THE DEVELOPMENT OF TEACHING MATERIALS TO SUPPLEMENT A SELECTED VOCATIONAL HOME ECONOMICS UNIT DESIGNED FOR EDUCABLE MENTALLY HANDICAPPED STUDENTS

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INTRODUCTION

Significance of Problem

The growth of societal concern and litigation for the guaranteed right of every citizen to an equal educational opportunity has been reflected in federal legislation. As a result of Public Law 94-142, the Education for All Handicapped Children Act of 1975, public education systems are being challenged to protect the educational rights of handicapped students, who "have educational needs which require special services, facilities, materials and/or special education programs" (Semmel, Gottlieb, and Robinson, 1979, p. 225). Public Law 94-142 states:

> It is the purpose of this Act to assure that all handicapped children have available to them, within the time periods specified in section 612 (2) (3), a free appropriate public education which emphasizes special education and related services designed to meet their unique needs, to assure that the rights of handicapped children and their parents or guardians are protected, to assist States and localities to provide for the education of all handicapped children, and to assess and assure the effectiveness of efforts to educate handicapped children (U. S. 94th Congress, PL94-142, section 3 C, p. 3).

According to Pasanella and Volkmor (1977, p. 20), "Placement in the least restrictive environment is a legal mandate" and a critical issue that is confronting school systems. Public Law 94-142 requires that states establish:

> . . . procedures to assure that, to the maximum extent appropriate, handicapped children; including children in public or private institutions or other care facilities, are educated with children who are not handicapped, and that special classes, separate schooling, or other removal of handicapped children from the regular educational environment occur only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (U. S. 94th Congress, PL94-142, 1975, section 612 5 B, p. 9).

"The concept of mainstreaming--educating exceptional children in the regular classes--is one of the most topical issues related to education of the exceptional child today" (DuPont, 1978, p. 1). Hammill and Bartel (1978, p. ix) state, "It is quite clear today that many children presently enrolled in special education classes will be integrated into regular classes within the next few years." Several authors (Hasbargen and Hasbargen, 1978; Redick, 1978) recognize that in the future home economics teachers will be responsible for more, not fewer, handicapped students in the regular classroom.

The legislation for mainstreaming raises problems in implementation. Semmel et al. (1979, p. 268) report, "Available evidence suggests that amount of time in the regular classes, without consideration of the quality of instruction, has little impact on academic or social outcomes." In order to maintain quality and handle the needs of the increased variety of students in the educational system, teachers will need help in adjusting themselves and their programs to the new demands. "A critical need is support for the regular class teacher who will carry the major responsibility for mainstreaming" (Pasanella and Volkmor, 1977, p. 23). To provide for a broad range of student needs teachers will need to adapt curriculum, instructional materials, and methods of teaching (Pasanella and Volkmor, 1977).

Beckman (1978) indicates that the home economics classroom is student-oriented and provides self-paced, individualized learning experiences. As mainstreaming continues to be implemented and more handicapped students enter regular classrooms, appropriate instructional materials and teaching methods are necessary and may not only help handicapped students but all students as well (Tindall, 1979). The mainstreaming movement is a challenge for home economics teachers as their classrooms are among the first regular classrooms to receive mainstreamed students. Consequently, "if the home economics teacher plays a leading role in the mainstreaming movement, it is essential to be well prepared academically and attitudinally to accept these students and help them achieve success" (Redick, 1978, p. 1).

In a recent study of selected high school home economics teachers, findings indicated that about 86 percent of the teachers studied have none to three hours maximum credit hours in the field of education for the handicapped (Crouse, 1979). When taken, this specialized training was usually offered as a general education course rather than as a course in a specialized teaching field. As a result the teachers in that study felt inadequately prepared to modify curriculum to meet the needs of handicapped students. PL94-142 mandates change and new responsibility for classroom teachers; therefore, there is a need to develop home economics teaching materials especially designed for handicapped students to more adequately meet the needs of handicapped students.

Purpose and Objectives of the Study

The general purpose of this study was to develop teaching

materials designed especially for educable mentally handicapped students to supplement a selected vocational home economics unit. A second purpose was to test the materials. The objectives of this research were:

1. To develop selected teaching materials adapted for educable mentally handicapped students to supplement a unit of study in vocational home economics programs at the secondary school level.
2. To test the usability of the teaching materials for the handicapped student who completes a unit of study which has been adapted for educable mentally handicapped students.
3. To make recommendations based upon the results of this study for teacher education in the area of developing supplementary teaching materials for educable mentally handicapped students for use by secondary vocational home economics teachers.

Assumptions and Limitations

The following are the assumptions of this study:

1. That the unit of study selected for modification from the Home Economics I, Basic Core is a valid educational tool;
2. Subjects in the experimental group and the control group are entering the selected unit of study with varying levels of prior knowledge;
3. Educable mentally handicapped students will be able to complete the pretest and posttest;
4. The difference between the scores of the pretest and the posttest will supply evidence of learning;

5. Subjects of the two groups will complete the assignment as directed; and
6. Findings of the study can serve as a basis for designing teaching materials to more adequately meet the needs of educable mentally handicapped students in regular classrooms.

This study is limited to:

1. Teaching materials designed for educable mentally handicapped students to supplement a selected 10 hour vocational home economics unit.
2. Two selected groups of secondary vocational home economics, business and industrial students from an area vocational school.

Definitions

In order to avoid misinterpretation, the following definitions are presented:

Due Process:

> Used in an educational context, the term refers to procedures and policies established to ensure equal educational opportunities for all children. PL94-142 contains due process procedures specific to handicapped children (Meyen, 1978, p. 4).

Educable Mentally Handicapped:

> . . . having a poor memory, limited ability to abstract, difficulty in understanding cause and effect, faulty concept formation, imprecise perceptions, limited incidental learning, impoverished language, and difficulty in generalizing (Horn and Barsness, 1975, p. vi).

Educable mentally handicapped refers to a mild level of mental retardation and is associated with those having an IQ score within the range of 67 to 52 on the Stanford-Binet, or 69-55 on the Intelligence Quotient Wechsler Scales (Meyen, 1978).

Exceptional Child:

> . . . the child who deviates from the average or normal child (1) in mental characteristics, (2) in sensory abilities, (3) in neuromuscular or physical characteristics, (4) in social or emotional behavior, (5) in communication abilities, or (6) in multiple handicaps to such an extent that he requires a modification of school practices, or special educational services, in order to develop to his maximum capacity (Kirk, 1972, p. 4).

Handicapped Persons:

> . . . persons who are mentally retarded, hard of hearing, deaf, speech impaired, visually handicapped, seriously emotionally disturbed, crippled, or other health impaired persons who by reason of their handicap require special educations and related services, and who because of their handicapping condition, cannot succeed in the regular vocational education program without special educational assistance or who require a modified vocational education program (U. S. 94th Congress, PL94-142, 1975, section 4, p. 4).

Least Restrictive Environment:

> . . . the placement of children in the least restrictive environment means that to the maximum extent appropriate handicapped children should be educated with children who are not handicapped (Turnbull, Strickland, and Brantley, 1978, p. 7).

Mainstreaming:

> . . . refers to the temporal, instructional, and social integration of eligible exceptional children with normal peers based on an ongoing, individually determined, educational planning programming process, and requires clarification of responsibility among regular and special education administrative, instructional, and supportive personnel (Kaufman, Gottlieb, Agard, and Kukic, 1975, p. 35).

Modified Unit of Study: Consists of "specially designed instructional materials and/or activities" which the handicapped student can use on his own or with a minimum of help from others (Meyen, 1978, p. 60).

Realia Kit: A package containing natural objects, manufactured objects and/or representational objects that allow the student "to

deal with items and environments encountered in real life" (Haney and Ullmer, 1980, p. 147).

Regular Class: A class which "provides less specialized support to handicapped students than any of the other available alternatives" (Turnbull, Strickland, and Brantley, 1978, p. 187).

Regular Unit of Study: Consists of the regular curriculum which has not been specially designed or modified to meet the needs of the handicapped student (Meyen, 1978).

Special Education Class: A self-contained class which serves children "identified as educable mentally retarded or emotionally disturbed" (Meyen, 1978, p. 4).

CHAPTER II

REVIEW OF LITERATURE

States in this country have historically been responsible for public education. Congress maintained that this responsibility should remain with each state; however, under Public Law (PL) 94-142, "Congress also recognizes the responsibility of the federal government in providing financial assistance to the states to assist in the education of handicapped children" (O'Donnell, 1977, p. 24). PL94-142, the Education for All Handicapped Children Act of 1975, had been referred to as the Bill of Rights for handicapped individuals (Goodman, 1976). Another landmark piece of federal legislation was Section 504 of the Rehabilitation Act of 1973. These two pieces of legislation significantly influenced this country's future educational practices by challenging public education systems to protect the educational rights of handicapped students who need materials and services designed especially for them. Mainstreaming handicapped students into regular classrooms with nonhandicapped peers has had a major impact on education. Meyen (1978, p. 80) concluded, "No longer are the characteristics and needs of exceptional children a concern only to their parents and special educators."

> Designing educational programs that deal with individual differences in children has long been an objective of American education. The written individualized education program requirement of Public Law 94-142 has given life to that objective. Whether it makes a difference for the

> children will depend on our commitment to making the process work (Beal, 1977, p. 31).

This review of literature was divided into three sections and provided the background for this study. This chapter included legislation related to education of the handicapped and the characteristics of educable mentally handicapped. Research studies were examined that were concerned with mainstreaming and education of educable mentally handicapped children.

Public Law

This review was intended to provide an understanding of federal legislation as it relates to the educational rights of all handicapped students. Section 504 of the Vocational Rehabilitation Act of 1973 and PL94-142 brought about changes in the treatment of handicapped persons and in education.

Section 504: The Rehabilitation Act of 1973 (PL93-112)

Section 504 was the first civil rights legislation which specifically protected the rights of handicapped persons. The Law stated that

> No otherwise qualified handicapped individual in the United States, as defined in section 7 (6), shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance (U. S. 93rd Congress, PL93-112, section 504, p. 39).

Thus, the Law was aimed at protecting the civil rights of all handicapped persons. With the implementation of Section 504, effective

June 3, 1977, greater opportunities were provided "for the physically and mentally handicapped to have access to, and participate in, those activities that are summarily accepted by the majority of American citizens as unquestionable rights" (Special Report: Section 504 and The New Civil Rights Mandates, 1977, p. 21). Reynolds (1980, p. 3) reported that this statute

> . . . authorized vocational training in mainstream settings for handicapped persons, the promotion and expansion of employment opportunities for them, and the removal of all architectural and transportation barriers that impede handicapped persons.

Section 504 provided a basic source of enforcement for PL94-142.

PL94-142, Education for All Handicapped Children Act of 1975

The intent of PL94-142 was to guarantee the legal right of an equal educational opportunity for all handicapped children. Ballard and Zettel (1977, p. 178) reported, "P.L. 94-142 applies to all handicapped children who require special education and related services, ages 3-21 inclusive." Ballard and Zettel (1978) further found that, as a law, PL94-142 was unique because it did not contain an expiration date, and therefore was regarded as permanent and ongoing.

Turnbull, Strickland, and Brantly (1978) concluded that in order to provide a free appropriate public education the interdependent principles of PL94-142 must be implemented. Some of these principles were: zero reject; nondiscriminatory evaluation; individualized education programs; parental participation; due process; and least restrictive environment.

The zero reject principle prevented the rejection of any

handicapped child from educational services by requiring, on an annual basis, a systematic plan "to locate, identify, and evaluate all handicapped children who reside in the jurisdiction of each public agency" (Turnbull et al., 1978, p. 4). Before being placed in a special education program each handicapped child must receive a full and individual nondiscriminatory evaluation. PL94-142 defined evaluation as ". . . procedures used . . . to determine whether a child is handicapped and the nature and extent of the special education and related services that the child needs" (Department of Health, Education and Welfare, 1977, p. 42494).

The principle of nondiscriminatory evaluation was determined to be the initial step in preparing the individualized education program (IEP), required by PL94-142.

> The Act further emphasizes meeting the unique needs of the child and, in so doing, specifically requires the development of an individualized education program. The program is to be devised in conference with a representative of the educational agency who is qualified to provide or supervise the provision of specially designed instruction to meet the unique needs of handicapped children, the teacher, the parents or guardian, and, whenever appropriate, the child (O'Donnell, 1977, p. 25).

Each handicapped student in the regular classroom who required modification of the regular curriculum, or special education, must have an individual IEP. Special education was defined as

> . . . specially designed instruction, at no cost to the parent, to meet the unique needs of a handicapped child, including classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and institutions (Department of Health, Education and Welfare, 1977, p. 42480).

According to Turnbull et al. (1978, p. 6), "determination of whether instruction is specially designed must be made by comparing the nature of the instruction for the handicapped student to typical instructional

practices for nonhandicapped students."

Semmel, Gottlieb, and Robinson (1979, p. 223), in referring to due process and the least restrictive environment, concluded, "Educational placement for the handicapped must now be provided in accordance with due process procedures and placement must be determined in a manner consistent with the doctrine of least restrictive alternative." According to several authors (Owen, Blout, and Moscow, 1978; Hasazi, Rice, and York, 1979) implementation of the principle, least restrictive environment, will mainstream most handicapped students into regular classrooms with nonhandicapped students and where modified instruction/materials will be needed.

As a result of Section 504 and PL94-142, it was the legal responsibility of public educational agencies to provide nondiscriminatory educational opportunities for all handicapped children. In reference to these two pieces of legislation, Martin (1977, p. 5) concluded that combined

> . . . these two statutes and their implementing regulations require that by September 1, 1978, each handicapped child must be provided all services necessary to meet his/her special education and related needs.

Educable Mentally Handicapped

The educational implication of recent federal legislation was clear--regular classroom teachers would, in the future, be responsible for more rather than fewer handicapped students, requiring modified curriculum. Mentally retarded was one recognized category of handicap in PL94-142. Mental retardation has also been referred to as cognitive disadvantage. For educational purposes, "Cognitive disadvantages are related to delayed intellectual development in areas considered

important for school success" (Turnbull and Schulz, 1979, p. 3).

Classification

Of the 45.8 million children, aged six to seventeen in the United States, 12 percent were rated handicapped and approximately 2 percent were rated mentally handicapped (Latest in dealing with handicapped pupils, 1978). Educational classification of educable mentally handicapped children had usually been based upon the level of intellectual subnormality (Kirk and Gallagher, 1979).

> Most authorities would require both the lower-than-average IQ score plus significantly lower-than-average adaptive behavior. Adaptive behavior is also sometimes called 'street behavior,' indicating the manner in which the child is able to perform or function in the everyday requirements of living (Gearheart and Weishahn, 1976, p. 117).

It was generally agreed that an educable mentally handicapped child had an IQ of 50 to 70 or 75 to 80 (Mainord and Love, 1973; Gearheart and Weishahn, 1976; Kirk and Gallagher, 1979). Kirk and Gallagher (1979, p. 110) defined the educable mentally handicapped child as

> . . . one who, because of subnormal mental development, is unable to profit sufficiently from the regular program of the regular elementary school but who is considered to have potentialities for development in three areas: (1) educability in academic subjects of the school at the primary or advanced elementary grade levels, (2) educability in social adjustment to a point at which the child can get along independently in the community, and (3) occupational adequacies to such a degree that the child can later be self-supporting partially or totally at the adult level.

Characteristics

The educable mentally handicapped were found to deviate from their normal peers in characteristic ways. Gearheart and Weishahn

(1976) provided the following list of interrelated characteristics of educable mentally handicapped

1. Sensory and motor coordination handicaps
2. Low tolerance for frustration
3. Poor self-concept
4. Short attention span
5. Below average ability to generalize and conceptualize
6. Below average language ability
7. General academic retardation
8. Plan interests below those of the age peers.

Turnbull and Schulz (1979) found that the mentally retarded learned at a much slower rate than their normal classmates. The mentally handicapped child's behavior was described as being maladaptive at times because the child had learned it was impossible to succeed in acceptable ways (Rappaport, 1969). A common experience for retarded students was failure. Consequently, mentally handicapped learners "often adopt orientations toward learning that aggravate their learning difficulties and make them inordinately dependent upon others for environmental cues" (Bruininks and Warfield, 1978, p. 179).

An educable mentally handicapped student could have possessed some or all of the characteristics found in the literature. "These characteristics provide clues as to how the teacher may plan for and implement the most effective teaching-learning relationship, motivation, and climate for learning" (Halchin, 1976, p. 12). "Although the measured intelligence of all mentally retarded persons is below average there is a considerable range of developmental strengths and weaknesses among these persons" (Mahoney and Buckhalt, 1976, p. 158).

"Identifying the individual mixture of strengths and weaknesses is a key to successful instruction" (Turnbull and Schulz, 1979, p. 3).

Mainstreaming

Problems plagued the implementation of PL94-142. The two major concerns for classroom teachers in meeting PL94-142 requirements were mainstreaming and developing an individualized curriculum. The current trend toward mainstreaming developed in the 1960s with the Civil Rights movement, encouraged by sociopolitical forces and "the lack of empirical evidence for the effectiveness of special-class placements" (Semmel et al., 1979, p. 227).

Educators and social activists observed that "children were often labeled as retarded or as having learning problems" when contained in special classes (Watson, 1977, p. 35). Class placement became a legal issue as special educators viewed special classes as discriminatory groupings, as dumping grounds for racial minority, culturally deprived, or low socioeconomic-status students (Dunn, 1968). But research findings indicated that "correcting racial imbalance will require more than shifting a child from one classroom to another" (Semmel et al., 1979, p. 269). Basic to the mainstreaming movement was the premise that because handicapped students need to live and function in the mainstream of our society when they are no longer in school, it would be preferable to educate them "the least distance away from the mainstream of society, providing them with appropriate and effective educational experiences that will enable them to become self-reliant adults" (Garrison, 1978, p. 9).

"The mainstreaming philosophy presumes that regular class

placement is preferable to special class placement" even when the educable mentally handicapped student requires special help (Fletcher, 1980, p. 46). Esposito (1973, p. 177) reviewed the literature and determined that homogeneous grouping of children by intelligence inflated the self-esteem of the high ability child and reduced the self-esteem of the average and low ability child. With regard to academic achievement among homogeneous grouped students he concluded that

> . . . the extent to which the current practice of ability grouping is permitted to exist in public schools represent the extent to which professional educators and governmental agencies sanction sub-quality education in a setting that is charged with the responsibility of developing each child to his fullest. It would seem that such an expectation is reason enough to put a halt to the practice. That the practice also tends to isolate children arbitrarily according to ethnic and socio-economic status and to discourage alternative thinking and flexibility in the design of more effective learning environments, compels professionals in government and education to eliminate the practice and turn attention to developing, testing, and implementing educational systems which provide the psycho-structural foundation to support the development of more effective approaches to instruction.

Gottlieb and Budoff (1972) found that those students left in special classes had a poorer attitude toward school than did those who were mainstreamed.

Mainstreaming was intended to mean

> . . . identifying the individual physical and academic needs of handicapped students; assessing their possible readiness for integration on either a part-time or full-time basis; preparing the mainstream schools for the students' entry; and providing all the backup services required, including resource teachers and facilities (Watson, 1977, p. 10).

But Semmel et al. (1979, p. 267) found in their review of the literature that "there is little evidence that mainstreaming practices result in superior performance among handicapped children" or that

special education resulted in academic or social gains of handicapped children whether they were placed in regular or self-contained classrooms.

Grosenick (1970) observed children taken from a special education class and mainstreamed into regular classrooms. She determined that this integration of special students into regular settings did not significantly alter their social behaviors except for reduced incidence of hand raising; nor did it alter academic performance, although there was a significant improvement on their use of independent study time. Goodman, Gottlieb, and Harrison (1972) found that educable mentally handicapped children mainstreamed into regular classrooms were rejected by their peers as potential friends at a significantly higher rate than are educable mentally handicapped children contained in special classes. This, however, did not appear to adversely affect the educable mentally handicapped's attitude toward school after being mainstreamed.

Bartlett (1977, p. 26) found that when the goals of education were the development of the self-image, self-control, academic success, and independence "the most appropriate method of educating some students, regardless of cultural differences, may be the special class rather than the regular class." Bartlett further indicated that "if we are to provide adequately for the cultural and cognitive differences, new measures must be devised to adequately assess the relevant abilities, limits and potential of children" (p. 26). Semmel et al. (1979, p. 267) concluded that

> . . . mainstreaming, as reflected in the literature, merely represents instruction delivered in different physical locations within the school and is loosely defined. Until such time as the content, nature of instruction, and other process variables can be identified, it

> appears useless to designate mainstreaming as a treatment variable in research studies.

PL94-142 implied that "teachers, given the necessary technical resources and personnel assistance, can stimulate handicapped children to learn all that is set forth in the child's individual educational plan" (Lynch, 1977, p. 79). Such assumptions concerning teacher effectiveness were contrasted with research evidence which showed that variance in student's academic achievement was accounted for by the student's ability, "social class, family background, and subcultural group membership" rather than the teacher's effectiveness (Lynch, 1977, p. 80). Budoff and Gottlieb (1976) observed educable mentally retarded (EMR) students mainstreamed into a new environment in which neither the teachers nor these students' classmates knew that they were EMRs. After one year under this condition the EMRs had a higher self opinion, felt more in control, and behaved more reflectedly than the EMRs contained in special classes. These EMRs showed a high level of isolation during free play time, which indicated a stressful year for these children. The following year these students showed a mean gain of one year in reading and math scores.

> The fact that regular-classroom teachers do not appear to alter their teaching approaches when handicapped children are present, lends support to the view that to date mainstreaming is interpreted by most of the schools to mean the mere placement of children in regular class for a minimum of at least 50% of the school day with additional support from a special educator (Semmel et al., 1979, p. 269).

Individualized Curriculum

"Although some people still question mainstreaming in principle, it is a reality demanding our attention" (Flynn, Gacka, and Sundean,

1978, p. 562). Schools and teachers found themselves attempting to meet the new demands of mainstreaming without adequate knowledge or preparation necessary to adequately meet the special needs of handicapped students (Crouse, 1979).

> Handicapped children, accustomed to a great deal of individual attention, may have misgivings about their integration; and nonhandicapped children, unaccustomed to interacting with the handicapped, may have anxiety and be less than accepting (Garrison, 1978, p. 10).

Lynch (1977, p. 77) reported that teachers spend many hours with children; therefore, it was assumed that they would know the

> unique characteristics and needs of individual children. But few teachers receive systematic training in techniques for systematically recording pertinent data on children from the observational opportunities available to them.

Having inadequate backgrounds for working with handicapped students, vocational teachers turned to institutions of higher education for assistance (Hartley, 1978).

A survey of teachers and administrators revealed that the majority of teachers and administrators felt inadequately prepared to serve the needs of mainstreamed exceptional children (Flynn, Gacka, and Sundean, 1978). Another survey conducted by Eshelby (1978, p. 65) found that 50 percent of the instructional personnel in school systems of the United States indicated that they had

> less than three hours a month to develop, adopt or localize curriculum materials. Twenty-five percent indicated they had no preparation time and, overall, only 25 percent of the respondents had more than six hours per month of assigned curriculum preparation time.

Active in redesigning teacher education to agree with the principles of PL94-142, Reynolds (1980, p. 4) found a general inability of teachers to deal "with the full range of differences found among the total population of children" within the regular classrooms. Numerous

authors indicated that in order to successfully teach in the mainstreamed classroom, the home economics teacher needs to be academically and attitudinally prepared to meet the special needs of handicapped students (Hall and Paolucci, 1970; Halchin, 1976; Redick, 1978; Fletcher, 1980).

> Awareness of these needs--development of socialization skills, positive self-image, daily living activities, independence, pre-vocational, and vocational skills--can help the teacher prepare and implement curriculum that can promote success for all students in the classroom (Redick, 1979, p. 2).

Mainstreaming broadened the range in students' learning needs and skills, which "creates a major demand for curriculum that treat subject matter with fewer assumptions about prior learnings and previously acquired skills" (Reynolds, 1980, p. 9).

Griffith (1977, p. 72) reported that although excellent resources were available, many "are beyond the realm of understanding of the educable mentally retarded student."

> Modification of teaching/learning materials from those normally used in the regular class is a necessity. In teaching the handicapped youngsters, more and varied visual aids are needed. Individual projects and multilevel study materials will also enrich the learning (Garrison, 1978, p. 10).

Several authors (Hasazi and York, 1977; Turnbull et al., 1978; Reynolds, 1980) predicted that the individualized educational program (IEP), would be required for all children in the future. The IEP was the "legislative approach for insuring that educational programs are tailored on an individual basis to the needs of handicapped students" (Turnbull et al., 1978, p. 5). The key feature of the IEP was "that the style and rate of learning and strengths and weaknesses of each pupil will be recognized and respected."

In the home economics area, the IEP required the teacher with handicapped students in the classroom

> to be prepared to specify curriculum areas, determine present level of performance, list annual goals and short-term objectives, describe procedures, set time lines, and maintain a record of progress through mastery (Hasbargen and Hasbargen, 1978, p. 180).

Providing assistance in the development of IEPs, Hasbargen and Hasbargen (1978, p. 179) designed a checklist which was "used to determine preintervention level of performance, to provide an indication of what needs to be learned and to check achievement of goals." The checklist was tested in the classroom with both male and female students and was found to be successful in three areas: improvement of self-image; acquisition of new skills; and pre-vocational training.

Tindall (1978, p. 53) encouraged individualizing vocational education when he stated

> Vocational teachers at both secondary and postsecondary levels must be prepared to modify courses for all kinds of handicapped students. This means changes in instructional methods, teaching techniques, and materials.

"If vocational skills are not provided to special needs students when appropriate, our society will pay for the loss of manpower in higher unemployment, welfare and apathy" (Hartley, 1978, p. 40). Riggers (1975, p. 64) summarized the implications of mainstreamed classrooms for home economics when she stated that

> Home economics teachers have a tremendous opportunity to develop programs which make it possible for <u>all</u> students to achieve mastery of specified objectives related to living independently, if we plan carefully, measure progress and remove the time barriers for both the slow and speedy learner.

In 1974 a research project was undertaken by 47 teachers from Wisconsin who were interested in developing curriculum materials

suitable for the educable mentally retarded student mainstreamed into home economics classes. The materials were divided into five content areas: 1) child development; 2) personal development; 3) clothing and textiles; 4) consumer education; and 5) foods and nutrition. Included in these lessons were performance objectives, instructional approaches, evaluation techniques, exercises, tests, games, illustrations and handouts. This set of materials was then field tested and revisions were made based on the findings (Horn and Barsness, 1975).

Griffith (1977, p. 73) described another effort to adapt curriculum for educable mentally handicapped students, writing,

> In Georgia a group of home economics teachers developed a guide for teaching home economics to EMR students. This guide is to assist Vocational Home Economics teachers adequately to incorporate the EMR student into their classrooms. It includes areas of (1) Family and Child Development, (2) Housing and Management, (3) Clothing and Textiles, and (4) Foods and Nutrition. It is an adaption of the first of three levels included in four area guides developed in Georgia in 1974-75. This system offers teachers the opportunity to use similar learning experiences at very low cognitive levels for the EMR students. The same objectives were used but experiences, resources, and evaluation were adapted to the slow learner.

Problems occurred when the EMR student entered the regular classroom. His poor retention, restricted reading and listening comprehension, limited vocabulary, need for immediate gratification and a dislike for school made curriculum adaptations necessary (Griffith, 1977).

Effects of Media

Geller and Laybourne (1978, p. 7) showed the level of impact that media had on children prior to the beginning of their formal education.

> Most five-year-olds come to school in September with well over 1500 hours of television watching. The latest

> census reports indicate the television set is on for 6.2 hours a day in the average American home. On Saturday morning the kids see a commercial on the average of every 2.8 minutes. In the early grades the average student watches the tube for more than 25 hours a week. The statistics run even higher for children of the poor.

There must have been high interest in this audiovisual media form to induce such a large following. These authors believed that it would be in the teachers' best interest to use this media form as an instructional device in order to utilize the high level of motivation and the increased attention span that was attributed to it.

Thomas Edison, the inventor who made motion pictures a reality, said

> In short our system of education is leaving a good deal of its work to an untrained imagination. . . . Develop the imagination by all means, but develop it from actualities. . . . We must substitute for mental pictures of how the world might look and act physical pictures of how it really does look and act. . . . And so we get back to the big hope I had in the beginning for the motion picture camera (Weir, 1925a, p. 14).

Later Edison showed disappointment in the use of movies when he told Weir (1925b, pp. 20-21)

> It may seem curious, but the money end of the movies never hit me the hardest. The feature that did appeal to me about the whole thing was the educational possibilities . . . when the educators failed to respond, I lost interest . . . maybe I'm wrong, but I should say that in ten years textbooks as the principal medium of teaching will be as obsolete as the horses and carriages are now. . . . Visual education--the imparting of exact information through the motion picture camera--will be a matter of course in all our schools.

Hoban and Van Ormer (1950) surveyed thirty years of research on instructional media and concluded that for the most effective learning

1. The learner saw the presentation from a realistic camera angle, one that allowed the viewer to see the action as he would if he were there

2. The material was presented slow enough to allow comprehension
3. The indepthness of the material was critical. If too much or too little was covered the effectiveness was diminished
4. The showing of common errors enhanced the development of psychomotor skills
5. Personal pronouns were directed toward the viewing audience.

They also found that music, special effects, optical effects, color and dramatic sequences did not further enhance learning. It was further determined that still shots like slide presentations and film strips were equally as effective and less expensive than motion pictures.

Travers (1970) concurred with these findings on color and special effects and also determined that over simplification could have adverse effects on learning and retention. New findings were also uncovered that indicated

1. Printed titles on film presentations increased recall performances
2. Readability formulas were used to produce the appropriate level of audio commentary. The appropriateness was based on the target audience
3. The intellectual level of the targeted audience and the depth of the material presented was taken into account to determine the appropriate speed of the narration
4. Frequent stopping of films and allowing the audience to practice overtly increased the performance level and retention especially if immediate feedback on correctness of responses was offered.

Smith and Nagel (1972) while reviewing fifty years of research on instructional media determined that media benefitted the learner by increasing motivation, retention and vocabulary development, and at the same time reducing instructional time requirements. The media approach provided a variety of concrete experiences that might not be realized by traditional verbal presentations. Projected materials were especially good at increasing motivation because of the Hawthorne effect of magnification on a lighted screen in a darkened room.

The use of special identifying marks as arrows of Xs made the intended message of a still picture more apparent (Brown, Lewis and Harcleroad, 1977). Spaulding (1955) found that still pictures should not be colored unless the colors are realistic. He also noted that if a single color only was added to a black and white picture the teaching value was diminished.

In areas where motor skills were to be learned it was imperative that visual aids and models were utilized. Many basic concepts were poorly grasped when the student had not had the opportunity to observe and/or manipulate objects relating to the task. This was especially true in cases of slow learners. In this situation the slow learner might memorize a sentence but it had no meaning to him. He merely had chained words but still did not understand the concept. The use of a picture, however, was less likely to lead the learner astray. The picture was a real situation that he could relate to and grasp (Gagne, 1969).

Increasing the complexity of media was found to benefit the high ability students. It permitted them to utilize their information processing abilities but at the same time it handicapped the low

achiever by clouding the issue. The ideal media for the slow student was one that did what they could not do for themselves and that was to organize the material (Snow, 1977).

Media needed to be matched to the task. This was the reason why commercially produced materials were not generally suitable. They were too broad because the publishers were trying to appeal to a large market area (Kemp, 1968).

Haney and Ullmer (1975) showed how media can be utilized to affect the relationships among peers. Individualized media packages allowed learners to progress at their own rates. The quick learners were no longer held back by their classmates. The slow learners were no longer put down, embarrassed or hindered by destructive competition. Individualized media packages took into consideration differences in interests, learning styles and content.

Kemp (1968) stated a position on media that seemed to reflect the consensus of opinion among media specialists. "Media are <u>not</u> supplementary to or in support of instruction, but are the instructional input itself" (p. 7).

CHAPTER III

DEVELOPMENT AND USE OF TEACHING MATERIALS

Introduction

The general purpose of this study was to develop teaching materials designed especially for educable mentally handicapped students to supplement a selected vocational home economics unit. A second purpose was to test the materials. This testing indicated if teaching materials designed especially for educable mentally handicapped students were of value to teachers of mainstreamed classes. The objectives of this research were:

1. To develop selected teaching materials adapted for educable mentally handicapped students to supplement a unit of study in vocational home economics programs at the secondary school level.
2. To test the usability of the teaching materials for the handicapped student who completes a unit of study which has been adapted for educable mentally handicapped students.
3. To make recommendations based upon the results of this study for teacher education in the area of development of specially designed supplementary teaching materials for secondary vocational home economics teachers.

As shown in Chapters I and II, public education systems were being challenged to protect the educational rights of handicapped students,

who needed materials and services designed especially for them. This chapter examines the teaching materials development, type of research design, sample plan, use of the teaching materials, and some observations made while the teaching materials were being used.

Teaching Materials Development

Prior to developing teaching materials suitable for the mainstreamed educable mentally handicapped high school home economics student a comprehensive review of literature was made. Personnel at the Payne County Sheltered Workshop and the Indian Meridian Vocational Technical School were asked what areas of instruction they felt were not only the most important for their students but also the most difficult to teach. From these inquiries it was ascertained that first aid and personal safety skills were areas of great concern. Medical aid-self-help was being taught to the clients of the Sheltered Workshop but not on any regular or structured basis. First aid skills were taught to the vocational home economics students at Indian Meridian in the Child Care Worker Unit of the Home Economics I, Basic Core. In order to develop teaching materials that would meet personal safety needs as well as child care worker skills the American National Red Cross Standard First Aid and Personal Safety Instructor's Manual was used to supplement material found in Home Economics I, Basic Core.

Teaching materials were developed specifically suited to the mainstreamed student (see Appendixes A, B, E, and F). The teaching materials consisted of the following: simplified large print script entitled First Aid for the Child Care Worker: Recognizing and Taking Care of Burns, teaching tapes, 35mm slides, a realia kit and a test.

The total cost of the teaching materials was $28.04. The largest part of the cost of the teaching materials involved buying the film and having slides developed, which was $18.61. The teaching tape was $5.90 and each large print script in a folder cost $1.84. The realia kits were stationery boxes covered and decorated with construction paper. Each kit consisted of home made items totaling $.79 (piece of blue felt labeled "WATER," roll of 3 inch wide "gauze," jar labeled "OIL," paraffin ice cubes, and picture of a telephone), and purchased items (2 inch by 3 inch gauze pad, washcloth, and bar of soap) at a cost of $.90. The total cost of one realia kit was $1.69. (See Appendix B.) Approximately 84 hours were used in developing the teaching materials: 53 hours researching and writing the unit; seven hours taking pictures for slides; and 24 hours making mock-ups, covering boxes, making bandages and ice cubes, and lettering.

The script was read for content by Bridges, Chairman of the Health Department of Oklahoma State University, and White, a First Aid Instructor Trainer and Chairman of Oklahoma Payne County Chapter of the American Red Cross. This reading determined that the teaching materials were procedurally correct and complete according to American Red Cross Standards.

Land, assistant professor in the Department of Applied Behavioral Studies at Oklahoma State University, read the script in order to determine if the appropriate level of readability was achieved. Since most educable mentally handicapped high school students have from second to fifth grade reading comprehension levels (Kirk and Gallagher, 1979) the FOG Index, as described by Phelps and Lutz (1977) was used to determine when the script reached the desired third grade reading

comprehension level. Land also listened to the audio tape that followed the script. She determined that the rate of delivery was too slow so a second tape was made and reviewed by Land.

Home Economics I, Basic Core provided a test that can be used to evaluate students' knowledge of the material covered. The test provided for use with the preselected unit was modified and used as the instrument to determine entry level and exit level performances. The test was reworded so the students could understand and questions were added to cover steps which were included in the teaching materials to clarify first aid and safety procedures.

The teaching materials were then submitted to Shelby, Director of the Sheltered Workshop for Payne County Incorporated, and Pruitt, home economics teacher for Indian Meridian Area Vocational Technical School, to determine if the materials met their educational objectives. Shelby (1980) suggested that all references to child care worker be deleted when the teaching materials were field tested at her facility. Her reasoning was that her clients were incapable of holding the position of a child care worker and she did not want them to gain false impressions about their own abilities.

A letter was sent to the superintendent of Indian Meridian Area Vocational Technical School, asking permission to work with the two home, business and industrial services classes at the school. (See Appendix C.) Verbal authorization was granted and it was further agreed that if the field test indicated weaknesses all revisions would be brought to the teacher's attention.

The teaching materials were presented to eight Sheltered Workshop clients for pretesting. On the first day the pretest (Appendix D) was

given orally to each client. Their responses were tape recorded and played back by the researcher alone at a convenient later time. The clients were then given their own personalized large script manual (Appendix A) and a realia kit. For the duration of the ten hour unit the workshop clients watched the slide presentation (Appendix E), followed the script while listening to the audio tape and when instructed, they sorted articles in their realia kits or practiced bandaging techniques.

After the tenth hour of the modified instructional unit the clients were orally re-tested immediately. Again the clients were individually given the same oral exam administered on the first day and were also asked to demonstrate their bandaging skills. It was determined that the only area where great difficulty was encountered was on the ankle wrapping task.

These results of the pretest were given to the home economics teacher at Indian Meridian Area Vocational Technical School. Due to her observations of Sheltered Workshop clients, it was her opinion that her students were more capable than those in the Sheltered Workshop. The unit was presented without further modification.

Type of Research Design

The type of research design selected for use in this research study was quasiexperimental. According to Best (1977, p. 104) quasi-experimental designs "provide control of when and to whom the measurement is applied but, because random assignment to experimental and control treatments has not been applied, the equivalence of the groups is unlikely."

The researcher desired to develop teaching materials designed for educable mentally handicapped students and to test these materials for their usability for teachers of secondary school educable mentally handicapped students. The knowledge gained by Group I, the experimental group, when using a specially modified unit from the Home Economics I, Basic Core was compared to the knowledge gained by Group II, the control group, when using a regular classroom presentation over the same materials.

In order to determine the relative efficacies of a modified method of teaching, the researcher found the nonequivalent, pretest-posttest design to be most applicable. Best (1977, p. 104) stated, "This design is often used in classroom experiments when experimental and control groups are such naturally assembled groups as intact classes which may be similar." The design was diagramed as follows:

$$\begin{array}{ccc} O_1 & X & O_2 \\ - & - & - \\ O_3 & & O_4 \end{array}$$

where

1. The treatment given to Group I was indicated by the symbol X. The treatment was part of a unit of the Home Economics I, Basic Core previously modified especially for the educable mentally handicapped student by incorporating large print script, 35mm slides, and audio tape.

2. Group II received regular classroom techniques over the same unit in the Home Economics I, Basic Core.

3. The pretest score of Group I was indicated by the symbol O_1, and the posttest score was indicated by the symbol O_2.

4. The pretest score of Group II was indicated by the symbol O_3, and the posttest score was indicated by the symbol O_4.

At the conclusion of the experimental period the posttest was administered to each individual in both Group I and Group II. The learning score, or gain score, for the Group I was determined by O_2 minus O_1, while the learning score for Group II was equal to O_4 minus O_3.

Selection of the Sample

Indian Meridian Area Vocational Technical School was selected as the site for testing the usability of the teaching materials because it met the following criteria:

1. The school offered vocational home economics;
2. The home economics program utilized the Home Economics I, Basic Core;
3. The home economics program offered two different sections of the same course daily to high school home economics students;
4. Educable mentally handicapped students were mainstreamed into each of the two sections; and
5. The same teacher was responsible for both sections.

The criteria used to identify students for the sample was based upon the commonly accepted definition of educable mentally handicapped, which was considered to be those who score less than two standard deviations below the mean on tests that measure intelligence quotients (Meyen, 1978). A 69 to 55 IQ range on the Wechsler Scale met this criteria.

Due to the confidentiality procedures required in the

implementation of PL94-142 in the state of Oklahoma

> . . . the release of student information will adhere to the following guidelines:
> 1. The following types of information may be released WITHOUT written parent permission. Parents will be sent a written notice that the records have been released and to whom:
>   a. Basic Identifying Information
>   (1) Name and sex
>   (2) Birthdate and birth place
>   (3) Home address and telephone number
>   (4) Parent or guardian name, address and telephone number
>   (5) Names and dates of school attendance, location, and principal's name
>   (6) Current health information, e.g., allergies, diseases, immunizations
> 2. Information that REQUIRES written parent permission before release, includes:
>   a. Individual Evaluations
>   (1) All specialized records of professionals who have screened, assessed and/or evaluated the students, i.e., psychologist, psychometrist, social worker, diagnostician, physician's medical assessment, or any individual evaluation as it pertains to placement in a school program
>   (2) Specialized reports from outside agencies or specialists, i.e., private schools, social service agencies, vocational rehabilitation, hospitals
>   b. Anecdotal Records
>   c. Test Results, Prescriptive Learning Plans, and Eligibility Information from a Regional Education Service Center to a school district other than the school district where the child was evaluated.
>
> All confidential records for handicapped students will be kept in a separate folder and not in the child's regular school cumulative folder. These records will be kept secure in a locked area. The school will select one person in the school district (or in individual schools) to be responsible for these records (Oklahoma State Department of Education, 1981, p. 15).

These confidentiality procedures contributed to the erroneous identification of four subjects enrolled in the home economics classes. Prior to the beginning of this study ten students were reportedly considered mentally handicapped by the home economics instructor at

Indian Meridian. This assumption was based upon observation and the only standardized scores available to the home economics instructor at Indian Meridian administrative personnel. These scores were reading comprehension scores that indicated a level of comprehension fifth grade or below for all ten girls.

During the final week of the instructional unit presentation two of the original ten subjects dropped out of school. One of these two subjects married and dropped out of school and the other subject moved out of state.

A superintendent of schools interceded on behalf of this researcher and called the superintendents of the schools attended by the subjects in order to determine intelligence quotients. It was at this point that four of the remaining eight subjects were found to have IQ's ranging from 72 to 85, and therefore were not classified as mentally handicapped. They were classified as having learning disabilities, and consequently they were no longer suitable subjects for this study.

Although this reduced the original sample size of ten educable mentally handicapped students in a total enrollment of 21 down to only 5 of 19, this still exceeds the normal percentage expected in a mainstreamed class. PL94-142 and PL93-380 states that removal of handicapped children from the regular educational environment should occur only when the handicap is so severe that education in the regular classes with the use of supplementary aids and services cannot be achieved satisfactorily (Meyen, 1978).

The percentage of mentally handicapped school aged children reported receiving special education and related services in the state

of Oklahoma in 1975 was 1.8 percent, which was slightly below the national average of 2.3 percent (Meyen, 1978).

The two vocational home economics instructors at Stillwater High School for the 1981-82 school year reported that five students from their combined total enrollment of 208 students were identified as educable mentally handicapped (Cullens, 1981 and Chappell, 1981). An interview with the special education instructor who wrote the instructional educational programs for all educable mentally handicapped students at Stillwater High School checked the schedules of all her students and determined that there were only two educable mentally handicapped students in the total home economics enrollment, and only one of those students was correctly identified by the home economics instructors (Washington, 1981). This means that the instructors incorrectly identified five of six persons as being educable mentally handicapped. The total percent of these instructors' enrollment that was educable mentally handicapped was .96, which was approximately one half the percentage of educable mentally handicapped students anticipated based upon the state average.

On the basis of the projected incidence of educable mentally handicapped students in the two classes available to this researcher the afternoon class was selected to be Group I because it was thought that six of the ten students believed to be educable mentally handicapped students were in this section. This would have allowed for a larger sample size. From these six it was later determined that only four were educable mentally handicapped, and one of those moved out of state during the second week of instruction.

Group I consisted of three educable mentally handicapped girls

mainstreamed into the home, business and industrial services afternoon class, which included six regular high school girls. Two of the girls in Group I were high school juniors and the other girl was classified as a senior. Their average age was seventeen years and five months at the time of testing. Their IQ range was from 65 to 68 with a mean IQ of 67, and their ability range was from 2.0 to 4.8 with a mean of 3.0. (See Table I.)

TABLE I

DESCRIPTIVE DATA OF SUBJECTS

Group	Student	Age	Class	IQ	Reading
Group I	1	17 - 1	Jr.	68	2.2
N = 3	2	17 - 0	Jr.	68	4.8
	3	18 - 3	Sr.	65	2.0
Group II	4	16 - 10	Jr.	66	3.0
N = 2	5	16 - 10	Jr.	68	3.2

Group II consisted of two high school junior girls, both of whom were sixteen years and ten months old at the time of testing. Their IQ scores were 66 and 68 with a mean score of 67. Their reading comprehension scores were 3.0 and 3.2 with a mean score of 3.1.

Use of the Teaching Materials

Prior to the first hour of instruction the researcher administered

the pretest orally to each of the three students in Group I. Each student took the exam separately in order that the testing results would not be biased by one subject learning responses from the replies of the other subjects. Their responses were recorded on audio tapes and played back by the researcher at a convenient time in order to correctly score each student's test. The instructional time for this unit, which was presented to the combined group of experimental subjects, was five-two hour blocks because the classes were scheduled that way at the Indian Meridian School.

The realia kits and the large print scripts were given to each student in Group I along with a brief introduction of the task. Simultaneously, the student watched a slide presentation, read the script and listened to the teaching tape for the purpose of reinforcing and aiding the educable mentally handicapped student's reading comprehension. Throughout the recording the student was requested to perform a psychomotor task for the researcher using the materials from the realia package. At the end of each psychomotor task the student was instructed to turn off the recorder and demonstrate the task to the researcher or teacher aid, whichever was available, prior to continuing the instructional recording.

Since there were no caramates or head sets available Group I was seated at the back of the classroom facing the opposite direction in order to view the slides that were projected on the screen placed at the back wall. This allowed the researcher to observe both the educable mentally handicapped students and their classmates simultaneously. The researcher was then free to cover the same material but with greater depth to the more capable students in the class

using the traditional lecture/demonstration method.

Upon the completion of the ten-hour unit the posttest was administered in the same manner as the pretest. The taped responses of the students' pretests and posttests were played back by the researcher at a convenient time in order to determine each student's knowledge of burns. Using the answer tally sheet (Appendix F) the researcher indicated each correct response with a check mark (✓). These marks were then tallied and recorded as the raw scores. The highest possible score for the pretest and posttest was 141 points. There were 38 questions asked that required 130 responses, and the subject had to perform four bandaging procedures that had a combined total of 11 steps. One point was awarded for each correct response and each correct bandaging step.

In Table II the pretest and posttest scores are presented. Group I showed gain scores from a low of 75 to a high of 96 points, while the posttest scores in Group II showed gain scores from a low of 44 to a high of 58 points. These gain scores are considered the subjects' learning scores. Graphic representations of these learning scores are presented in Figure 1.

Observations

During the field testing at the Payne County Sheltered Workshop and the testing at the Indian Meridian Vocational Technical School, the following observations were made concerning the usability of the specially designed teaching materials:

1. During the field testing students at the Sheltered Workshop asked to see the slides again immediately after completing

each section of the instructional unit. Their instructors commented that their attention span for these one hour instructional blocks were unusually long and their enthusiasm lasted well into the day.

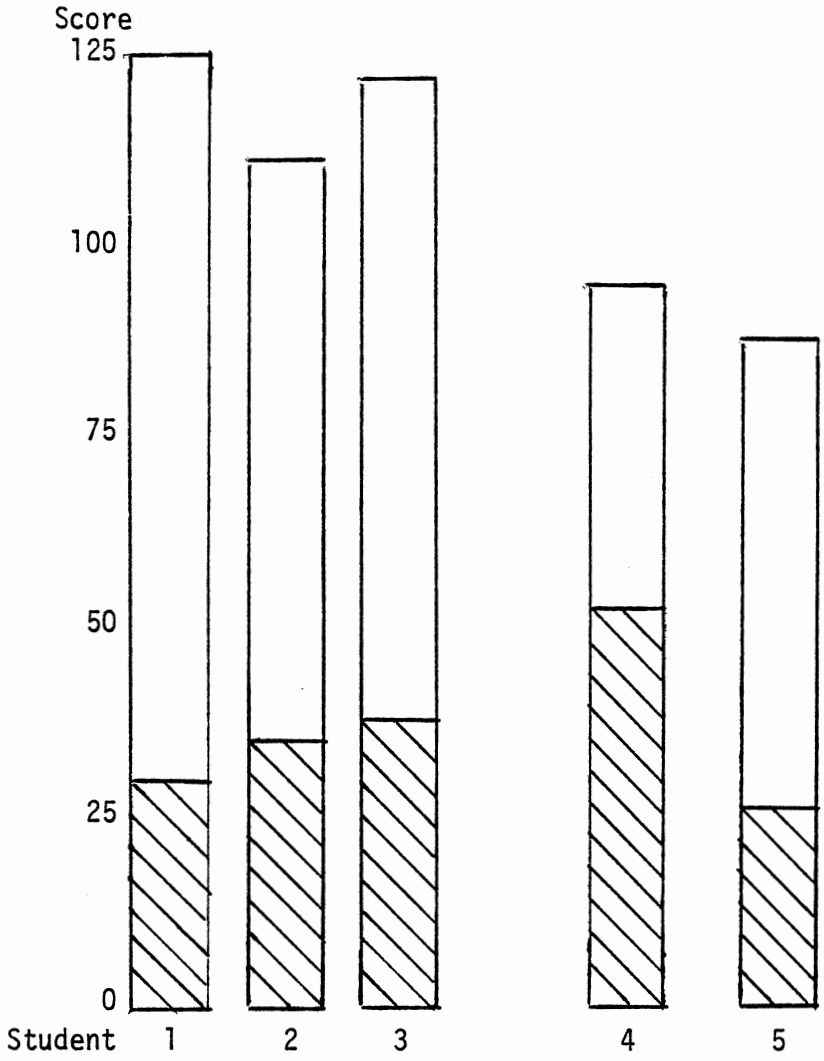
TABLE II

CORRECT SCORES FOR GROUP I AND GROUP II ON FIRST AID FOR THE CHILD CARE WORKER PRETEST AND POSTTEST

Group	Student	Pretest Score[a]	Posttest Score[a]	Gain Score
Group I	1	29	125	96
N = 3	2	34	109	75
	3	36	122	86
Group II	4	52	96	44
N = 2	5	26	84	58

[a]Highest possible score: 141

2. Students at the Sheltered Workshop and at Indian Meridian took a great deal of pride in their wrappings of mock burns of the hand, arm, elbow and leg. Some attempted to teach their newly acquired skills to their peers who were learning less rapidly. Those verbalizations and demonstrations were reinforcing their own learning as well as aiding their peers through increased presentation repetitions. It was reported by some of the students and their parents that some students



Code:
Striped = Pretest score
Total Bar = Posttest score
White = Gain score

Figure 1. Magnitude of Learning Scores

tore up old sheets at home to make bandages and practiced their wrappings on relatives and friends.

3. Students from Group II and those classmates of Group I subjects reported hearing favorable reports from Group I and expressed a desire to use the modified teaching materials.
4. Tapes were backed up and replayed for the wrapping exercise of mock burns of the hand, arm, elbow and leg a minimum of two times, once for each partner as she performed her wrap. It was noted by the researcher that on several occasions a student would back up a portion of the tape in order to better understand the instruction.
5. The students received immediate feedback and praise from the instructor when they performed their motor tasks of sorting first aid objects in the realia kit and bandaged mock burns. Any mistakes were corrected immediately before the students had time to learn a task incorrectly.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The general purpose of this study was to develop teaching materials designed especially for educable mentally handicapped students to supplement a selected vocational home economics unit. A second purpose was to test the materials. This testing indicated if teaching materials designed especially for educable mentally handicapped students were of value to teachers of mainstreamed classes. The objectives of this research were:

1. To develop selected teaching materials adapted for educable mentally handicapped students to supplement a unit of study in vocational home economics programs at the secondary school level.
2. To test the usability of the teaching materials for the handicapped student who completes a unit of study which has been adapted for educable mentally handicapped students.
3. To make recommendations based upon the results of this study for teacher education in the area of development of specially designed supplementary teaching materials for secondary vocational home economics teachers.

The sample for this study consisted of five girls classified as high school juniors and seniors enrolled at Indian Meridian Area

Vocational Technical School. Their cumulative records showed that they were educable mentally handicapped with reading comprehension levels below fifth grade. Group I consisted of three girls mainstreamed into the afternoon section of a home, business and industrial services class. Two girls who were mainstreamed into the morning section of the same home economics course constituted Group II.

Group I participated in a ten hour modified unit on first aid for the child care worker that utilized the following teaching materials: simplified large print script, teaching tapes, 35mm slides, and realia kits, while the control group covered the same subject material in the more traditional lecture method. (See Appendixes A, B, E, and F.) Pretests and posttests were administered to both the experimental group and the control group. The difference between each student's pretest and posttest raw scores was determined to be her learning score.

Conclusions

This study appeared to substantiate the findings in the review of literature. That is, that teaching materials designed for educable mentally handicapped students can have a positive effect on learning and retention for these students.

A variable that was not measured but became apparent during the use of the teaching materials was the enthusiasm that was generated when the slides were viewed. All of the students in the morning and afternoon classes were enthusiastic about studying first aid, but an elevated level of excitement in Group I was evident to this researcher, and on several occasions the subjects from Group I elected to view a

slide series more than one time. It was hoped that this would happen since motivation and repetition are necessary for increased retention for, not only the educable mentally handicapped, but also the regular student. This motivation and enthusiasm was reported to continue well into the day.

The students' self-esteem was elevated as a result of their newly learned skills. It was observed by the researcher that those who learned quickly attempted to teach their new skills to their peers. These verbalizations and demonstrations served as reinforcers to the peer teacher as well as to their classmates.

The researcher's conclusions substantiate the findings included in the review of literature, that specialized teaching materials enhance the learning for the educable mentally handicapped student. Large print script, audio tapes, 35mm slides and realia materials were found to stimulate interest and motivate educable mentally handicapped students to learn new information and acquire new skills.

Recommendations

On the basis of the findings in this study, the writer makes the following recommendations:

1. Home economics teachers should make a concentrated effort to explore teaching materials designed especially for educable mentally handicapped students already available, since the development of teaching materials is extremely time consuming.
2. It is recommended that teachers share teaching materials that they have developed.

3. Home economics teachers should develop audio tapes to follow and reinforce reading materials for educable mentally handicapped students who are mainstreamed into regular classrooms.
4. When possible, home economics teachers should obtain locally produced slides that feature familiar surroundings and/or persons to stimulate the students' interest.
5. Realia kits need to be developed in order to allow the educable mentally handicapped student to visualize and/or manipulate in the most realistic means possible.
6. It is recommended that more in-depth scripts and tapes be developed for regular students to complement the same slide presentation series.
7. This selected unit of instruction should be expanded to cover poisons, seizures, broken bones, lacerations, heart attacks, artificial respiration and other related medical aid skills.
8. It is recommended that future studies pertaining to mainstreamed students be approached as case studies, since mainstreaming usually limits the number of subjects available. Small sample sizes that are consistent with the mainstreaming approach are not conducive to an experimental design.

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APPENDICES

APPENDIX A

LARGE PRINT, LOW READING LEVEL MANUAL FOR THE EDUCABLE MENTALLY HANDICAPPED STUDENT

FIRST AID

FOR THE CHILD CARE WORKER

Recognizing and Taking Care of Burns

Minor Burns

After finishing this lesson, the student should be able to:

1. Name 3 ways a child might get a minor burn.
2. Tell 4 ways you can know it is a minor burn.
3. Tell what should be done if a child gets a minor burn.
4. Tell what should not be done if a child gets a minor burn.
5. Show the correct way to wrap a minor burn.

Turn on the projector

(Slide 1) You are going to learn what to do if you are with a child who gets burned. What you do to a burn is important. If you do the wrong thing the burn could get worse. If you do not do anything the burn could get worse.

(Slide 2) Minor burns are not very bad. They heal pretty fast. Staying in the sun too long can cause a minor burn.

(Slide 3) A minor burn can be caused by the splashing of hot liquids, like water or oil.

(SLIDE 4) FIRE MAY FLASH FROM A GAS HEATER OR AN OUTDOOR COOKER WHEN SOMEONE TRIES TO LIGHT IT. IF A CHILD IS TOO CLOSE, THAT CHILD MIGHT GET A MINOR BURN.

(SLIDE 5) YOU CAN TELL IF IT IS A MINOR BURN IF:

1) THE SKIN IS RED;
2) THERE ARE BLISTERS;
3) THE SPOT SWELLS UP;
4) THE SKIN LOOKS WET.

(SLIDE 6) TO TAKE CARE OF A MINOR BURN, SOAK THE HURT SPOT IN COLD RUNNING WATER UNTIL THE PAIN STOPS.

(SLIDE 7) DO NOT PUT ICE ON A MINOR BURN -- IT IS TOO COLD.

(SLIDE 8) DO NOT BREAK THE BLISTERS. DO NOT PUT BUTTER, OIL OR MEDICINE ON THE MINOR BURN.

(SLIDE 9) COVER THE BURN WITH A CLEAN GAUZE PAD,

(SLIDE 10) AND WRAP WITH CLEAN GAUZE.

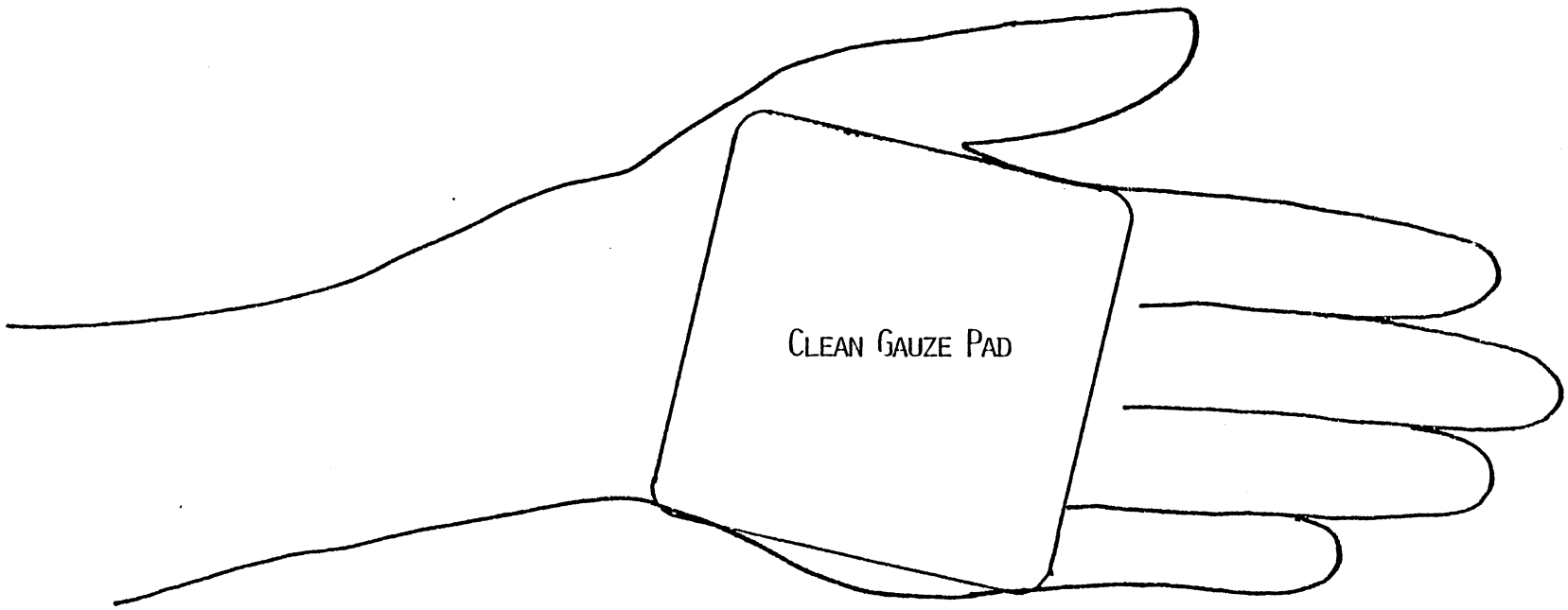
(SLIDE 11) HOLD THE BURNED SPOT HIGHER THAN THE CHILD'S HEART.

TURN OFF THE PROJECTOR. YOU SEE A FIRST AID BOX. OPEN THE FIRST AID BOX. EMPTY THE BOX ONTO THE TABLE. LAY THE BOX AND THE BOX LID ON THE TABLE. THE BOX LID IS MARKED ON THE INSIDE WITH A BLACK "X".

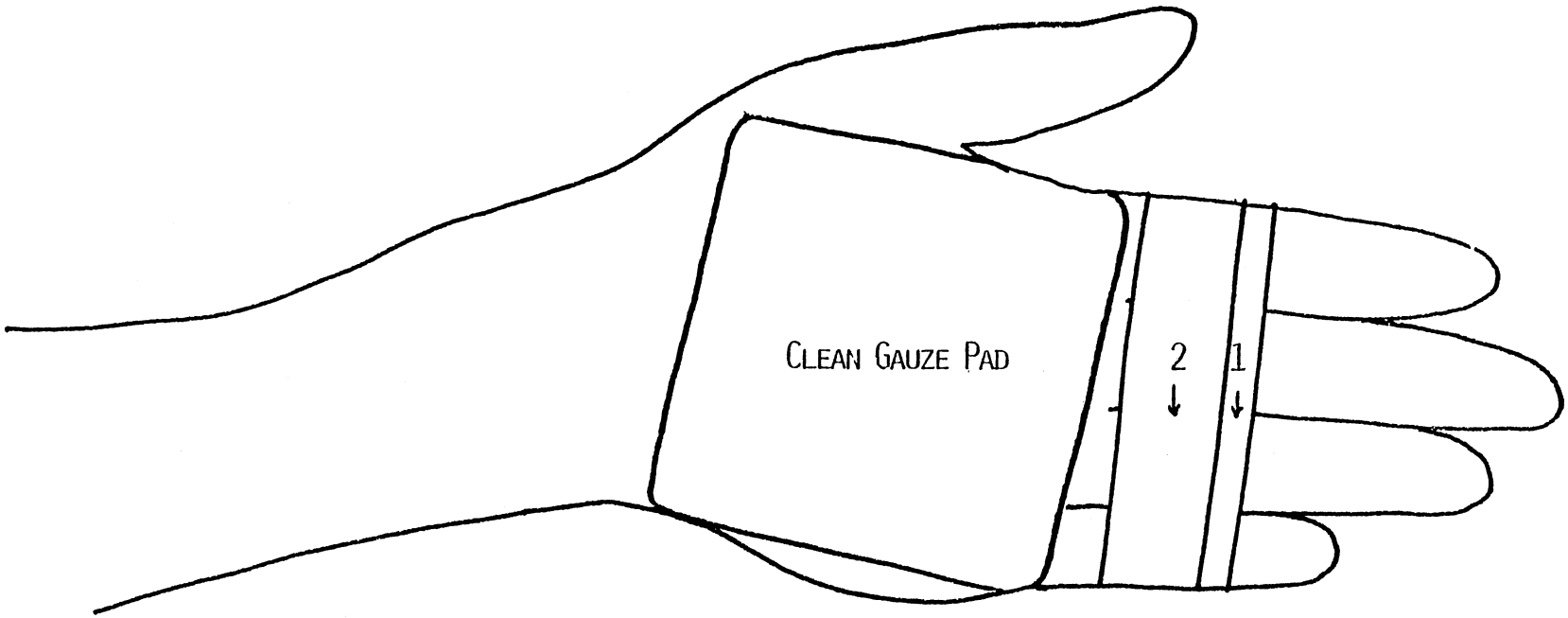
PUT THE THINGS THAT YOU DO NOT USE FOR A MINOR BURN IN THE LID. STOP THE RECORDER.

PUT THE THINGS YOU WOULD USE FOR A MINOR BURN IN THE BOX MARKED "YES". SHOW THE TEACHER YOUR WORK. STOP THE RECORDER.

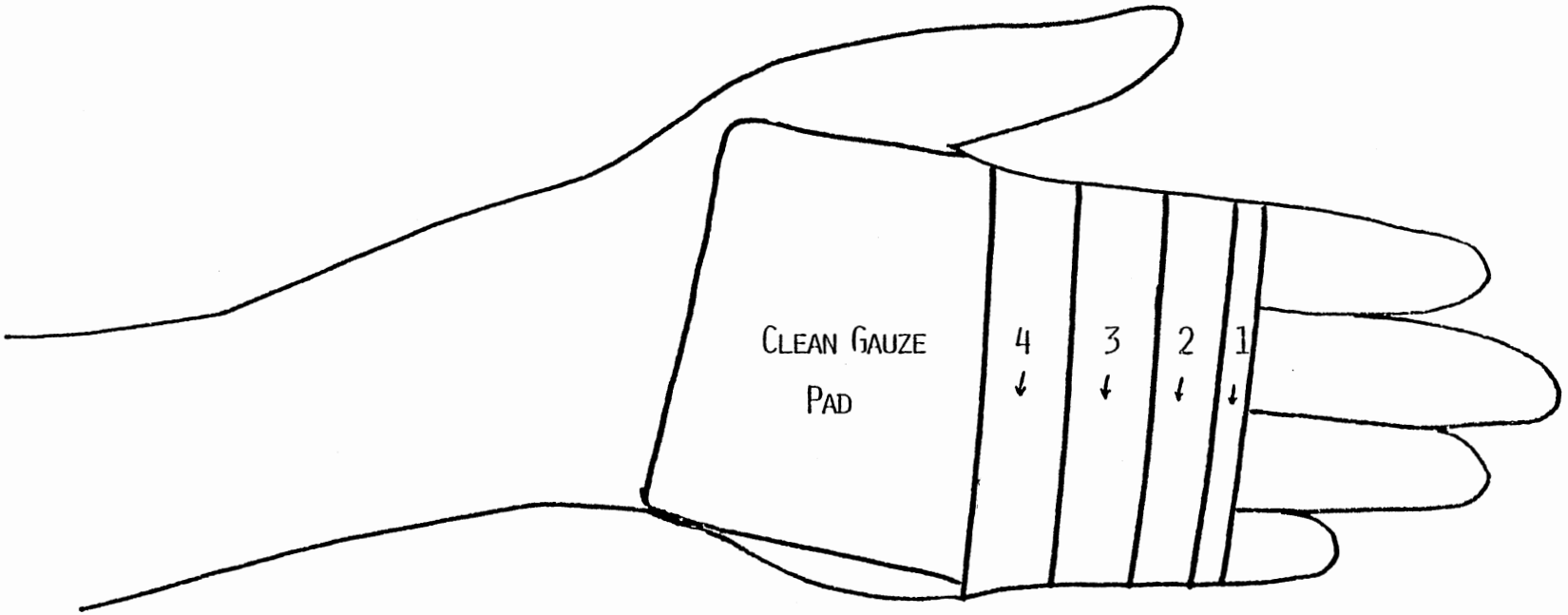
YOU SAW A GAUZE PAD AND CLEAN GAUZE ON THE SLIDES. GET THE GAUZE PAD AND THE CLEAN GAUZE IN THE FIRST AID BOX. FIND A PARTNER. BOTH OF YOU WILL WRAP A HAND SO DECIDE WHO WILL GO FIRST. PLAY LIKE YOUR FRIEND HAS A MINOR BURN ON ONE HAND.



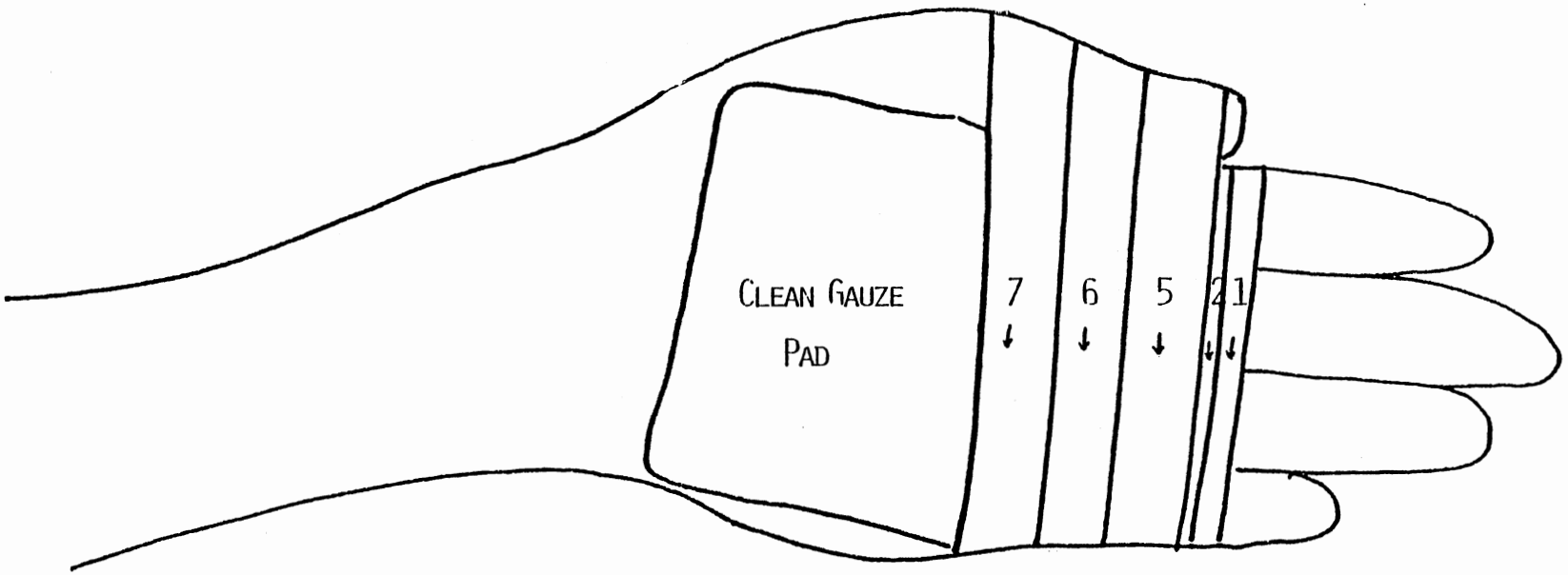
COVER THE BURN WITH A CLEAN GAUZE PAD.



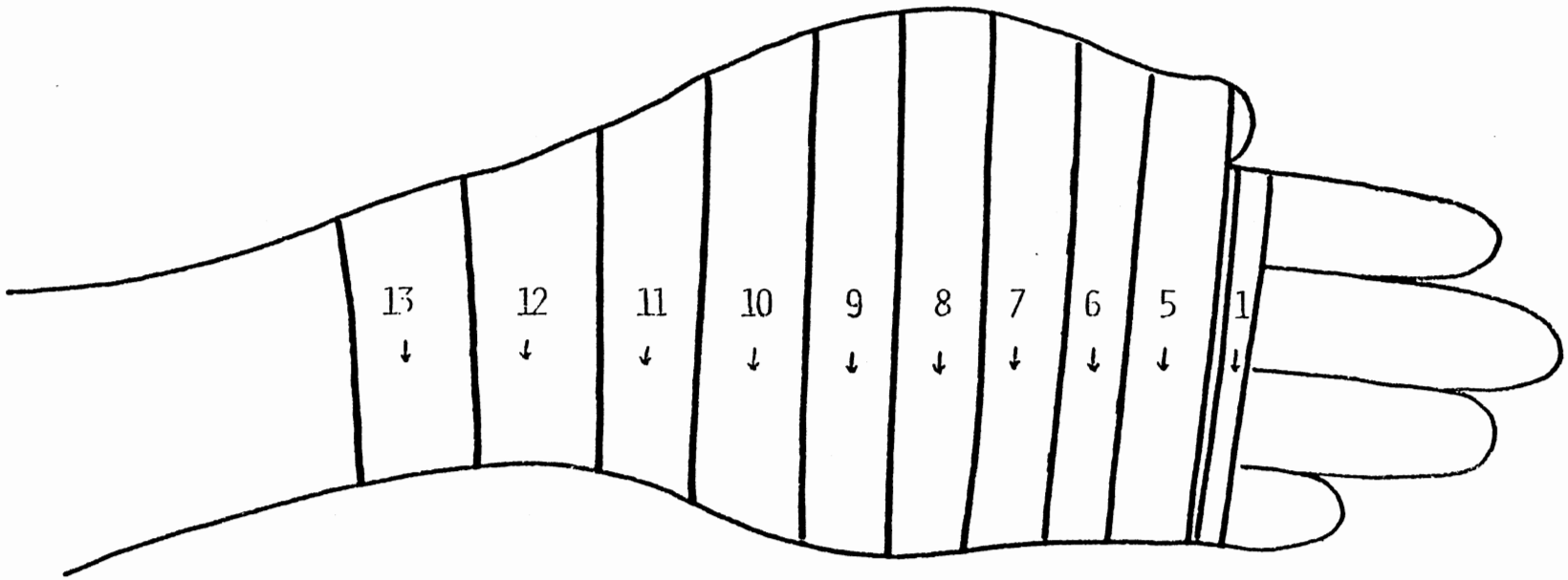
WRAP THE CLEAN GAUZE AROUND THE FINGERS (LOOK AT NUMBERS 1 AND 2).



WRAP THE FINGERS TWO MORE TIMES (LOOK AT NUMBERS 3 AND 4).



CLOSE THE THUMB NEXT TO THE FINGERS AND WRAP 5, 6, AND 7 ALL THE WAY AROUND THE FINGERS AND THE THUMB.



KEEP WRAPPING THE GAUZE UNTIL YOU HAVE WRAPPED THE GAUZE AROUND THE WRIST A FEW TIMES (LOOK AT NUMBERS 8 - 13). USE A PIECE OF TAPE TO HOLD THE LAST LOOP DOWN. ALL DONE.

NOW SHOW THE TEACHER THE WRAPPED HAND. IF SHE SAYS IT IS OK THEN TAKE THE WRAP OFF. CAREFULLY ROLL IT BACK UP. THEN IT IS YOUR PARTNER'S TURN TO WRAP UP A BURNED HAND. STOP THE RECORDER.

AFTER YOUR TEACHER HAS CHECKED THE WORK OF BOTH YOU AND YOUR PARTNER YOU ARE READY FOR THE SECOND LESSON.

MAJOR BURNS

AFTER FINISHING THIS LESSON, THE STUDENT SHOULD BE ABLE TO:

1. NAME 4 WAYS A CHILD MIGHT GET A MAJOR BURN.
2. TELL 2 WAYS YOU CAN KNOW IT IS A MAJOR BURN.
3. TELL WHAT SHOULD BE DONE IF A CHILD GETS A MAJOR BURN.
4. TELL WHAT SHOULD NOT BE DONE IF A CHILD GETS A MAJOR BURN.
5. SHOW THE CORRECT WAY TO WRAP A MAJOR BURN.

TURN ON THE PROJECTOR

(SLIDE 12) MAJOR BURNS ARE VERY BAD. THEY TAKE A LONG TIME TO GET WELL. THEY CAN CAUSE SCARS OR EVEN KILL.

(SLIDE 13) MAJOR BURNS CAN BE CAUSED BY FIRES.

(SLIDE 14) MAJOR BURNS CAN BE CAUSED BY ELECTRIC WIRES.

(SLIDE 15) MAJOR BURNS CAN BE CAUSED BY SCALDING HOT LIQUIDS.

(SLIDE 16) MAJOR BURNS CAN BE CAUSED BY HOT METAL LIKE PANS OR IRONS.

(SLIDE 17) YOU CAN TELL IT IS A MAJOR BURN IF:

1. THE SKIN IS WHITE OR BURNED BLACK

OR

2. SOME OF THE SKIN IS MISSING.

(SLIDE 18) TO TAKE CARE OF A MAJOR BURN YOU MUST NOT TRY TO CLEAN THE BURNED PART.

(SLIDE 19) TO TAKE CARE OF A MAJOR BURN YOU MUST NOT USE WATER.

(SLIDE 20) DO WRAP THE BURN WITH CLEAN GAUZE.

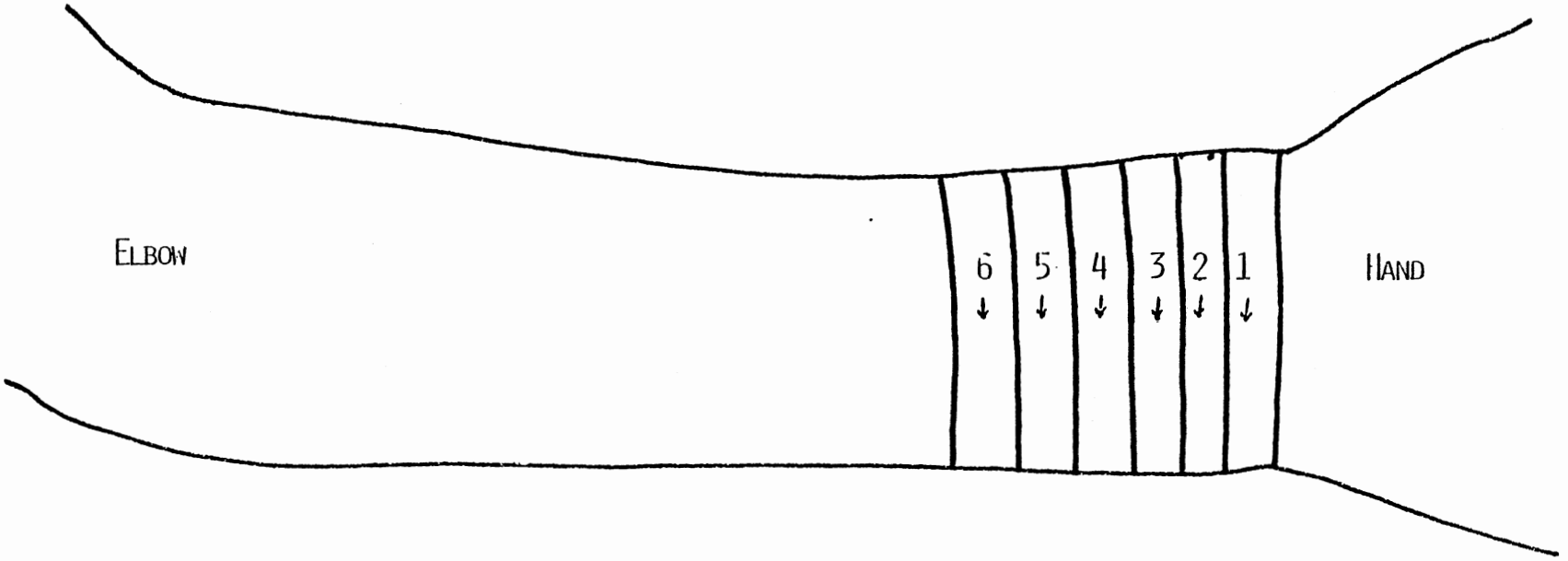
(SLIDE 21) KEEP THE BURNED SPOT HIGHER THAN THE CHILD'S HEART.

(SLIDE 22) CALL AN AMBULANCE AND THE PARENTS.

(SLIDE 23) HELP STOP SHOCK BY LAYING THE CHILD DOWN. PROP THE FEET UP. COVER THE CHILD WITH A BLANKET IF HE IS COLD.

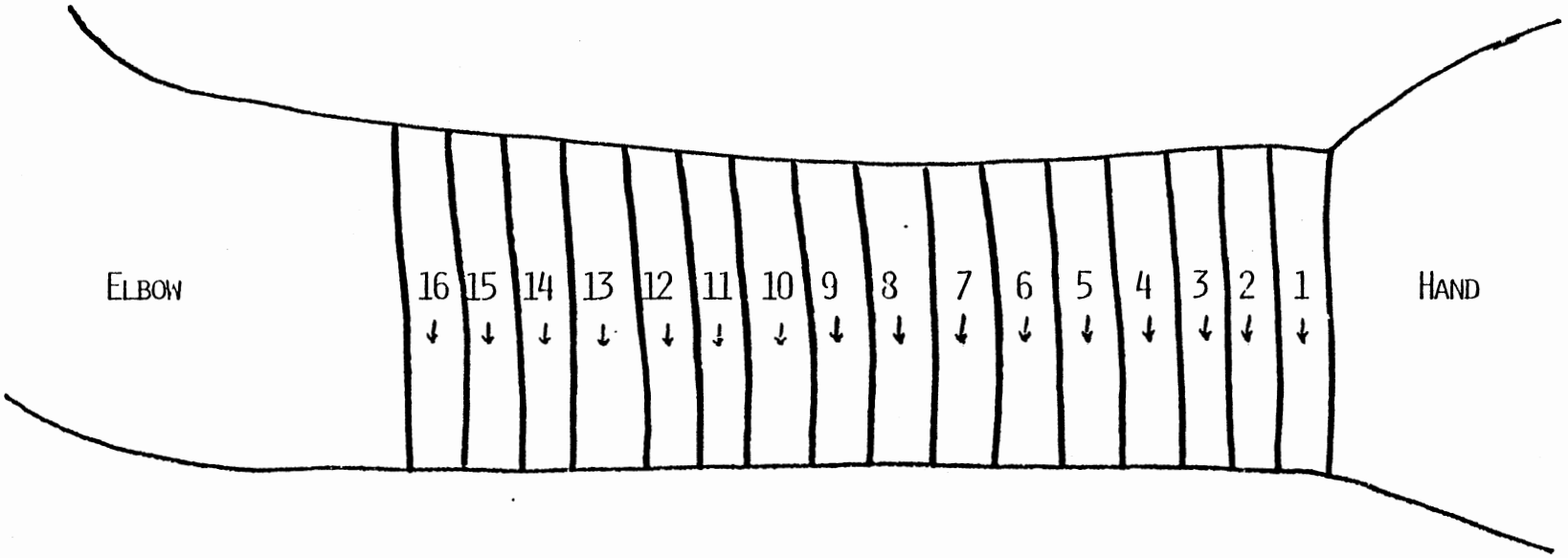
TURN OFF THE PROJECTOR. EMPTY THE FIRST AID BOX ON THE TABLE. SOME OF THESE THINGS CAN NOT BE USED WITH A MAJOR BURN. PUT THESE THINGS IN THE BOX LID MARKED "X". STOP THE RECORDER.

PUT THE THINGS YOU WOULD USE WHEN A CHILD GETS A MAJOR BURN IN THE BOX MARKED "YES". SHOW THE TEACHER YOUR WORK. STOP THE RECORDER.



PRETEND THAT YOUR FRIEND HAS A MAJOR BURN ON ONE ARM. BOTH OF YOU WILL WRAP AN ARM SO DECIDE WHO WILL GO FIRST.

START WRAPPING THE ARM JUST ABOVE THE WRIST (LOOK AT NUMBERS 1 AND 2). WRAP 3, 4, 5, AND 6.



KEEP ON WRAPPING UNTIL THE HURT PLACE IS COVERED (LOOK AT NUMBERS 7 - 16). USE A PIECE OF TAPE TO HOLD THE LAST LOOP DOWN.

NOW SHOW THE TEACHER THE WRAPPED ARM. IF SHE SAYS IT IS OK THEN TAKE THE WRAP OFF AND CAREFULLY ROLL IT BACK UP. THEN IT IS YOUR PARTNER'S TURN TO WRAP A BURNED ARM. STOP THE RECORDER.

YOU HAVE DONE A GOOD JOB. PUT THE THINGS BACK INTO THE FIRST AID BOX AND CLOSE IT. AFTER YOUR TEACHER HAS CHECKED THE WORK OF BOTH YOU AND YOUR PARTNER YOU ARE READY FOR THE THIRD LESSON.

RESCUE FROM FIRE AND ELECTRICITY

AFTER FINISHING THIS LESSON, THE STUDENT SHOULD BE ABLE TO:

1. TELL HOW TO RESCUE A CHILD WHOSE CLOTHES, HAIR OR BODY IS ON FIRE.
2. NAME 4 WAYS THAT A CHILD WHO IS BEING ELECTROCUTED MIGHT BE RESCUED.
3. TELL WHAT YOU MUST NOT DO WHEN RESCUING A CHILD WHO IS BEING ELECTROCUTED.

TURN ON THE PROJECTOR

(SLIDE 24) THERE ARE TWO TIMES WHEN YOU MIGHT HAVE TO RESCUE THE CHILD BEFORE YOU CAN BEGIN FIRST AID CARE: WHEN THE CHILD IS BEING BURNED BY FIRE, AND

(SLIDE 25) WHEN THE CHILD IS BEING BURNED BY ELECTRICITY.

(SLIDE 26) IF A CHILD'S CLOTHES OR HAIR CATCHES ON FIRE YOU MUST STOP HIM FROM RUNNING. GET THE CHILD TO THE GROUND AND ROLL HIM ON THE GROUND TO SMOTHER THE FLAMES.

(SLIDE 27) IT IS BEST TO LAY THE CHILD ON THE GROUND AND ROLL HIM UP IN A BLANKET, COAT, RUG OR TOWEL TO SMOTHER THE FLAMES. IF YOU CANNOT FIND A BLANKET, COAT, RUG OR TOWEL IN A HURRY THEN GET HIM TO THE GROUND AND ROLL HIM ON THE GROUND TO SMOTHER THE FLAMES AND YELL FOR SOMEONE TO GET A BLANKET.

(SLIDE 28) AFTER THE FIRE ON THE CHILD HAS BEEN PUT OUT THEN YOU BEGIN FIRST AID CARE FOR A MAJOR BURN.

(SLIDE 29) IF A CHILD HAS TOUCHED ELECTRIC EQUIPMENT OR AN ELECTRIC WIRE AND CANNOT LET GO HE IS BEING ELECTROCUTED. IF THE CHILD CANNOT GET AWAY FROM THE ELECTRIC EQUIPMENT OR WIRE HE WILL HAVE BAD BURNS OR MAY EVEN BE KILLED.

(SLIDE 30) YOU MUST NOT TOUCH THIS ELECTRIC EQUIPMENT OR WIRE; YOU MUST NOT TOUCH THE CHILD BECAUSE IF YOU DO YOU WILL NOT BE ABLE TO LET GO EITHER AND YOU WILL BE ELECTROCUTED TOO.

(SLIDE 31) HERE ARE SOME THINGS YOU CAN DO TO RESCUE A CHILD BEING ELECTROCUTED. YOU CAN PULL THE PLUG.

(SLIDE 32) OR YOU CAN THROW THE CIRCUIT BREAKER.

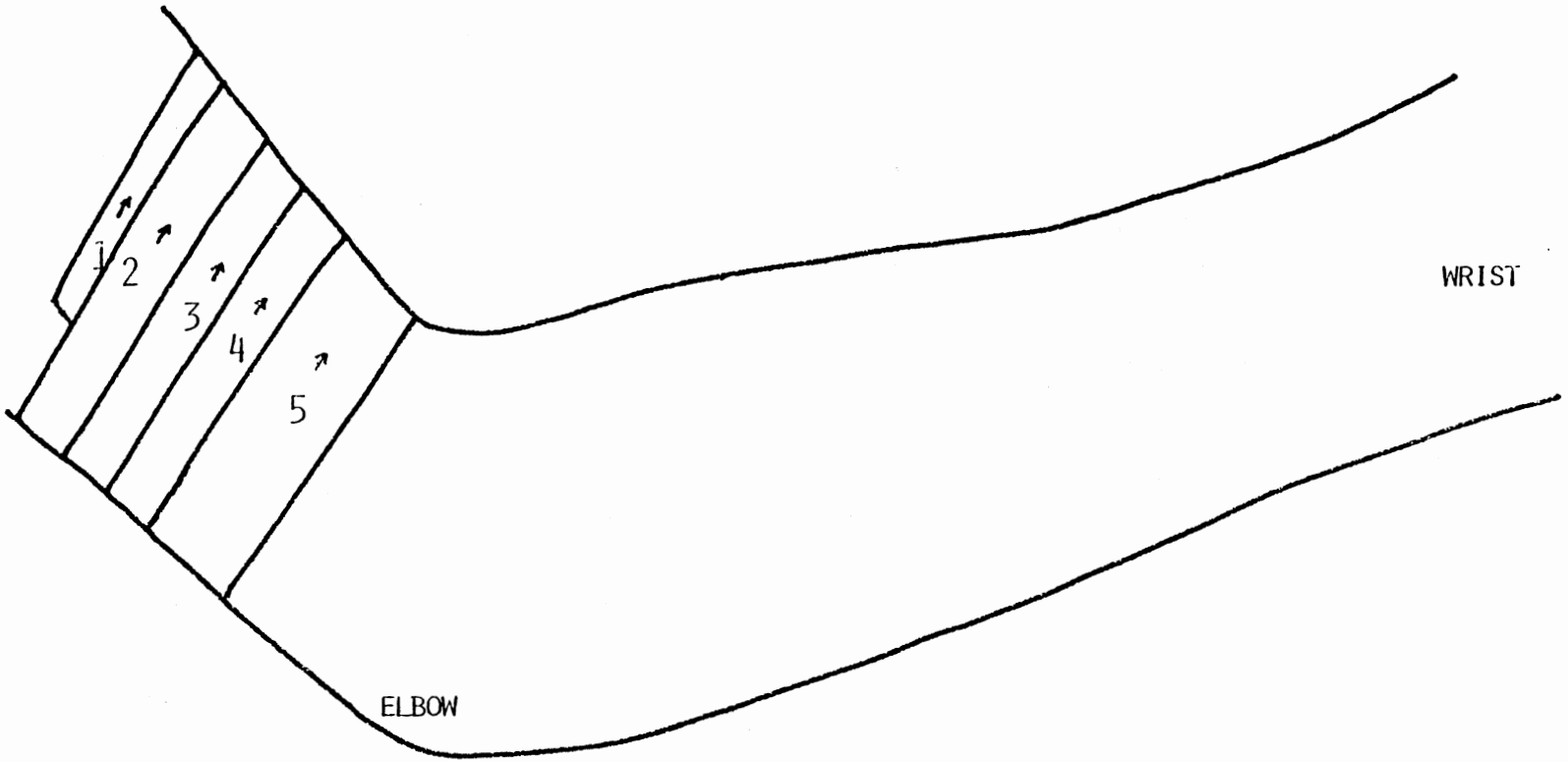
(SLIDE 33) OR YOU CAN PRY THE CHILD AWAY FROM THE ELECTRIC EQUIPMENT OR WIRE BY USING A LONG DRY STICK. YOU MUST BE SURE THAT YOUR HANDS ARE DRY AND THAT YOU ARE STANDING ON DRY GROUND OR A DRY FLOOR.

IF THE STICK OR YOUR HANDS OR THE FLOOR OR THE GROUND IS WET YOU COULD BE ELECTROCUTED.

(SLIDE 34) YOU COULD ALSO PULL THE CHILD AWAY FROM DANGER BY ROLLING UP A TOWEL OR LARGE DRY PIECE OF CLOTH. THROW THE TOWEL OR CLOTH AROUND THE CHILD AND PULL ON BOTH ENDS. A DRY ROPE OR DRY HOSE COULD ALSO BE USED TO PULL THE CHILD AWAY FROM DANGER.

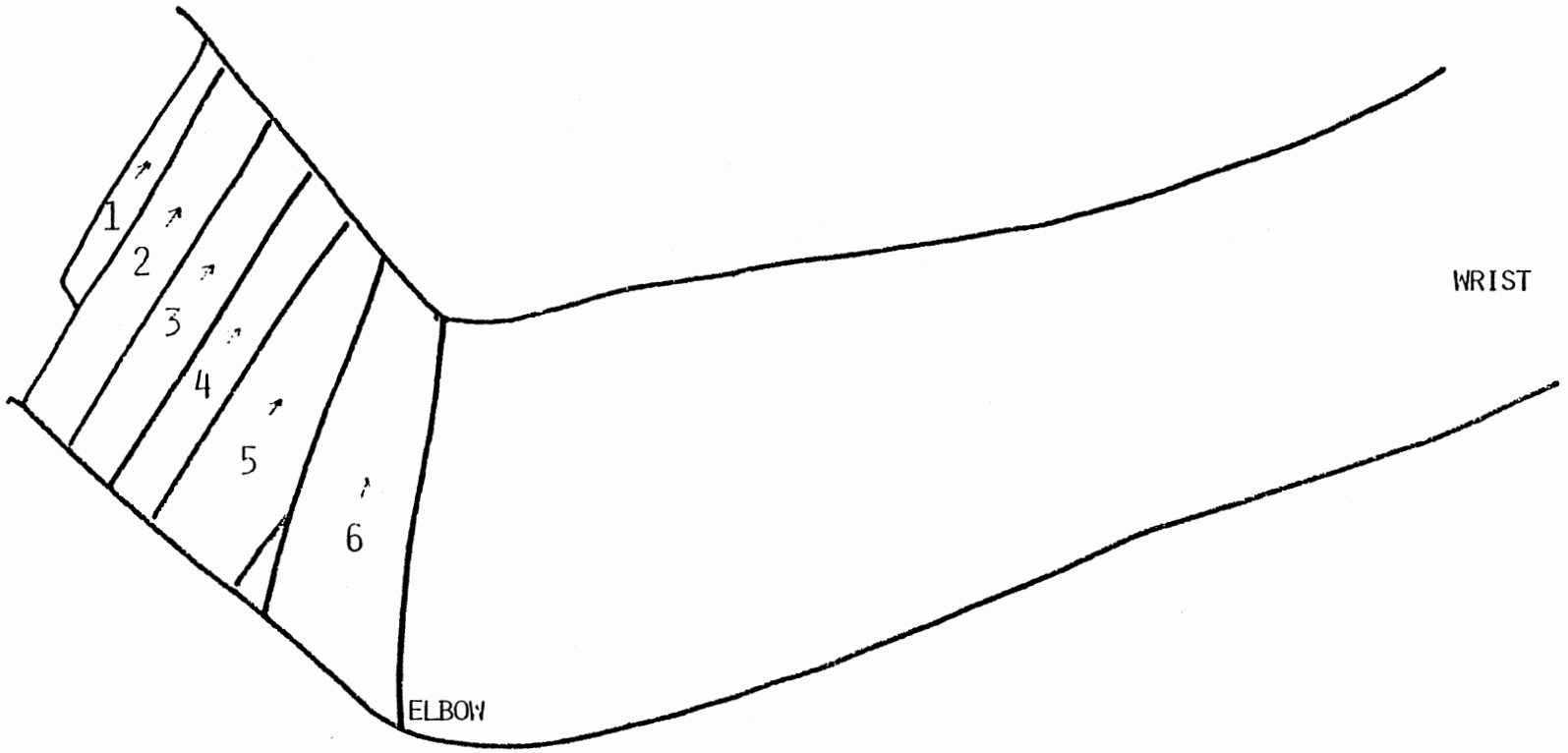
(SLIDE 35) AFTER THE CHILD IS SAFELY AWAY FROM THE ELECTRICITY THEN BEGIN FIRST AID CARE FOR A MAJOR BURN.

TURN OFF THE PROJECTOR. FIND A PARTNER. PRETEND THAT YOUR FRIEND'S ELBOW HAS BEEN BURNED BY ELECTRICITY. BOTH OF YOU WILL WRAP AN ELBOW SO DECIDE WHO WILL GO FIRST.

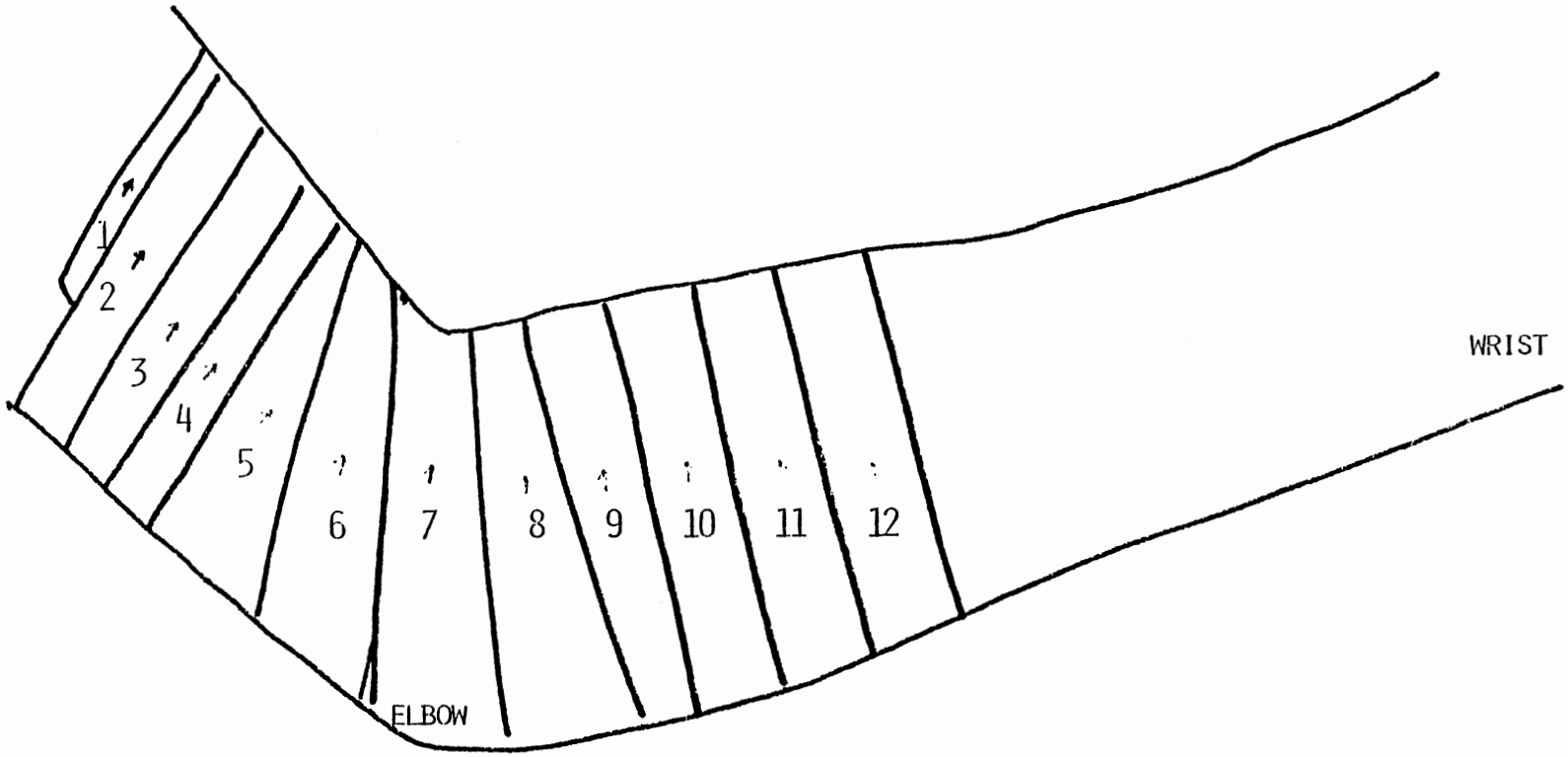


SINCE THE CHILD WILL GO TO THE HOSPITAL WITH HIS ARM IN A SLING, THE ELBOW MUST BE WRAPPED WHILE IT STAYS BENT.

START WRAPPING THE ARM JUST BELOW THE SHOULDER. (LOOK AT NUMBERS 1-5)



WHEN YOU GET TO THE TOP BEND OF THE ELBOW YOU MUST CHANGE THE ANGLE OF THE WRAPPING (LOOK AT NUMBER 6).



NUMBER 7 AND 8 ARE WRAPPED LIKE 6; 8, 9, 10, 11, AND 12 ARE JUST LIKE 2, 3, 4, AND 5. EACH WRAP AROUND COVERS HALF OF THE WRAP BEFORE IT. USE A PIECE OF TAPE TO HOLD THE LAST LOOP DOWN. VERY GOOD. NOW SHOW THE TEACHER THE WRAPPED ELBOW. IF SHE SAYS IT IS OK THEN TAKE THE WRAP OFF CAREFULLY ROLL IT BACK UP. NOW IT IS YOUR PARTNER'S TURN TO WRAP YOUR BURNED ELBOW. STOP THE RECORDER.

AFTER YOUR TEACHER HAS CHECKED THE WORK OF BOTH YOU AND YOUR PARTNER YOU ARE READY FOR THE FOURTH LESSON.

CHEMICAL BURNS OF THE SKIN

AFTER FINISHING THIS LESSON, THE STUDENT SHOULD BE ABLE TO:

1. TELL HOW A CHILD COULD BURN HIS SKIN WITH CHEMICALS.
2. SAY THE 4 STEPS IN CARING FOR CHEMICAL SKIN BURNS.

TURN ON THE PROJECTOR

(SLIDE 36) IF A CHILD GETS CHEMICALS SUCH AS DRAIN CLEANER OR BATTERY ACID ON HIS SKIN HE CAN BECOME BURNED. THE LONGER THESE CHEMICALS STAY ON HIS SKIN THE WORSE THE BURN WILL BECOME. THE FIRST THING TO DO IS TO TAKE OFF THE CLOTHES THAT HAVE CHEMICALS ON THEM.

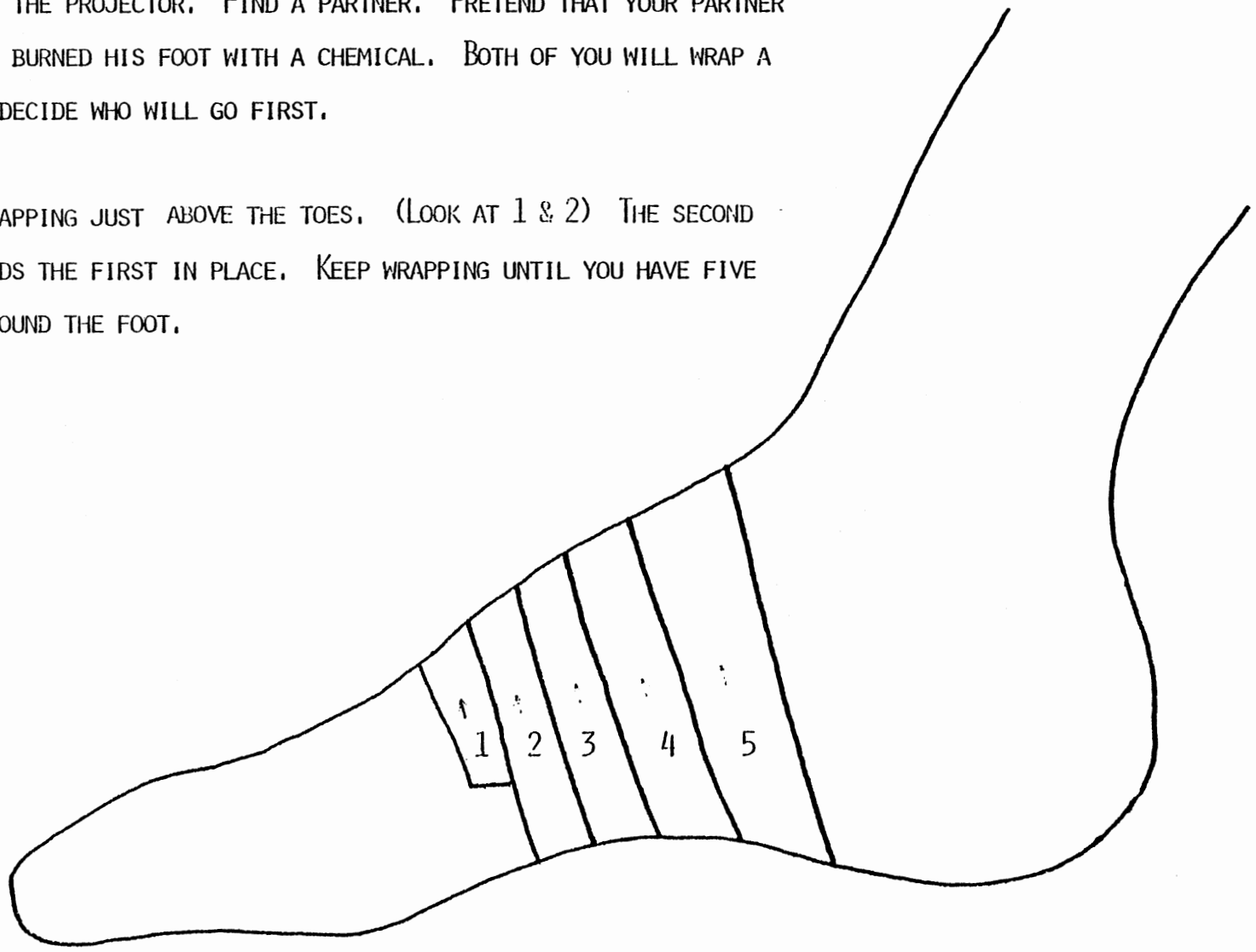
(SLIDE 37) WASH THE SKIN THAT HAS BEEN BURNED BY THE CHEMICAL WITH A LOT OF WATER FROM A HOSE, A SHOWER OR BUCKETS FOR AT LEAST 5 MINUTES.

(SLIDE 38) READ OR HAVE SOMEONE ELSE READ THE FIRST AID DIRECTIONS ON THE CHEMICAL'S LABEL AND DO AS IT SAYS.

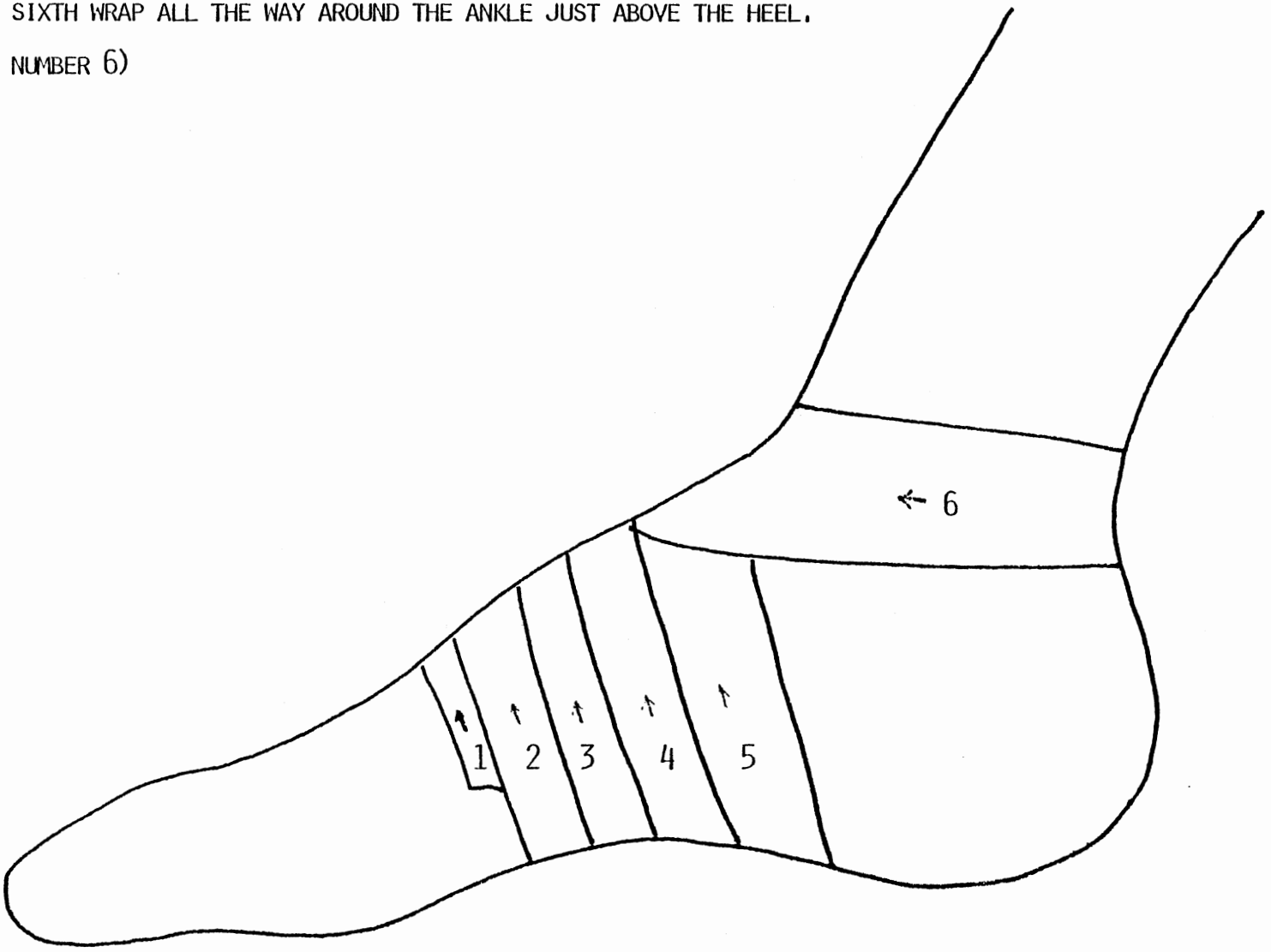
(SLIDE 39) WRAP WITH CLEAN GAUZE. CALL THE DOCTOR.

TURN OFF THE PROJECTOR. FIND A PARTNER. PRETEND THAT YOUR PARTNER HAS JUST BURNED HIS FOOT WITH A CHEMICAL. BOTH OF YOU WILL WRAP A FOOT SO DECIDE WHO WILL GO FIRST.

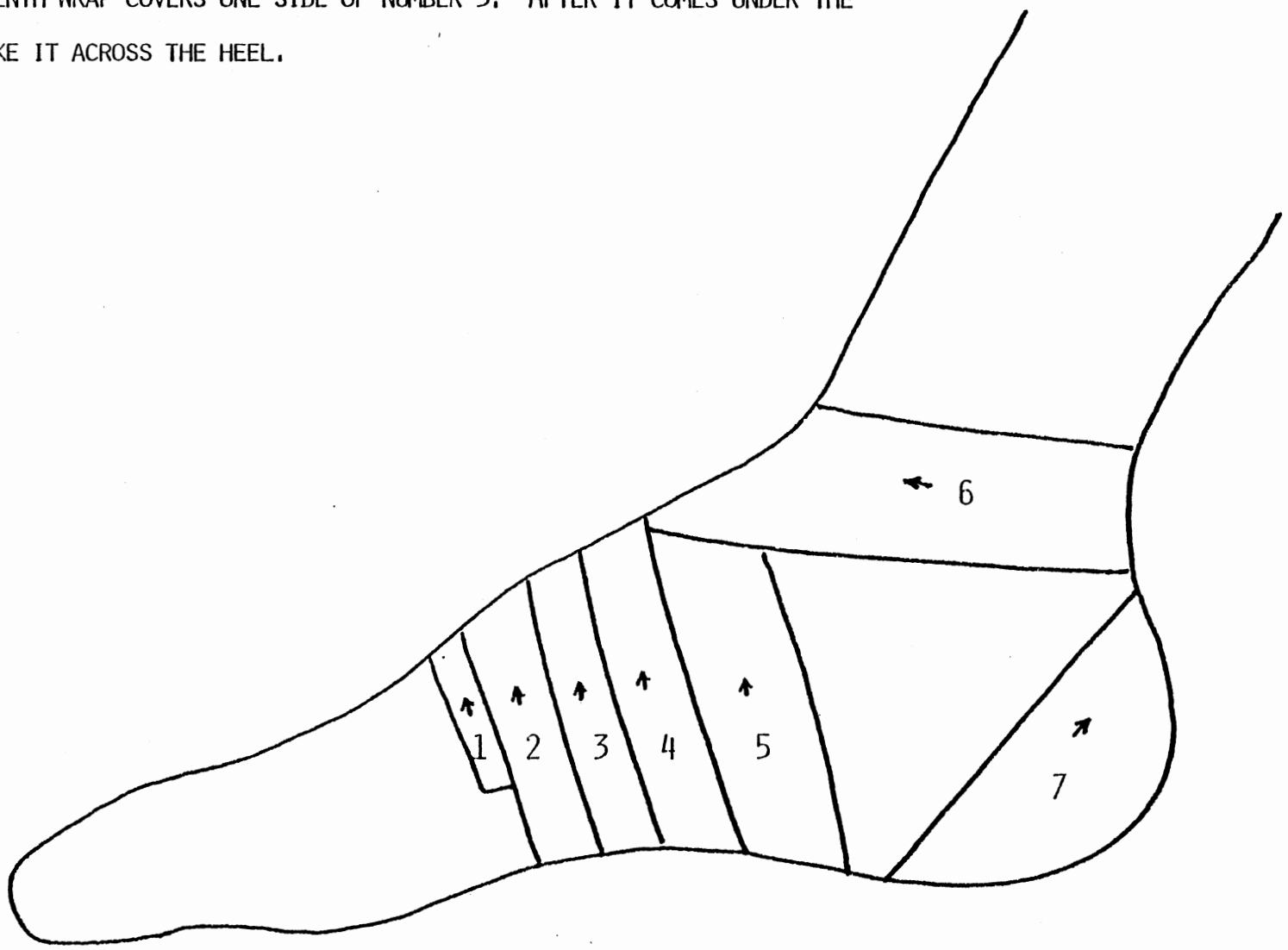
START WRAPPING JUST ABOVE THE TOES. (LOOK AT 1 & 2) THE SECOND WRAP HOLDS THE FIRST IN PLACE. KEEP WRAPPING UNTIL YOU HAVE FIVE LOOPS AROUND THE FOOT.



TAKE THE SIXTH WRAP ALL THE WAY AROUND THE ANKLE JUST ABOVE THE HEEL.
(LOOK AT NUMBER 6)

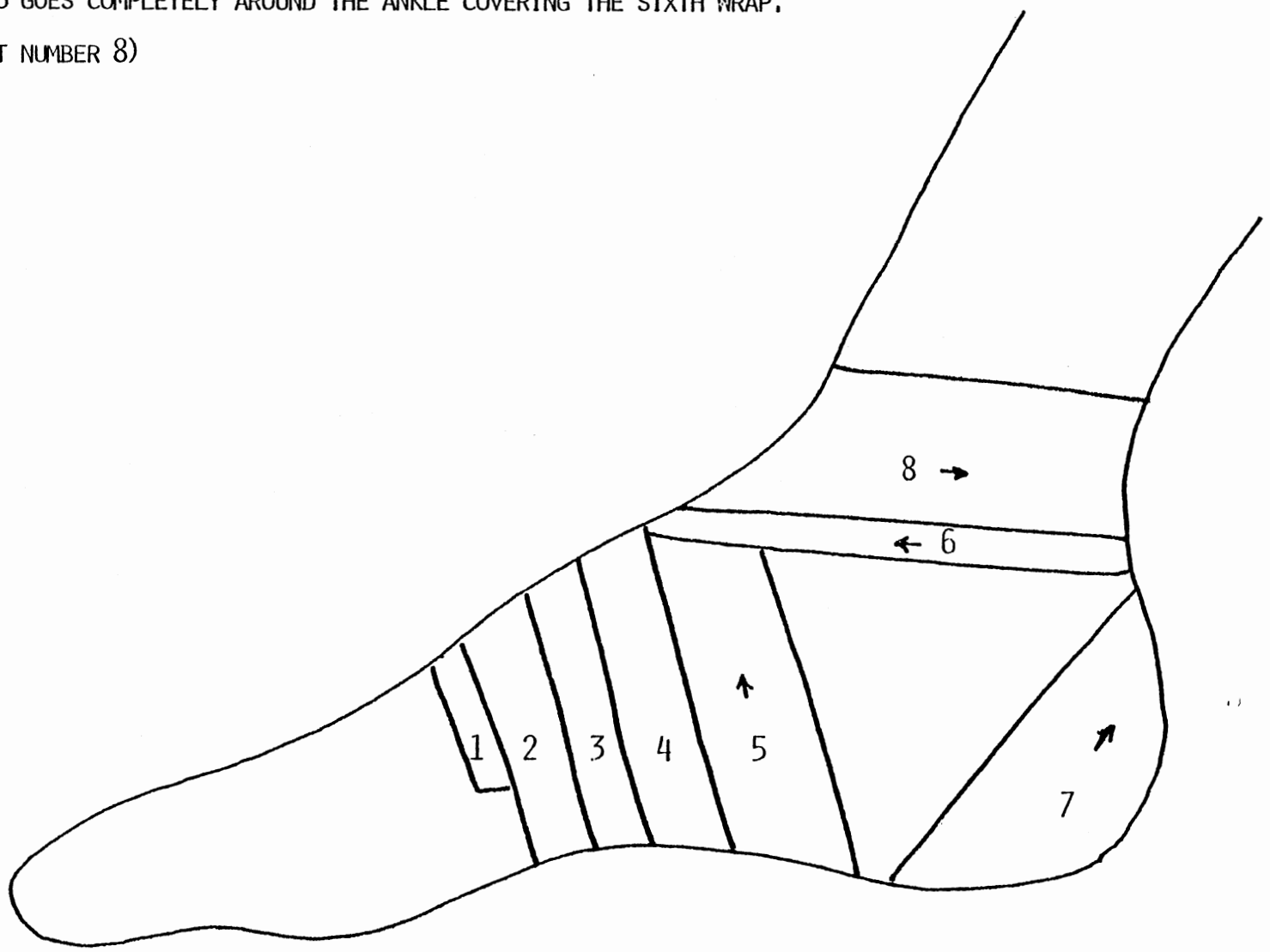


THE SEVENTH WRAP COVERS ONE SIDE OF NUMBER 5. AFTER IT COMES UNDER THE FOOT TAKE IT ACROSS THE HEEL.



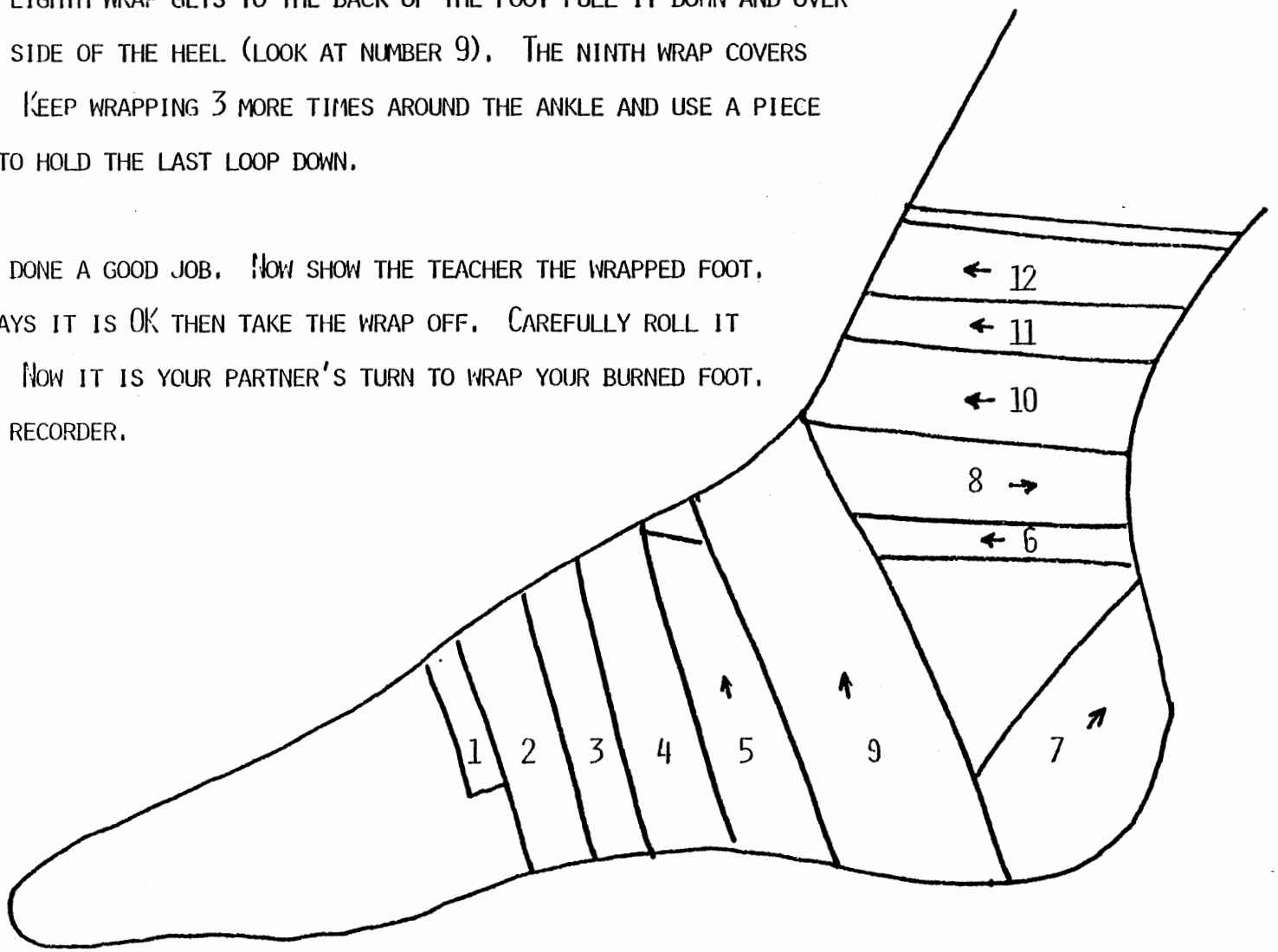
NUMBER 8 GOES COMPLETELY AROUND THE ANKLE COVERING THE SIXTH WRAP.

(LOOK AT NUMBER 8)



WHEN THE EIGHTH WRAP GETS TO THE BACK OF THE FOOT PULL IT DOWN AND OVER THE BACK SIDE OF THE HEEL (LOOK AT NUMBER 9). THE NINTH WRAP COVERS 5 AND 6. KEEP WRAPPING 3 MORE TIMES AROUND THE ANKLE AND USE A PIECE OF TAPE TO HOLD THE LAST LOOP DOWN.

YOU HAVE DONE A GOOD JOB. NOW SHOW THE TEACHER THE WRAPPED FOOT. IF SHE SAYS IT IS OK THEN TAKE THE WRAP OFF. CAREFULLY ROLL IT BACK UP. NOW IT IS YOUR PARTNER'S TURN TO WRAP YOUR BURNED FOOT. STOP THE RECORDER.



AFTER YOUR TEACHER HAS CHECKED THE WORK OF BOTH YOU AND YOUR PARTNER YOU ARE READY FOR THE FIFTH LESSON.

CHEMICAL BURNS OF THE EYE

AFTER FINISHING THIS LESSON, THE STUDENT SHOULD BE ABLE TO:

1. NAME THE 2 DIFFERENT KINDS OF CHEMICALS THAT CAN BURN THE EYES.
2. NAME 3 ACIDS THAT CAN BURN THE EYES.
3. TELL THE STEPS IN CARING FOR A CHILD WHOSE EYE HAS AN ACID BURN.
4. NAME 3 ALKALIS THAT CAN BURN THE EYES.
5. TELL WHAT SHOULD NOT BE USED WITH AN ALKALI BURN.
6. TELL THE STEPS IN CARING FOR A CHILD WHOSE EYES HAVE AN ALKALI BURN.

TURN ON THE PROJECTOR

(SLIDE 40) WHEN CHEMICALS GET IN THE EYES THERE CAN BE VERY BAD BURNS OR EVEN BLINDNESS. THERE ARE TWO DIFFERENT KINDS OF CHEMICALS THAT CAN BURN THE EYES: ACIDS AND ALKALI. YOU MUST FIND OUT WHICH CHEMICAL BURNED THE CHILD'S EYE BEFORE YOU CAN TAKE CARE OF HIM.

(SLIDE 41) READ OR HAVE SOMEONE READ THE LABEL ON THE CHEMICAL TO FIND OUT IF THE BURN WAS CAUSED BY AN ACID OR AN ALKALI.

(SLIDE 42) ACIDS WILL BE MARKED ACID ON THE LABEL. SUCH THINGS AS TOILET BOWL CLEANER, RUST REMOVER, VINEGAR, BATTERY ACID, AND MURIATIC ACID FOR SWIMMING POOLS ARE ACIDS THAT YOU MIGHT FIND AROUND THE HOUSE.

(SLIDE 43) IF A CHILD'S EYE IS BURNED WITH AN ACID, QUICKLY LAY HIM ON HIS SIDE SO THAT THE UNBURNED EYE IS ABOVE THE BURNED EYE SO THAT THE CHEMICAL DOES NOT WASH DOWN INTO THE EYE THAT WAS NOT BURNED.

(SLIDE 44) WASH THE FACE, EYE AND EYELID FOR 5 MINUTES. HOLD THE EYELID OPEN AND POUR WATER INTO THE CORNER OF THE EYE NEXT TO THE NOSE.

(SLIDE 45) MIX 1 TEASPOON OF BAKING SODA INTO 1 QUART OF WATER AND USE THIS TO WASH THE EYE AGAIN.

(SLIDE 46) DO NOT LET THE CHILD RUB THE BURNED EYE.

(SLIDE 47) COVER THE EYE WITH A CLEAN DRY CLOTH OR GAUZE AND TAPE IN PLACE. DO NOT USE A PIECE OF COTTON BECAUSE THE FIBERS MIGHT GET INTO THE EYE AND CAUSE MORE PAIN.

(SLIDE 48) CALL AN AMBULANCE AND THE PARENTS. THE EMERGENCY NUMBER IN STILLWATER IS 911.

(SLIDE 49) ALKALI BURNS CAN BE CAUSED BY DRAIN CLEANERS, AMMONIA, STRONG LAUNDRY AND DISH DETERGENTS.

(SLIDE 50) READ OR HAVE SOMEONE READ THE LABEL TO SEE IF THE BURN IS CAUSED BY AN ALKALI. WASH THE EYE WITH WATER FOR 15 MINUTES WHILE THE PERSON LAYS ON HIS SIDE. THE EYE THAT IS NOT BURNED MUST BE ABOVE THE BURNED EYE.

(SLIDE 51) USE CLEAN GAUZE OR A CLEAN HANDKERCHIEF TO GENTLY LIFT OFF TINY LOOSE PIECES OF CHEMICALS STILL FLOATING IN THE EYE.

(SLIDE 52) DO NOT USE A BAKING SODA WASH ON AN ALKALI BURN.

(SLIDE 53) COVER THE EYE WITH A CLEAN DRY CLOTH OR GAUZE AND TAPE IN PLACE. DO NOT USE A PIECE OF COTTON BECAUSE THE FIBERS MIGHT GET INTO THE EYE AND CAUSE MORE PAIN.

(SLIDE 54) CALL AN AMBULANCE AND THE PARENTS.

TURN OFF THE PROJECTOR

PREVENTION OF BURNS

AFTER FINISHING THIS LESSON THE STUDENT SHOULD BE ABLE TO:

1. TELL 3 WAYS TO KEEP A CHILD FROM GETTING BURNED BY HOT LIQUIDS.
2. TELL HOW TO PUT OUT A GREASE FIRE.
3. DESCRIBE HOW TO USE AN OVEN SAFELY WHEN CHILDREN ARE AROUND.
4. TELL HOW TO RELIGHT A PILOT LIGHT.
5. TELL WHAT TO DO WHEN LIGHTING A CHARCOAL GRILL.
6. TELL WHAT SHOULD NOT BE BURNED IN A FIREPLACE.

7. TELL 4 RULES FOR SAFETY WITH ELECTRICITY.
8. TELL 3 RULES FOR STORING ACID SAFELY.

TURN ON THE PROJECTOR

(SLIDE 55) BURNS HURT AND CAN KILL OR SCAR. KEEPING SOMEONE FROM GETTING BURNED IS BETTER THAN BEING ABLE TO BANDAGE A BURN. AS A DAY CARE WORKER YOU WANT TO PREVENT THIS BURNED ARM,

(SLIDE 56) THIS BURNED HAND,

(SLIDE 57) THIS BURNED FOOT,

(SLIDE 58) THIS BURNED EYE,

(SLIDE 59) THESE LOSSES OF LIVES.

(SLIDE 60) YOU CAN KEEP A CHILD FROM GETTING A SUNBURN BY:

1. USING LOTIONS,
2. LETTING THEM PLAY OUTSIDE FOR SHORT PERIODS OF TIME,
3. WEARING LONG SLEEVES, LONG PANTS, AND HATS.

(SLIDE 61) A CHILD CAN BE BURNED IN A SINK OR BATHTUB IF THE WATER IS TOO HOT. IF THE WATER FEELS TOO HOT TO YOU HAVE SOMEONE TURN THE THERMOSTAT DOWN ON THE HOT WATER HEATER.

(SLIDE 62) A LOT OF CHILDREN GET THEIR PAJAMAS CAUGHT ON FIRE. WHEN IT IS COLD OUTSIDE A CHILD BACKS UP TO THE HEATER TO GET WARM. WATCH THEM CLOSELY AND DO NOT LET THEM DO THIS.

(SLIDE 63) BOILING LIQUIDS SPLASH, SPILL AND TIP OVER. IF A CHILD IS AROUND, COOK ON THE BACK BURNERS SO HE CANNOT REACH. DO NOT LET HANDLES STICK OUT OVER THE SIDE OF THE COOK TOP. TO CARRY A HOT LIQUID, GET CHILDREN OUT OF THE WAY. USE A HOT PAD AND A LID.

(SLIDE 64) DO NOT LET A CHILD STAND ON A CHAIR AND WORK OVER THE STOVE.

(SLIDE 65) DO NOT LEAVE THE ROOM IF GREASE IS ON A HOT BURNER. IF IT CATCHES ON FIRE PUT THE LID ON IT, POUR BAKING SODA ON IT, OR USE A FIRE EXTINGUISHER. DO NOT RUN WATER IN THE PAN OR THE FIRE WILL SPREAD.

(SLIDE 66) USE DRY HOT PADS ON ALL HOT METAL PANS. A WET PAD MAKES STEAM THAT BURNS. CLOSE THE OVEN DOOR WHEN IT IS NOT IN USE. DO NOT TRY TO HEAT A HOUSE WITH AN OVEN. YOU COULD SMOTHER TO DEATH OR BURN THE HOUSE DOWN.

(SLIDE 67) IRONS SHOULD NOT BE LEFT OUT WHEN NOT IN USE. DO NOT LET THE CORD TOUCH THE IRON.

(SLIDE 68) DO NOT LET CHILDREN PLAY AROUND YOU WHEN YOU ARE IRONING.

(SLIDE 69) IF THE HOT WATER HEATER PILOT GOES OUT TURN THE GAS OFF. READ OR HAVE SOMEONE READ THE INSTRUCTIONS. WAIT 5 MINUTES FOR GAS TO LEAVE THE ROOM BEFORE YOU TRY TO RELIGHT.

(SLIDE 70) KEEP CHILDREN AWAY WHILE YOU RELIGHT. DO NOT GET YOUR FACE CLOSE TO THE HEATER. THE FIRE COULD BLOW OUT AT YOU.

(SLIDE 71) DO NOT USE GASOLINE TO START A CHARCOAL FIRE. DO NOT ADD LIGHTER FLUID AFTER THE FIRE HAS STARTED.

(SLIDE 72) DO NOT LEAVE CHILDREN ALONE AROUND FIRES. THEY LIKE TO GET STICKS AND POKE THE FIRE AND MAKE LITTLE TORCHES.

(SLIDE 73) DO NOT LET CHILDREN PLAY WITH MATCHES OR LIGHTERS. IF YOU SMOKE BE SURE YOU PUT EVERY CIGARETTE OUT. ONE OF EVERY FOUR FIRES ARE CAUSED BY CARELESS USE OF MATCHES AND CIGARETTES.

(SLIDE 74) DO NOT BURN LOOSE PAPER OR CARDBOARD BOXES IN A FIRE-PLACE. BURNING PAPER FLOATS TO THE ROOF AND MAY BURN THE HOUSE DOWN.

(SLIDE 75) DO NOT PUT MORE THAN 2 PLUGS IN A SOCKET. YOU CAN CAUSE THE WIRES TO GET HOT AND START A FIRE.

(SLIDE 76) KEEP CHILDREN AWAY FROM ELECTRICAL PLUGS. DO NOT LET THEM PLAY WITH ELECTRIC TOYS UNTIL THEY ARE 8 YEARS OLD.

(SLIDE 77) BIG SHARP SCISSORS GET LITTLE CHILDREN IN TROUBLE. PUT THE SCISSORS UP WHERE THE CHILD CANNOT SEE THEM.

(SLIDE 78) IF YOU ARE CHANGING A BULB, UNPLUG THE LAMP FIRST AND HAVE THE SPARE WITH YOU.

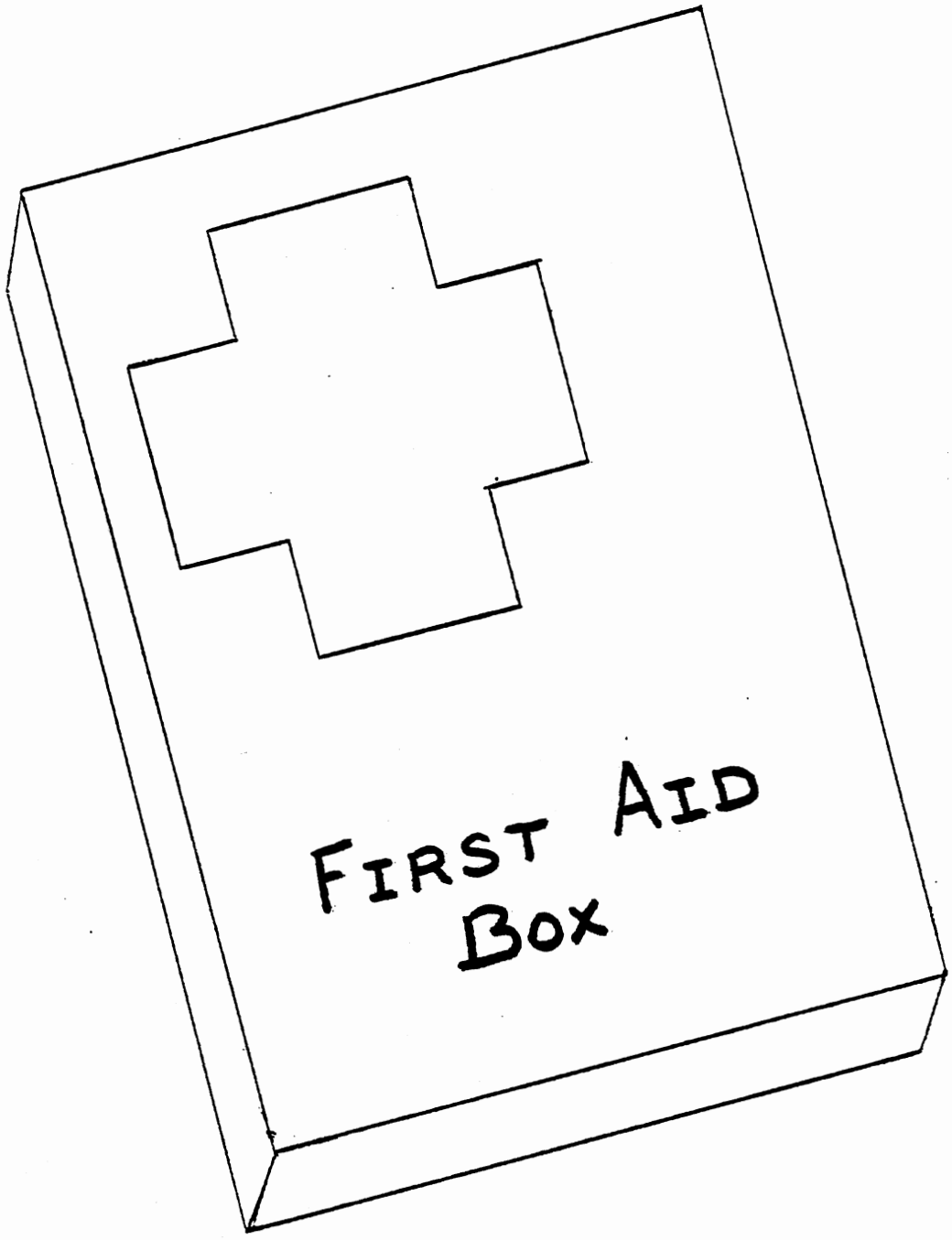
(SLIDE 79) ALL OF THE ELECTRICITY IN THE HOUSE GOES THROUGH THIS BOX. CHANGE FUSES OR RESET THE BREAKERS. IF THIS DOES NOT WORK CALL AN ELECTRICIAN. DO NOT USE A PENNY. THE HOUSE COULD BURN DOWN.

(SLIDE 80) STORE ACIDS IN THE SAME CANS OR BOTTLES THAT THEY CAME IN. DO NOT PUT THEM IN THINGS LIKE POP BOTTLES. SOMEONE COULD DRINK THE ACID BY MISTAKE. KEEP THEM OUT OF SIGHT. KEEP THEM OUT OF REACH OF CHILDREN. DO NOT STORE THEM HIGHER THAN YOUR SHOULDER. THEY COULD FALL AND GET IN YOUR EYES.

TURN OFF THE PROJECTOR.

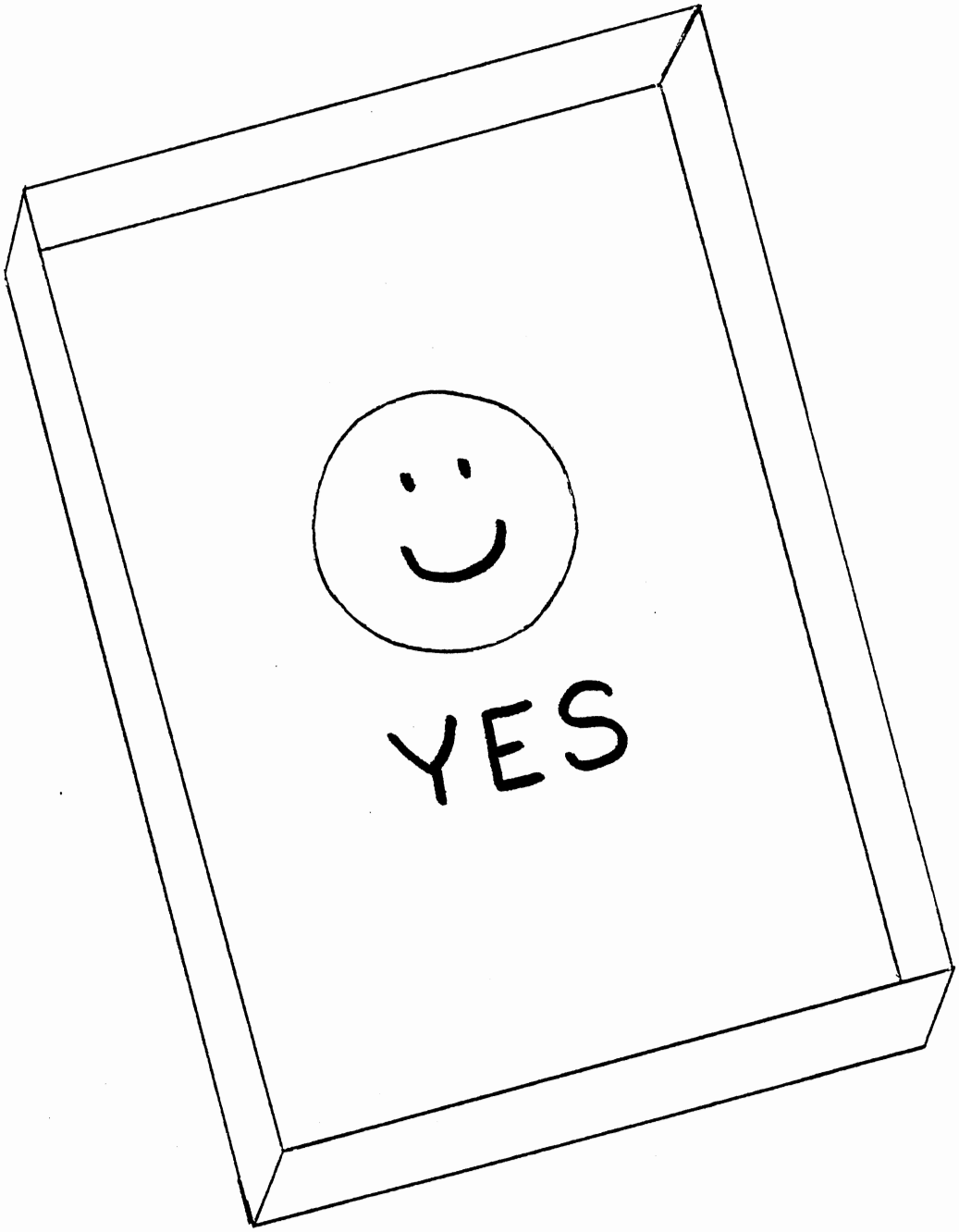
APPENDIX B

REALIA MATERIALS



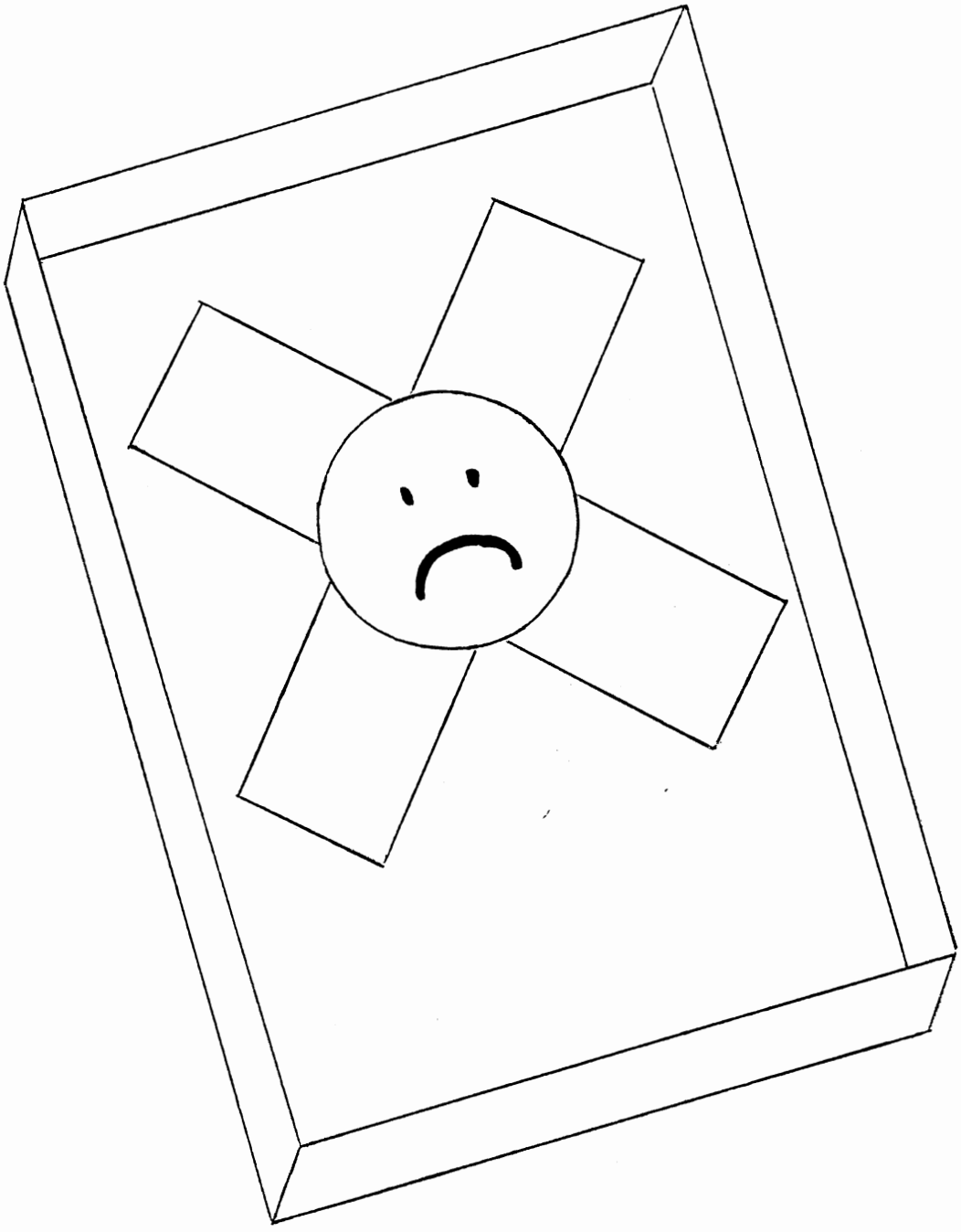
Realia Materials Box

A 9" x 12" stationery box was covered in yellow paper. A red cross was made of red construction paper, and First Aid Box was lettered on with a black magic marker.



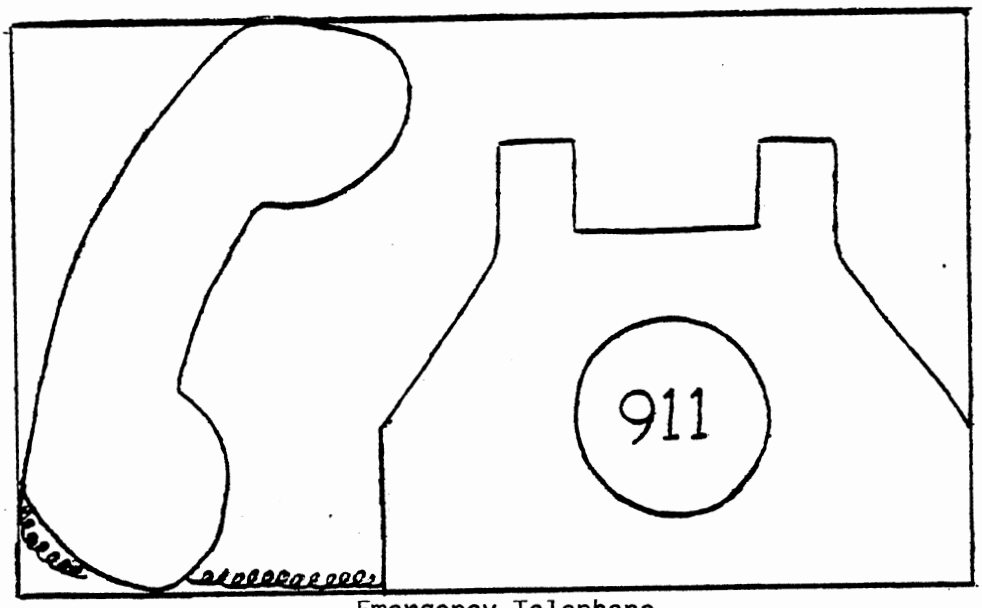
Inside Realia Materials Box Bottom

A yellow happy face was glued to the box bottom and a large YES was lettered below the happy face with a black magic marker.



Inside Realia Materials Box Lid

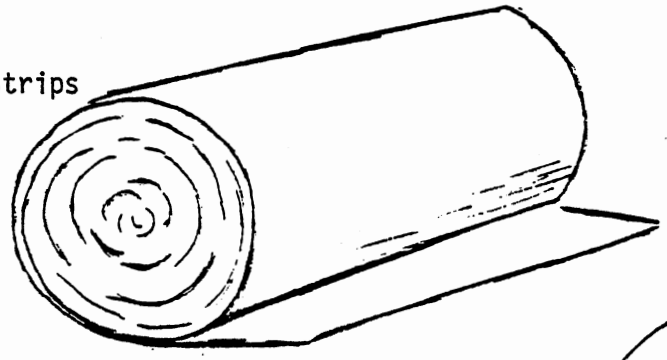
A yellow sad face was glued to a black construction paper X which was glued to a white background.



Emergency Telephone

A black silhouette of a telephone was glued to a white 3" X 5" index card. The emergency phone number was lettered on a white construction paper circle.

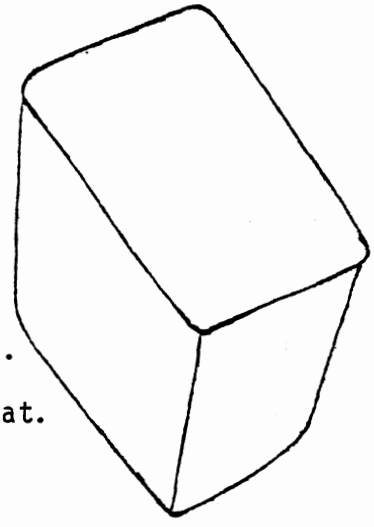
Gauze Strips

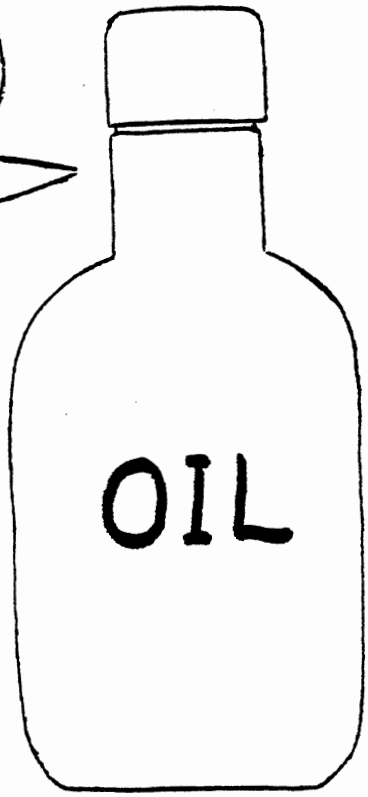


Discarded sheets were cut into 3" wide strips.

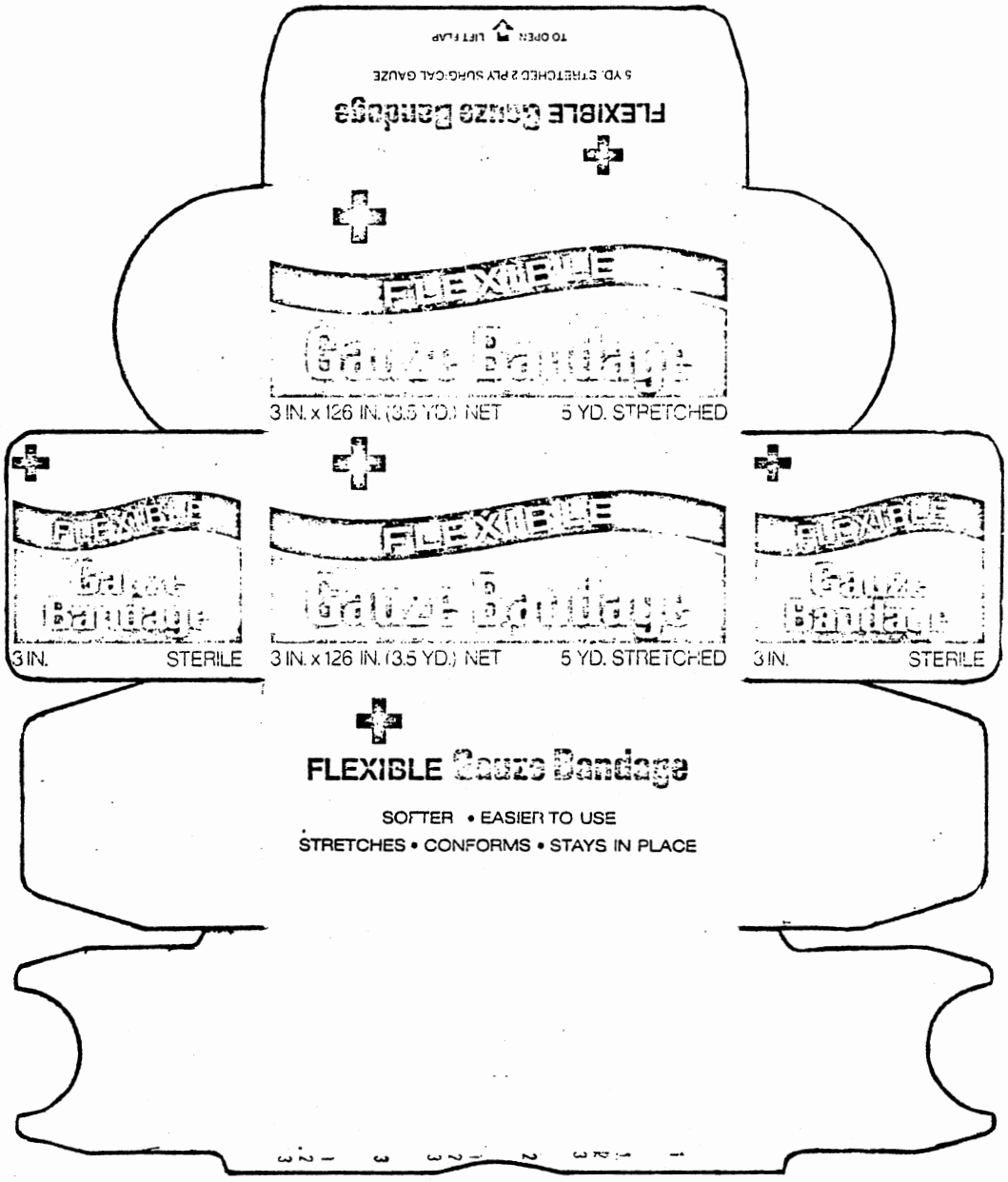
Paraffin Ice Cubes

Hot paraffin was poured into an ice tray. It is recommended that paraffin ice cubes should not be kept in the realia boxes. They should be stored away from heat.

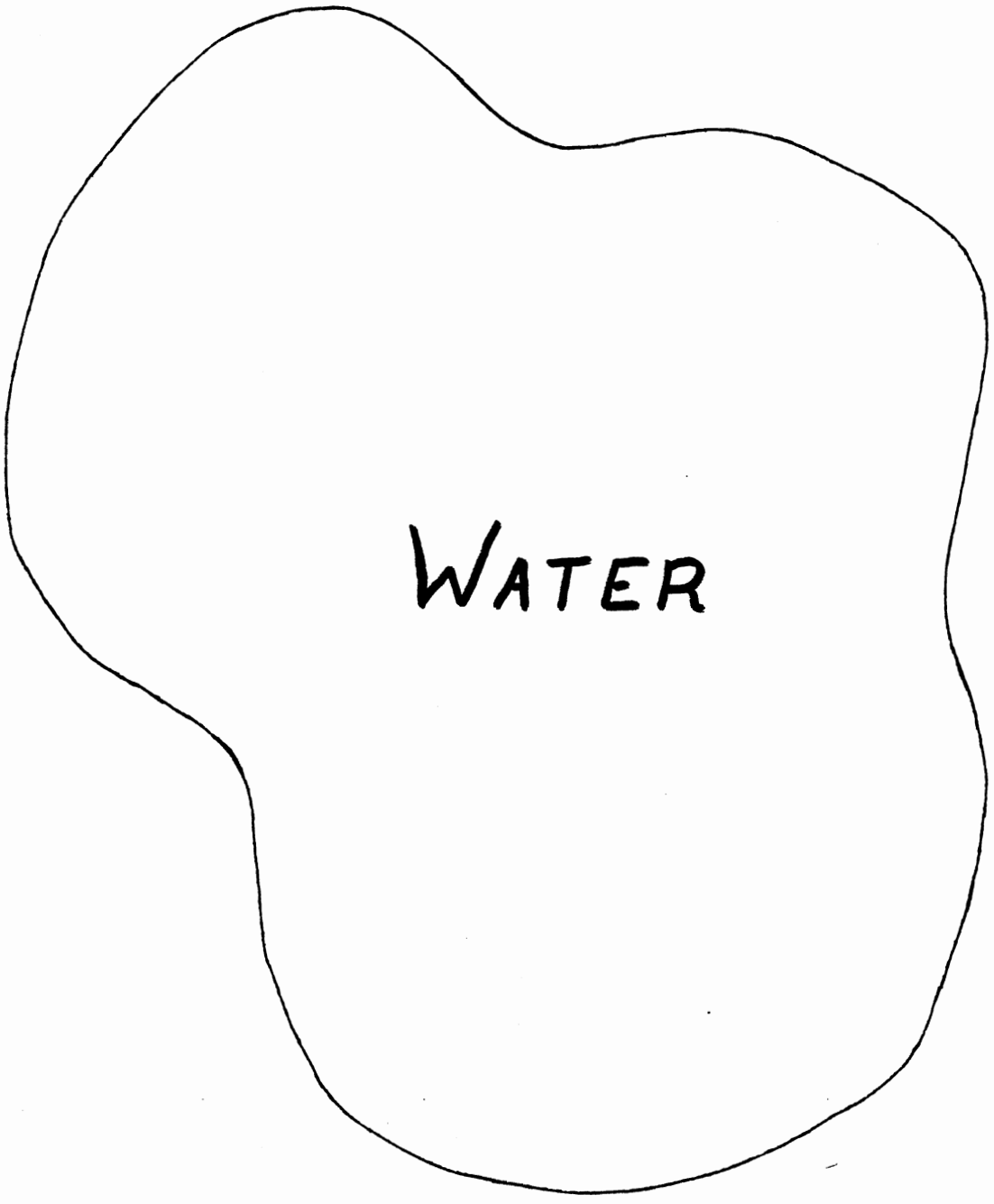




Empty Jar Labeled "OIL"



Flat Pattern for the Construction of a Gauze Box



Blue Felt Labeled "WATER"

A piece of blue felt was cut and labeled with yellow textile paint.

The following additional items should be purchased for the realia box:
White sterile 2" x 3" gauze pad, washcloth and a bar of soap.

APPENDIX C

CORRESPONDENCE

OKLAHOMA STATE UNIVERSITY

College of Home Economics
Stillwater, Oklahoma 74078

July 15, 1980

Mr. Fred Shultz, Superintendent
Indian Meridian Area Vocational-Technical School
District No. 16
1312 S. Sangre Rd., Box 751
Stillwater, OK 74074

Dear Mr. Shultz:

As a graduate student in Home Economics Education at Oklahoma State University, I am conducting a research study to determine if home economics curriculum materials, designed for the educable mentally handicapped secondary school student, are effective as teaching/learning resources. The results of this study should indicate if curriculum modifications are needed and assist home economics teachers to more adequately meet the needs of handicapped students in mainstreamed classes.

I would like to explore the possibility of testing resource materials in the Home Business and Industrial Services classes at Indian Meridian. Amelia Pruitt has indicated an interest in my project.

Thank you for your time and consideration.

Sincerely yours,

Joyce Wikoff
Graduate Student
Oklahoma State University

Elaine Jorgenson
Dr. Elaine Jorgenson
Major Adviser
Head, Home Economics Education
Oklahoma State University

APPENDIX D

PRETEST-POSTTEST INSTRUMENT

NAME _____

FIRST AID -- Burns

1. Name 3 ways a child might get a minor burn.

   1)

   2)

   3)

2. What does a minor burn look like?

   1)

   2)

   3)

   4)

3. What should be done if a child gets a minor burn?

   1)

   2)

   3)

   4)

4. Circle the things you should not use on a minor burn.

   1) oil
   2) clean gauze
   3) soap and washcloth
   4) water
   5) clean gauze pad
   6) telephone
   7) ice

5. Name 4 ways a child might get a major burn.

   1)

   2)

   3)

   4)

6. What does a major burn look like?

   1)

   2)

7. What should be done if a child gets a major burn?

   1)

   2)

   3)

   4)

8. How would you clean a major burn?

9. Circle the things you should not use for a major burn.

   1) oil
   2) clean gauze
   3) soap and washcloth
   4) water
   5) clean gauze pad
   6) telephone
   7) ice

10. What is the emergency phone number for the police, fire station, and ambulance?

11. How do you help a child who might go into shock?

    1)

    2)

    3)

12. When could you not begin first aid care for a burn immediately, because you would have to do something else first?

    1)

    2)

13. What is the most important thing for you to remember when a person is on fire?

14. How do you rescue a child who is on fire?

    1)

    2)

    3)

15. If a child has hold of an electrical line how can you help him/her get away?

    1)

    2)

    3)

    4)

16. How can you make sure you will be safe during an electrical rescue?

    1)

    2)

17. What are some chemicals that will burn your skin?

    1)

    2)

    3)

18. List (in order) the steps in caring for chemical skin burns.

    1)

    2)

    3)

    4)

19. What are the 2 different kinds of chemicals that can burn the eyes?

    1)

    2)

20. List 3 acids that can burn the eyes.

    1)

    2)

    3)

21. How should you care for an acid burn of the eye?

    1)

    2)

    3)

    4)

    5)

    6)

    7)

22. Name 3 alkalis that can burn the eyes.

    1)

    2)

    3)

23. What should not be used for an alkali burn of the eye?

24. What should be done for an alkali burn of the eye?

    1)

    2)

    3)

    4)

    5)

    6)

25. Name 4 things you can do to keep a child from getting a sunburn.

    1)

    2)

3)

4)

26. What causes the water from the faucet to be too hot?

1)

27. How can burns caused by very hot liquids (like water or oil) be prevented?

1)

2)

3)

4)

5)

28. What are some safety rules to remember when using an oven?

1)

2)

3)

4)

29. What are some safety rules to remember when using small electrical appliances (like skillet, coffee pot, toaster, deep fat fryer)?

1)

2)

3)

30. What can you use to put out a grease fire?

1)

2)

3)

31. What do you need to watch for when cooking on the burners/ elements?

1)

2)

3)

4)

5)

32. What safety rules do you need to know when using an iron if children are around?

1)

2)

3)

4)

33. What are some things you have to watch for around gas heaters and floor furnaces?

1)

2)

3)

4)

34. For the safety of the children, what things do you need to remember when using a charcoal cooker?

1)

2)

3)

35. What are some safety points for fireplaces?

1)

2)

3)

4)

36. How should matches and cigarette lighters be handled?

1)

37. What can you do to keep a child safe from electricity?

    1)

    2)

    3)

    4)

38. How can you prevent a child from being burned with an alkali or an acid?

    1)

    2)

    3)

    4)

APPENDIX E

SLIDE PRESENTATION

FIRST AID FOR THE CHILD CARE WORKER

Slide Presentation

Slide Number	Description
1	Child being burned by charcoal grill
2	Child sunning in lounge chair
3	Pans on the stove
4	Lighting the hot water heater
5	Burned hand
6	Hand in running water
7	Ice tray with an "X" on it
8	Crisco, butter, lotion and alcohol with "X"
9	Hand with sterile gauze pad
10	Bandaged hand
11	Victim with elevated bandaged hand, lying down
12	Grave stones
13	Charcoal grill flaming up
14	Child cutting electrical wires with scissors
15	Close-up of pan of boiling water
16	Close-up of electric iron
17	Arm burned black
18	Soap and washcloth with "X"
19	Sink with an "X"
20	Arm bandaged
21	Elevated arm
22	Ambulance
23	Victim lying down, covered, arm and legs elevated
24	Charcoal grill flaming up
25	Tangle of electric wires and lamp cords
26	Child being rolled on the ground
27	Child being rolled in a blanket
28	Victim wrapped in blanket, arm bandaged, feet elevated
29	Child putting finger in light bulb socket
30	Hand with an "X" grabbing child being electrocuted
31	Hand pulling plug from wall receptacle
32	Hand throwing master circuit breaker
33	Long wooden pole lifting victim away from electricity
34	Towel pulling victim away from electricity
35	Hand wrapped, victim covered and feet elevated
36	Child with shirt removed
37	Water from hose running on arm and shoulder
38	Close-up of label
39	Victim with shoulder and arm bandaged
40	Household products labeled acid or alkali
41	Close-up of a label of paint remover
42	Paint remover, rust remover, vinegar, car battery
43	Child lying on side holding eye
44	Water poured on eye, clock and sign saying 5 minutes
45	Quart of water, measuring spoon and baking soda

Slide Number	Description
46	Child rubbing eye with an "X" on hand
47	Child with eye bandaged
48	Telephone with 911 sign
49	Picture of household alkalis
50	Water poured on eye, clock and sign saying 15 minutes
51	Eye held open and probing with a handkerchief
52	Quart of water, baking soda, measuring spoon and an "X"
53	Patch over eye
54	Telephone with 911 sign
55	Burned arm (darken with charcoal)
56	Burned hand (iodine and vaseline)
57	Burned foot
58	Patch over eye
59	Grave stones
60	Child sun tanning
61	Hand in sink
62	Child backed up to gas heater
63	Pan of boiling water
64	Child standing in rocking chair next to stove top
65	Pan, lid, hot pad, baking soda, and fire extinguisher
66	Pans and oven
67	Close-up of electric iron
68	Child's toys under ironing board
69	Thermostat and instruction on water heater
70	Hand lighting hot water heater
71	Charcoal grill flaming up
72	Child touching charcoal grill
73	Hand holding lighter
74	Boxes and paper in fireplace
75	Jumble of electric cords in front of outlet
76	Hand pulling plug
77	Scissors ready to cut electric cord
78	Finger in light bulb socket
79	Hand pulling circuit breaker
80	Ingredients labeled acid

APPENDIX F

PRETEST-POSTTEST ANSWER TALLY SHEET

PRETEST ___ POSTTEST ___ NAME _____

FIRST AID -- Burns -- Answer Tally Sheet

Points Possible

1. Name 3 ways a child might get a minor burn.

   1) sunburn

   2) fire (3)

   3) hot liquids and/or hot metal

2. What does a minor burn look like?

   1) red

   2) has blister

   3) swollen (4)

   4) looks wet

3. What should be done if a child gets a minor burn?

   1) soak in cold running water

   2) cover with a clean gauze pad

   3) wrap with clean gauze (4)

   4) hold higher than the person's heart

4. Circle the things you should not use on a minor burn.

   1) oil
   2) clean gauze
   3) soap and washcloth
   4) water (7)
   5) clean gauze pad
   6) telephone
   7) ice

5. Name 4 ways a child might get a major burn.

   1) fires

   2) electrical wires

   3) scalding hot liquids (4)

   4) hot metal

		Points Possible
6.	What does a major burn look like? 1) white or burned black 2) some of the skin is missing	(2)
7.	What should be done if a child gets a major burn? 1) wrap with clean gauze 2) lay person down, feet elevated, cover with blanket 3) elevate burned part higher than heart 4) call ambulance	(4)
8.	How would you clean a major burn? 1) must not try to clean major burn	(1)
9.	Circle the things you should not use for a major burn. 1) oil 2) clean gauze 3) soap and washcloth 4) water 5) clean gauze pad 6) telephone 7) ice	(7)
10.	What is the emergency phone number for the police, fire station, and ambulance? 1) 911	(1)
11.	How do you help a child who might go into shock? 1) lay child down 2) elevate feet 3) cover with blanket	(3)
12.	When could you not begin first aid care for a burn immediately, because you would have to do something else first? 1) when person is on fire 2) when person is being electrocuted	(2)

		Points Possible
13.	What is the most important thing for you to remember when a person is on fire?	
	1) stop him - do not let him run	(1)
14.	How do you rescue a child who is on fire?	
	1) stop him from running	
	2) get him to ground	(3)
	3) roll on ground, rug, or blanket	
15.	If a child has hold of an electrical line how can you help him/her get away?	
	1) unplug cord	
	2) turn circuit breaker off	
	3) pry person with a dry stick	(4)
	4) use dry towel, rope, etc.	
16.	How can you make sure you will be safe during an electrical rescue?	
	1) do not touch person, wire, or equipment	(2)
	2) stand on dry ground and use dry stick, rope, etc.	
17.	What are some chemicals that will burn your skin?	
	1) drain cleaner	
	2) battery acid	(3)
	3) lye, etc.	
18.	List (in order) the steps in caring for chemical skin burns	
	1) remove chemical soiled clothing	
	2) wash skin for 5 minutes	
	3) read or have someone read label and follow directions	(4)
	4) wrap with clean gauze then call doctor	

		Points Possible
19.	What are the 2 different kinds of chemicals that can burn the eyes? 1) acid 2) alkali	(2)
20.	List 3 acids that can burn the eyes. 1) toilet bowl cleaner 2) rust remover 3) battery acid and/or muriatic acid	(3)
21.	How should you care for an acid burn of the eye? 1) read or have label read 2) lay on side, unburned eye up 3) wash eye for 5 minutes with running water 4) mix 1 teaspoon baking soda with 1 quart water and wash eye again 5) say "do not rub eye" 6) cover burned eye - do not use cotton 7) call doctor	(7)
22.	Name 3 alkalis that can burn the eyes. 1) drain cleaner 2) ammonia 3) strong laundry and dish detergent	(3)
23.	What should not be used for an alkali burn of the eye? 1) do not use baking soda wash	(1)
24.	What should be done for an alkali burn of the eye? 1) read or have label read 2) lay on side, unburned eye up 3) wash eye 15 minutes	(6)

Points Possible

4) lift loose particles out of eye

5) say "do not rub eye"

6) cover with gauze - no cotton - and call doctor

25. Name 4 things you can do to keep a child from getting a sunburn.

1) use lotions

2) short play periods

3) long sleeves and long pants (4)

4) hats

26. What causes the water from the faucet to be too hot?

1) thermostat too high (1)

27. How can burns caused by very hot liquids (like water or oil) be prevented?

1) use back burners

2) do not let handles stick out over edge

3) get child out of way when carrying (5)

4) use hot pads and lids while carrying pan

5) do not let child stand on chair next to stove

28. What are some safety rules to remember when using an oven?

1) use dry hot pads

2) close door when not in use

3) do not heat house with oven (4)

4) get children out of the way when carrying pans

29. What are some safety rules to remember when using small electrical appliances (like skillet, coffee pot, toaster, deep fat fryer)?

1) no more than 2 plugs per socket

2) keep child away from plugs and outlets (3)

3) do not let children under 8 play with electrical toys

Points Possible

30. What can you use to put out a grease fire?

    1) fire extinguisher

    2) baking soda (3)

    3) lid

31. What do you need to watch for when cooking on the burners/ elements?

    1) cook on back burner

    2) keep handles from stretching over side

    3) get children out of way (5)

    4) use dry hot pad

    5) use lid to carry

32. What safety rules do you need to know when using an iron if children are around?

    1) put up iron when not in use

    2) do not let cord touch hot iron (4)

    3) do not let children play under your feet

    4) no more than 2 plugs per socket

33. What are some things you have to watch for around gas heaters and floor furnaces?

    1) turn off gas for 5 minutes if pilot goes out

    2) keep children away while lighting (4)

    3) do not get face close to jets

    4) do not let child stand close to open heaters

34. For the safety of the children, what things do you need to remember when using a charcoal cooker?

    1) do not use gasoline

    2) do not add fuel to hot coals (3)

    3) do not let children poke with stick

	Points Possible
35. What are some safety points for fireplaces? 1) do not burn loose paper 2) do not burn corrugated cardboard 3) do not leave children alone in room 4) do not allow children to play with the matches	(4)
36. How should matches and cigarette lighters be handled? 1) do not let children handle them	(1)
37. What can you do to keep a child safe from electricity? 1) 2 plugs per socket 2) keep child away from plugs and outlets 3) no electrical toys before age 8 4) do not leave bulb out of lamp socket	(4)
38. How can you prevent a child from being burned with an alkali or an acid? 1) store them in original containers 2) keep them out of sight 3) keep them out of reach 4) do not store them higher than shoulder height	(4)
_____ Total	

TAPING PRACTICAL -- Burns

1. Hand - minor burn 1) gauze pad 2) wrap fingers 3) wrap thumb to fingers 4) wrap wrist and secure	(4)

	Points Possible
2. Arm - major burn	
1) wrap all of burned area	(1)
3. Elbow - electrical burn	
1) wrap upper arm	
2) angle wrap for crook in elbow	(3)
3) wrap forearm	
4. Foot - major burn	
1) arch	
2) figure eight	(3)
3) ankle	

VITA

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Candidate for the Degree of

Master of Science

Thesis: THE DEVELOPMENT OF TEACHING MATERIALS TO SUPPLEMENT A SELECTED VOCATIONAL HOME ECONOMICS UNIT DESIGNED FOR EDUCABLE MENTALLY HANDICAPPED STUDENTS

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