades K-9 study guides are completed, the grades 10-12 guide must be developed. Also to be developed are the instructors' manuals, the educators' handbook, the teachers' in-service training program, the handbook for local civil preparedness coordinators, and instructional aids for all study guides.

It is recommended that task work to complete all requirements be projected as follows:

1. During 1979, the second year of the project, complete or initiate the following tasks:

- a. Task 1. Design and develop a grades 10-12 study guide and arrange for field testing in selected schools during the 1979-80 school year. The field testing of the study guide should be preceded by a workshop during the summer of 1979 for participating teachers' orientation and inputs into the initial draft study guide. Following the field test, a revised draft study guide should be prepared in conjunction with a workshop during the summer of 1980 to incorporate teacher inputs.

- b. Task 2. Complete the writing and prepare for publication a comprehensive civil preparedness handbook for educators which can be used to support educator needs in the entire grades K-12 program.

- c. Task 3. Develop and prepare for publication the instructors' manuals for the grades K-3, 4-6, and 7-9 study guides. The manuals should be designed to provide teachers practical assistance for classroom use of the study guides.

d. Task 4. Initiate development of a teachers' civil preparedness orientation program which would provide in-service training in civil preparedness concepts and functions in relation to the integration of the civil preparedness education programs into K-12 curricula. Plans and arrangements should be made to conduct pilot in-service programs following the 1979-80 school year.

e. Task 5. Initiate preparation of a handbook for local civil preparedness coordinators for use in support of the K-12 civil preparedness program at the local school system and unit level. Completion of the handbook for publication should be accomplished in 1980.

f. Task 6. Appropriate instructional media and aids prototypes should be developed to support the grades 10-12 study guides. Additionally, work should be continued in further development of instructional media prototypes for the grades K-9 study guides. Design and development should consider various media including films, filmstrips, cassette tapes, etc.

2. During 1980, the third and final year, the task work recommended is as follows:

a. Task 1. Finalize the grades 10-12 study guide following the field test during the 1979-80 school year. A workshop should be held during the summer of 1980 to incorporate teacher inputs.

b. Task 2. Develop an instructors' manual for the grades 10-12 study guide.

c. Task 3. Complete work initiated in 1979 on the teachers' in-service training program. Pilot training programs should be conducted at selected locations in North Carolina.

d. Task 4. Complete developmental work on instructional aid prototypes requires for the K-12 program.

e. Task 5. Finalize preparation of the handbook for local civil preparedness coordinators.

f. Task 6. Initiate the general expansion of the K-12 program throughout North Carolina schools. The K-12 civil preparedness program will be forwarded to the Defense Civil Preparedness Agency for consideration to use the program in other states. Program elements should be forwarded to the Defense Civil Preparedness Agency as the tasks are finalized.

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APPENDIX A  
N. C. DIVISION OF CIVIL PREPAREDNESS  
RESEARCH AND DEVELOPMENT SURVEY QUESTIONNAIRE

Name \_\_\_\_\_ Grade level(s) \_\_\_\_\_

School \_\_\_\_\_ Subject area(s) \_\_\_\_\_

Address \_\_\_\_\_

Teachers with whom you have shared study guides, and grade levels:

1. a. Can the Civil Preparedness study guide be truly integrated into your curriculum? Please circle:

Yes

Somewhat

No

- b. Why or why not? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

- c. What areas need improvement for integration? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. How effective have the study guide objectives and activity sheets been in the following classroom areas?

- a. Language Arts (Reading, Phonics, Spelling, Creative Writing):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- b. Math: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

c. Science (General, Physical, Earth): \_\_\_\_\_

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d. Social Studies (History, Government, Economics, Sociology, Human Relations): \_\_\_\_\_

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e. Healthful Living Education (Personal and Community Health, Physical Education, Recreation, Safety): \_\_\_\_\_

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f. Cultural Arts Education (Fine and Performing Arts, Recreation, Avocation): \_\_\_\_\_

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g. Occupational Education: \_\_\_\_\_

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3. a. Did you relate the CP objectives to your regular classroom content areas for reinforcement? Please circle:

Yes

Somewhat

No

b. How? \_\_\_\_\_

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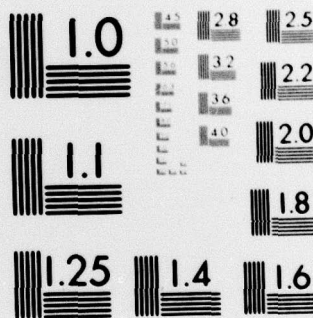
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MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

4. a. Please list resources you have used: \_\_\_\_\_  
\_\_\_\_\_
- b. Please list related field trips: \_\_\_\_\_  
\_\_\_\_\_
5. a. List examples of CP objectives that were easily applied to specific content area(s): (example: characteristics of a tornado, science, weather unit, ...)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- b. List examples of CP objectives that were difficult to apply to your specific content area(s):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- c. List examples of CP objectives that were not applicable in your classroom:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. Briefly describe specific examples of how those objectives, that you were able to use, were integrated into your classroom. (example: tornadoes, social studies and science by ...)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
7. Have you found the study guide useful in reinforcing other classroom instruction? Please circle:

Yes

Somewhat

No

How? \_\_\_\_\_  
 \_\_\_\_\_

8. a. How do your students react to this CP program? Please circle:

Highly motivated

Interested

Slightly  
interested

Bored

Frightened

- b. What areas of CP were they most interested in?

\_\_\_\_\_  
 \_\_\_\_\_

- c. What areas of CP were they least interested in?

\_\_\_\_\_  
 \_\_\_\_\_

9. Please describe any activities you have created for the CP program:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

10. Please list the programs and texts that are used in your classroom: (example: Reading, Ginn 360, levels 5-10)

Reading \_\_\_\_\_

Spelling \_\_\_\_\_

Math \_\_\_\_\_

Science \_\_\_\_\_

Social Studies \_\_\_\_\_

Health \_\_\_\_\_

Language Arts \_\_\_\_\_

Others \_\_\_\_\_  
\_\_\_\_\_

11. Please enclose a copy of your daily class schedule.
  12. Please save examples of student art work, reports, or any other student materials for exhibit during our July workshop.
  13. Have you found the Resource Manual helpful? \_\_\_\_\_
- \_\_\_\_\_

APPENDIX B  
CIVIL PREPAREDNESS FOR EDUCATORS - A HANDBOOK FOR PRIMARY AND  
SECONDARY SCHOOL TEACHERS AND ADMINISTRATORS

Title page

Foreword

Preface

Contents

1. Introduction

- a. What is civil preparedness and its purpose
- b. The need for civil preparedness
- c. General disaster considerations, concepts, and roles of government and publics

2. National Civil Preparedness

- a. Historical development of United States civil preparedness
- b. National and regional emergency preparedness organizations, functions, and responsibilities
- c. National shelter program and high risk/host area evacuation plans
- d. Radiological defense preparedness monitoring system
- e. National civil preparedness communication and warning system, and emergency broadcast system
- f. Civil preparedness in the Soviet Union and western European nations
- g. Voluntary associations, Red Cross, and others

3. Civil Preparedness in State and Local Government

- a. State government organizations, functions, and responsibilities
  - b. Local governments and preparedness
  - c. Voluntary associations and people in the community
4. Disasters and Emergencies
- a. Nature of disasters and emergencies
  - b. Natural disasters
    - (1) Flood
    - (2) Hurricane
    - (3) Tornado
    - (4) Winter storm, ice storm, and extreme cold weather
    - (5) Extreme hot weather and drought
    - (6) Earthquake
    - (7) Forest fire
  - c. Man-made disasters
    - (1) Pollution
    - (2) Fire
    - (3) Chemical accident
    - (4) Transportation accident
    - (5) Radiological accident
    - (6) Bomb threat
    - (7) Sabotage and terrorism
    - (8) Public demonstration and civil disturbance
5. Nuclear Defense and Civil Protection
- a. Characteristics of nuclear explosion

- b. Effects of nuclear explosion
    - (1) Blast effect
    - (2) Thermal effect
    - (3) Radiation effect
    - (4) Initial nuclear radiation
    - (5) Residual nuclear radiation and fallout
  - c. Nuclear radiation effects on people
  - d. Protection from nuclear attack, shelters, high risk and host areas
6. The School and Civil Preparedness
- a. General preparedness considerations
  - b. School emergency preparedness planning, organization, and functions
  - c. Emergency preparedness actions
7. The Home and Civil Preparedness
- a. General preparedness considerations
  - b. Home emergency preparedness planning and preparation
  - c. Emergency preparedness actions
8. Behavior of People and Society in Disaster
- a. Psychological and sociological impact on people in danger and stress
  - b. Disaster response and collective behavior

- c. Importance of education, training, and leadership in disaster situations
- d. Attitudes toward civil preparedness

#### Appendices

Appendix A - Definition of Terms

Appendix B - Sources and Guide to Obtaining Civil Preparedness Information

Appendix C - Media, Films, Filmstrips, Instructional Aids with Sources

Appendix D - Bibliography

Mandatory Distribution List for Final Report

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EMERGENCY PREPAREDNESS EDUCATION PROGRAM FOR NORTH CAROLINA SCHOOLS

Unclassified

Division of Civil Preparedness, North Carolina Department of Crime Control and Public Safety  
March 31, 1979, 91 pages, DCPA78-C-0159, Work Unit 4432-D

The project reported, supported by the Defense Civil Preparedness Agency (DCPA), is concerned with the development of a civil preparedness educational program for integration into elementary and secondary school curricula.

The objectives of the project are to design and develop an educational program which will significantly broaden and enhance emergency preparedness education for young people. The program is designed to include: (1) nature of and protective measures in natural and man-made disasters including nuclear attack; (2) environmental problems and emergencies; (3) individual's responsibilities as a citizen in the community.

The educational delivery system planned for the project includes: (1) development of study guides for grades kindergarten - three, grades four - six, grades seven - nine, and grades ten through twelve; (2) instructors manuals for each study guide; (3) a handbook for educators covering all facets of civil preparedness as concerns K-12 education; (4) a teachers in-service training program; (5) development of multi-media instructional aid prototypes to complement the study guides; (6) a handbook for local civil preparedness coordinators to help them in educational program support.

The general procedures in study guide development visualized the use of experienced teachers in a major role for development of a study guide. The study guides are developed and learning experiences. Starting at kindergarten and proceeding through each grade level, the spiraling experience or block-building approach was used to design the study guide for each grade group or cluster.

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