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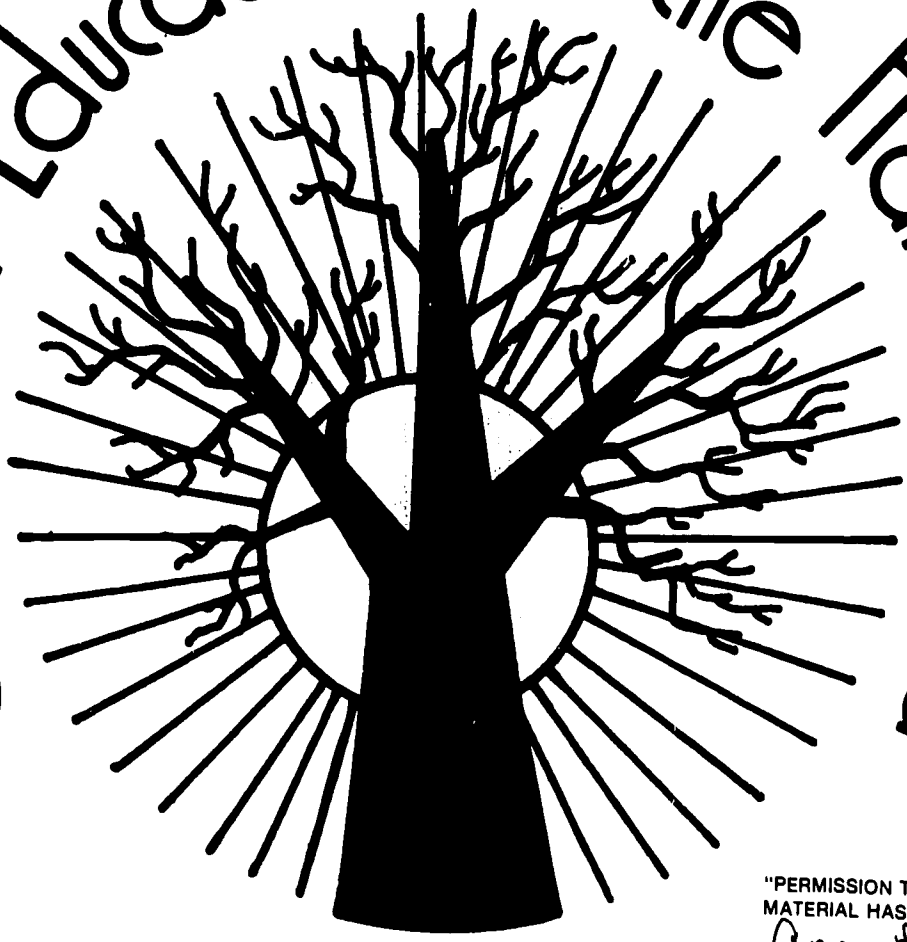
ABSTRACT

The concept and purpose of this facilitator guide is to provide the three facilitator groups of educators, park and resource management personnel, and parents of handicapped children with information on how to cooperatively design and implement an outdoor education program for handicapped students. Chapter 1 (contributed by Vicki Stayton) outlines historical perspectives on outdoor education and outdoor education for the disabled, rationale for outdoor education for the handicapped, program models (traditional, segregated, segregated/mainstreamed, mainstreamed, residential, and day), and future trends. Chapter 2 describes steps in the cooperative planning approach: conducting a needs assessment, exploring possible outdoor education program models, and designing and developing curriculum. Chapter 3 reviews funding and financial considerations including identifying sources, writing proposals, and making presentations. Chapter 4 considers issues of legal liability. Chapter 5 addresses personnel preparation and training, working with parents, and program implementation in the areas of scheduling, transportation, medical care, diet/food service, health and safety, and outdoor ethics and stewardship. Chapter 6 (contributed by Katie Ahern McGuinnes and Terry D'Eugenio) focuses on accessibility, offering design guidelines and techniques for considering user needs (behavioral mapping, photography, role playing, bubble diagrams, sense scales, and model-making). Chapter 7 presents strategies for evaluation. Chapter 8 contains a bibliography on outdoor education program planning, a list of audio-visual aides, and resources on overcoming attitudinal barriers and barrier-free environments. Each of the first 7 chapters includes a list of literature cited, and the text is illustrated with several photographs. Appendices contain sample forms and describe special population characteristics and implications for program planning. (NEC)

Outdoor Education for the Handicapped



A Facilitator Guide

A FACILITATOR GUIDE

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FOREWARD

This publication is the result of a three year research and development project conducted by the University of Kentucky's College of Education with funding from the U.S. Department of Education, Office of Special Education Programs. Begun in 1978, the primary purpose of the Outdoor Education for the Handicapped Project was to develop, field test and disseminate a comprehensive instructional program model to assist educators, park and resource management personnel and parents or guardians of handicapped children to cooperatively plan and implement outdoor education programs designed to meet the needs of handicapped children and youth.

The development of the instructional program model involved extensive preparation and research. Activities such as conducting a comprehensive literature search and review, surveying over 600 outdoor education programs and centers, identifying competencies to determine the design and approach to the instructional model and developing a systems model to outline the process of outdoor education program planning and implementation were organized and conducted during the early months of the project. After these activities were completed, the materials were developed and prepared for two major phases of developmental testing beginning with a prototype (pilot) review by a panel of experts representing educators, parents and park and resource management personnel.

Immediately following, the materials were revised and prepared for national field testing. Five outdoor education centers and programs in the states of Maryland, New York, Illinois and Kentucky were selected to participate in this process. The five national field testing teams were also comprised of persons representing each of the three target facilitator groups who provided objective feedback and recommendations as to how the materials and resources may be further refined to better meet their individual needs. Results of this developmental testing effort, as well as the many other helpful and constructive recommendations the project staff received have been incorporated in this and other publications which embody the instructional program model.

INTRODUCTION

Although the growth, development, and acceptance of outdoor education programming for the handicapped has increased over the past several decades, there is still a significant lack of appropriate materials, resources, and information available which specifically addresses the programming needs for special populations and the factors which may limit or prohibit handicapped children from full and equal participation in outdoor education programs. A review of the literature has indicated the following major reasons for this dilemma: (1) failure of the majority of readily available outdoor education curriculum materials to address the specific and unique learning needs of the handicapped; (2) lack of materials and resources which assist personnel with the process of designing and implementing an outdoor education program for disabled populations; (3) lack of awareness and training opportunities for educators, parents, and park resource personnel on the value and importance of outdoor education for this segment of the population; and (4) existing man-made, natural, and attitudinal barriers which may prohibit certain groups of disabled consumers from participating in these programs.

Additionally, the majority of information that is available in the field does not adequately address the interdisciplinary teaming or the cooperative approach to outdoor education program development. The ultimate success of any educational program, especially those in outdoor education, will depend upon cooperation and coordination among all persons and/or agencies involved. This interdisciplinary relationship, whether in the home, community or school, is vital for effective planning, implementation and evaluation to occur in all aspects of education for handicapped students.

The concept and purpose of the facilitator guide is to provide the three facilitator groups of educators, park and resource management personnel and parents of handicapped children with information on how to cooperatively design and implement an outdoor education program for handicapped students. The content and format of this guide follows the developmental steps of assessing, developing, individualizing, implementing, and evaluating. Although much of this information is applicable to all three facilitator groups, information has been provided that is specific to their individual group needs. For example, park and resource management personnel have expressed a desire for information describing the major handicapping conditions and how to make their facilities and programs accessible. Educators, on the other hand, want resources and information for integrating outdoor education into an IEP and/or classroom program. Parents have expressed a need to be provided with information which will enable them to gain a better understanding of the importance of outdoor education for their child. The benefits derived from such an

experience for both the child and the family; and how parents can actively participate and/or advocate for outdoor education programs in both school and community settings.

This guide will continue to be updated and revised. Suggestions and comments are always welcome as to how this guide might be revised to make it more relevant and practical to better meet the needs of all persons committed to providing quality outdoor education experiences for the disabled.

CHAPTER 1 WHAT IS OUTDOOR EDUCATION?

BY VICKI STAYTON

- INTRODUCTION
- HISTORICAL PERSPECTIVE
- RATIONALE FOR OUTDOOR EDUCATION FOR THE HANDICAPPED
- OUTDOOR EDUCATION PROGRAM MODELS FOR THE HANDICAPPED
- FUTURE TRENDS

CHAPTER 1

INTRODUCTION

During recent years, educators and parents have expressed concern about the educational system in the United States. Concern has centered around the appropriateness of educational programs and approaches in meeting students' needs and the relevancy of education to students' real-life situations.

At the same time, educators and parents have recognized the need to become advocates for the educational rights of disabled, as well as non-disabled students. These advocacy efforts have resulted in federal and state legislation which has made the right to an appropriate education for all disabled students a reality. Along with the increased interest in educational practices and students' rights, an increased concern for environmental issues and increased environmental awareness has occurred in the past two decades. Terms such as outdoor education, environmental education, and conservation education have become prevalent in educational literature. Although these terms can be differentiated, they do describe similar concepts, approaches, and programs pertaining to education in and/or about the outdoors. Outdoor education, which is the term most commonly used by school systems, is recognized as a viable approach for meeting the learning needs of all students and for providing educational experiences in real-life situations.

Outdoor education can be defined as the utilization of the outdoor environment to provide students with direct learning experiences. L. B. Sharp, one of the early leaders in the field of outdoor education, stated: "That which can best be learned inside the classroom should be learned there. That which can best be learned in the out-of-doors through direct experience, dealing with native materials life situations, should there be learned." (3)

Outdoor education is not a separate discipline or subject area. Rather, it is an interdisciplinary approach or process for teaching and learning. It is based on accepted learning theories, theories which advocate involving students in direct hands-on, multi-sensory learning experiences (3-6,24). As an instructional process, outdoor education provides the learner with highly motivating activities in a natural setting. Activities which positively affect social, emotional, cognitive, and physical development are utilized.

Outdoor education can be described as education in the outdoors and education for the outdoors. The student can be involved in all areas of the curriculum in the outdoors, by utilizing the natural environment as a real-life learning laboratory. The student can use all of his senses to explore, discover, and share experiences with others in an environment that is more conducive to learning than is the classroom for many students. Outdoor

experiences may occur on the school site, at parks and recreation areas, residential or day camps, farms, gardens, forests, or other school/community sites.

Education for the outdoors involves acquiring the skills, knowledge, and attitudes necessary for the intelligent use of the outdoors. As students are involved in outdoor activities, they develop an interest in and awareness of the natural environment. Education for the outdoors also includes the acquisition of leisure and recreation skills. As members of our society have more leisure time, schools should include leisure education in the curriculum with an emphasis on both leisure activities that can occur in the outdoors and activities that emphasize the wise use of leisure time for the appreciation and conservation of the outdoors.

HISTORICAL PERSPECTIVE

General Outdoor Education Movement

Roots of the outdoor education movement can be traced to Europe as early as the sixteenth century; however, the development of formal outdoor education programs in the United States was fairly recent, dating back to the 1940's. The activities of two men during this time period contributed to the growth of outdoor education as an identifiable movement. First, L. B. Sharp established a national camp in New Jersey. Second, Julian Smith was involved in the development of Clear Lake Camp near Battle Creek, Michigan, the first twelve-month resident outdoor school.

With the establishment of these and similar programs, the 1940's came to be noted as a period of growth in resident outdoor schools. Increasingly, the term outdoor education was used to refer to these programs. State legislatures and state departments of education also began to be involved in the out-

door education movement. As the decade of the 1940's ended, outdoor education was still greatly influenced by school camping; however, the concept of outdoor education was beginning to broaden in scope.

The 1950's were noted as a period of expansion in outdoor education with the emergence of teacher training programs. The number of resident outdoor schools continued to grow; however, utilization of school sites to provide direct, hands-on experiences for students increased. During the 1950's, emphasis was placed on outdoor education as an instructional process - an experiential approach to learning. Teacher training programs at the preservice and inservice level were established.

The outdoor education movement in the 1960's was greatly influenced by the increased emphasis on the utilization of resources other than resident outdoor schools, increased concern in environmental issues and the conservation of natural resources, and increased acceptance of outdoor education as a viable instructional approach. More elementary and secondary schools began to utilize outdoor settings to teach not only outdoor skills, but also skills in all subject areas. As outdoor education became more widely accepted among educators, more university programs developed, such as those at Indiana University, Pennsylvania State University, and Northern Colorado University.

The 1970's were characterized by an increased concern in environmental quality, increased diversification of the outdoor education field, and increased emphasis on outdoor education as a means for educating the whole child - emotionally, socially, cognitively and physically. Affective learning was emphasized as educators provided direct learning experiences in outdoor settings to develop an environmental awareness. Adventure-risk programs, acclimatization, self-concept, and experiential education were indicative of the growing diversity of the outdoor education field.

Outdoor education has progressed from its early emphasis of utilization of resident outdoor schools and camps to its current use of a variety of outdoor sites, including the school site, to provide direct learning experiences in real-life settings. By the 1980's, outdoor education has developed as an interdisciplinary approach for educating the whole child.

Outdoor Education for the Disabled

Just as the organized general outdoor education movement began with the development of resident outdoor schools and camps, so did the outdoor education movement for the handicapped. The first recorded camp in the United States for the physically disabled was Haxtun Cottage in New York. This camp was established by the Children's Aid Society of New York to provide a two-week camping experience for girls ages three to sixteen. By the late 1940's, approximately ninety resident camps served the disabled (24). The majority of these camps served the physically disabled; although some were designed to serve students with other disabilities, such as mental handicaps, emotional disturbance, and visual impairments. Therapeutic camping for the emotionally disturbed began with three independent camps - The Michigan Fresh Air Camp, Camp Wediko, and Camp Woodlawn Springs. One of the earliest camps for the blind was Camp Wapanacki which was established in 1937 by the New York Institute for the Education of the Blind. Many of these early camps provided services in cooperation with private and/or state residential facilities or therapeutic centers, since many public school systems did not provide special services for disabled students. These first camps were segregated, designed specifically for disabled students. Also, each camp was designed for students having one primary disability, e.g., Camp Daddy Allen in Pennsylvania served as a residential camp for physically disabled students.

Vinton (24) describes the organized camping movement, which also applies to the disabled as having four distinct stages.

(1) Hero Stage (1861-1912) - established for the purpose of developing strengths and improving health in campers.

(2) Individual Needs Stage (1912-1930) - primary considerations were individual needs of campers and a variety of experiences was offered.

(3) Custodial Stage (1930-1950) - prescriptive-instructive period; programs were more structured and emphasized development and achievement of skills.

(4) Social Group Stage (1950-present) - emphasized development of whole child-physical, cognitive, social, and emotional.

The number of resident outdoor programs for the disabled continued to grow in the 1950's as did the public's awareness of the problems and frustrations that accompany physical and mental impairments. People began to recognize the need to provide educational services for the disabled. As public school classes for the disabled were established, educators began to

utilize school sites as learning labs for disabled as well as non-disabled students. As in the resident programs, outdoor education programs on the school sites were usually segregated according to classes for students with specific disabilities. Although outdoor education for the disabled increased in the 1950's, specialized training for educators in providing outdoor education for the disabled was limited.

Federal legislation greatly affected education for the disabled in the decade of the 1960's. Legislation included appropriation of funds for teacher training, research, demonstration projects, and media materials. This legislation resulted in increased services and programs. As more disabled students were placed in the public schools, they were able to participate in the outdoor education programs that were established through Title III of the Elementary and Secondary Education Act of 1965.

Increased programming and awareness of the needs of disabled students in the 1960's caused many educators to evaluate the efficacy of educating them in segregated environments. Gradually, mildly disabled students began to be educated with non-disabled students. This transition of programming resulted in the integration of outdoor education programs.

Federal legislation also had an impact on outdoor education programs for the disabled in the 1970's. Section 504 of the Vocational Rehabilitation Act of 1973 was the first major civil rights legislation affecting the rights of disabled persons. It ensures that disabled persons can participate in federally assisted programs without discrimination. Then, in 1975, P.L. 94-142 guaranteed that all disabled students would be provided a free, appropriate public education designed to meet their individual needs. These laws were passed to ensure disabled students equal educational rights and opportunities.

Therefore, with the initiation of additional special classes in public schools and the placement of mildly disabled students in regular classrooms, public school programs such as outdoor education programs which had previously been available only to non-disabled students were available to disabled students. Additionally, disabled students began to be integrated with non-disabled students in the outdoor education programs.

Increased programming for the disabled as well as integration of disabled students in regular outdoor education programs, both in public schools and in parks and community resource areas, resulted in an increase in training programs for providing outdoor education to the disabled.

As the decade of the 1980's began, resident camps and outdoor programs had grown in number since the early 1900's. The 1977 "Easter Seal Directory of Resident Camps for Persons with Special Health Needs" listed 266 camps (24). Although the number of resident camps had increased, many disabled students were being served by public school outdoor education programs. Also, many more disabled students were becoming involved in parks and community programs. The trend by the late 1970's was to serve disabled students, whenever appropriate, in programs with non-disabled students, therefore, creating a need for personnel preparation programs.

RATIONALE FOR OUTDOOR EDUCATION FOR THE HANDICAPPED

Benefits for Students

Outdoor education is a way of teaching and learning which is based on accepted principles of learning. It provides direct, concrete learning experiences in the outdoors, experiences which enhance the social, emotional, cognitive, and physical development of students. Enhanced self-concept, increased awareness of and responsibility for the natural environment, improved academic skills, language skills, social interactions, and physical skills as well as enhanced creativity and development of lifelong leisure interests and skills are important outcomes of outdoor education (6).

Outdoor education can provide the same benefits for disabled students regardless of the type or severity of the disability, if instruction is appropriately designed to meet the learner's unique needs. For many mildly disabled students, only minor modifications in the instructional program are required. The most effective educational programs for disabled learners include direct, carefully sequenced instruction based on the same developmental skills as non-disabled students, short periods of instruction with frequent review, one-to-one instruction for the more severely disabled, individualized instruction based on learner's needs, a highly motivating learning environment, multi-sensory learning experiences, and natural, real-life settings, tasks and materials, with instruction occuring in integrated groups in order to assist disabled students to function in a normal social setting (1).

A review of the literature indicates that professionals from many fields consider outdoor education to be a viable instructional process for meeting

the individual needs of the disabled. Outdoor education is cited as benefitting their emotional, social, physical, and cognitive development.

Emotional Development. Benefits in the emotional area include development of a more positive self-concept, development of self-reliance, enhancement of self-confidence and independence, and improvement of attitudes toward others - peers, teachers, and other authority figures (1, 2, 11). Often, disabled students because of visible differences, as well as failure to achieve academically and socially, develop negative attitudes about themselves. The traditional classroom environment, with the majority of tasks based on reading and writing assignments, perpetuates this feeling of failure. Usually, the outdoor classroom does not have the negative stimuli that the indoor classroom has for the disabled, e.g., extensive reading material may not be required in outdoor activities. By becoming involved and interacting with the environment, success experiences can be provided for these students as a means of enhancing self-concept (7, 16, 19, 22, 23). As students have success experiences through involvement in cooperative, outdoor activities, as compared to competitive, win-lose situations that occur in the classroom, their self-confidence in both academic and social areas increases. Students begin to develop independent and self-initiated behaviors while interacting with the environment. Improved self-concept and increased self-confidence in social and academic areas also results in more positive attitudes toward peers and authority figures (1, 7, 9, 12).

Social Skills. As disabled students participate in outdoor programs, social skills are strengthened. Students begin to develop better interpersonal relationships with peers and adults, to work more effectively within a group, and to acquire recreation/leisure skills.

Research indicates that in order for disabled students to effectively learn appropriate social skills, they must be involved in cooperative group learning experiences with non-disabled peers (10). Outdoor education fosters social development as interdependence and interactions with peers and adults occurs in a group situation. The informal, relaxed outdoor environment promotes trusting relationships and increases respect for others (1, 2, 9, 11, 12, 13, 16, 22).

As part of social development, disabled students must be taught to utilize free time meaningfully. Many have difficulty in adequately filling leisure time with profitable activities without appropriate training. The outdoors provides an excellent environment for acquiring necessary skills for leisure and recreational pursuits. These skills can be acquired through field trips, outdoor education activities, community programs, and residential or day camp experiences.

Physical Development. Benefits in the area of physical development also result from participation in outdoor activities. Physical benefits include improvement in physical fitness, perceptual-motor skills, and body image; acquisition of physical skills; and development of self-help and survival skills.

Disabled students often have inadequately developed physical and perceptual-motor skills resulting from lack of involvement in physical activities. Because of a variety of highly motivating outdoor activities which allow the student to explore and move freely in the outdoors, skill development occurs in the areas of gross and fine motor movements, mobility, spatial awareness, balance, and tracking (1, 15). Involvement in physically based learning experiences, especially those which promote recreation and leisure interests, leads to the development of physical skills necessary for participation in sports and games and results in improved physical fitness (9, 14).

As students observe and explore in the outdoors, an awareness of the relationship between themselves and the environment develops. Students' perceptions of themselves and their bodies improve (11, 15, 22). Likewise, outdoor experiences foster the development of self-help and survival skills (9). Especially in residential programs, students are involved in activities such as dressing themselves, assisting with meals, and setting up camps, which help them develop skills necessary for everyday living.

Cognitive Development. Finally, disabled students benefit from outdoor education in the area of cognitive skill development as indicated by improved academic achievement. A review of the literature indicates that academic skills improve and school grades increase after participation in outdoor programs (12, 24). Rawson demonstrated that behaviorally disordered students could change their math scores on a standardized achievement test an average gain of three months and reading scores an average gain of six months after participation in a residential camping program (16).

Outdoor education enhances cognitive skill development by providing motivating, multi-sensory experiences which disabled students often require to learn most effectively. The outdoors provide for real-life, concrete experiences from which new concepts can be learned. As students explore, observe, and interact with the environment, they develop observational skills, individual and group problem-solving skills, and the ability to transfer learning to new situations (2, 9, 11). Also, with increased interaction between peers and adults, communication skills improve (1).

The outdoors as a learning laboratory is an excellent setting for disabled students. Through involvement in non-competitive, concrete outdoor experiences, the disabled are able to positively change their attitudes about themselves, to interact more effectively with others, to improve their physical skills, and to increase academic achievement. As an instructional process, outdoor education can make school an exciting and enjoyable learning experience for disabled students.

Benefits for Educators

Just as outdoor education provides many educational benefits for students, it also offers specific benefits for educators. The utilization of outdoor experiences aids in individualization, encourages interdisciplinary planning, helps to remove barriers between students and authority figures, decreases discipline/behavior problems and aids in student motivation and creativity.

Individualization. Disabled students differ in their social, physical, and cognitive abilities; therefore, instruction must be adapted to meet the learner's individual needs. The outdoor environment offers a variety of tasks, settings, and materials which can aid in this individualization. As a learning environment, the outdoors allows educators to provide for individual or group

experiences in concrete as opposed to abstract situations. For many disabled students, skill development occurs more readily in this type of learning environment. When providing instruction in the outdoors, educators are able to individualize more effectively by using more non-traditional teaching approaches, by incorporating fewer reading activities for students with reading problems, by utilizing large and small group instruction and by using peer tutors.

Interdisciplinary Teaching. Because outdoor education is an interdisciplinary approach to instruction which cuts across all subject areas, each of the educators involved in providing the student's educational program can provide instruction through outdoor activities. Use of the same instructional approach leads to more effective planning and cooperation between teachers, speech therapists, and physical therapists. Utilization of the same instructional approach also adds to the consistency of the students' instructional program.

Removal of Barriers. As more appropriate instruction is provided, barriers between students and authority figures begin to disappear. The educator's role changes to that of a facilitator and learner in the outdoor classroom. Along with the role change comes increased rapport and interaction with students. Krieger (12) indicated that residential camping programs for emotionally disturbed students resulted in more positive responses to authority figures and improved student attitudes toward teachers and school.

Decreased Discipline Problems. With improved educator-student relationships and appropriately designed instruction, discipline and behavior problems decrease. Information presented in the outdoors is often more interesting and relevant to students; therefore, students get involved in activities and spend less class time creating disturbances. Also, many classroom behavior

problems are a result of frustration from failure. Success in outdoor activities removes this need to gain attention through inappropriate behavior. A review of the literature indicates that outdoor education aids students in self-control of socially inappropriate behaviors and decreases the rate of behavior problems in the classroom (12, 14, 16, 22). Thus educators can spend more time instructing and less time managing behavior.

Increased Motivation and Creativity. Finally, outdoor education benefits educators by increasing student motivation and creativity (11). Students are eager to learn if activities are highly stimulating and relevant. Outdoor activities require students to utilize skills in real situations, e.g., measurement and other math skills may be required to build a trail. Creativity may also be enhanced as students are allowed to test solutions through trial and error, to ask questions, and to move freely while interacting with other students.

Benefits for Parents

Participation of disabled students in outdoor education programs also results in benefits for parents. These benefits include carry-over of the student's improved skill development into the home situation, greater parental involvement in the student's educational program, and increased planning and cooperation among parents, educators, and park and resource management personnel.

Family Relationships. As students develop more positive attitudes about themselves and more appropriate social behavior, relationships with family members improve. Follow-up evaluations by parents of residential outdoor programs indicate that students demonstrate improvement in self-concept and in social behavior after participation in outdoor activities (16, 19, 22). Leisure and recreation skills, self-help skills, and survival skills which are acquired

in outdoor programs allow parents more freedom as their children become socially and physically independent.

Parental Involvement. Outdoor education programs provide an excellent opportunity for parents to become involved in their child's educational program. Parents often have the major responsibility for selecting summer residential or day programs. If the program is school-based or sponsored, parents may be asked to assist in establishing and maintaining the program. Parents of students who are attending residential or day programs can visit the site, meet the staff, discuss the student's strengths and weaknesses with the staff, and then prepare the student for the experience by practicing tasks, such as folding clothes and making beds at home. Follow-up activities in the home assist in improving the parent-child relationship, while reinforcing the student's newly acquired skills. Finally, parents have a role in the evaluation of the program and the student's progress. This evaluation usually occurs through questionnaires or conferences with program leaders.

Parental Cooperation. Such involvement improves relationships between parents and persons responsible for providing outdoor programs for students. There are many other ways in which parents, educators, and resource personnel may work cooperatively. Parents are excellent promoters of outdoor programs. They can assist in establishing and maintaining programs by developing community support and by serving on advisory boards. Cooperation is also attained as parents assist in obtaining funds, serve as program volunteers, and assist with transportation. Finally, data obtained from parental evaluations can be used by parents, educators, and resource personnel to make program changes and design better services for students.

Benefits for Park and Resource Management Personnel

Parks and community resource programs provide services and facilities in natural outdoor settings. By allowing schools to utilize these facilities, educators become more aware of the instructional resources in the outdoors. As orientation to the site increases, use also increases. After experiencing success at these sites, students then encourage parents to take family trips to these areas. The need for and the economic feasibility of the program becomes greater as use increases.

Increased utilization of the facilities, often results in cooperative planning efforts between educators and park and resource management personnel. Cooperative efforts lead to improved services for students and avoidance of duplication of facilities and services. Through cooperation, knowledge and expertise in various areas are shared. Park and resource management personnel provide consultation and inservice for educators in utilizing outdoor facilities while educators share ideas and materials for working more effectively with disabled students.

Since many park and resource management personnel consider one of their primary objectives to be education of people in the wise use of natural resources and understanding of the natural world, joint work with schools provides an excellent opportunity to reach individuals at an early age. Personnel are able to assist students in acquiring leisure and recreation skills which will last a lifetime. At the same time, students may develop a greater sensitivity toward and awareness of the outdoor environment.

Legislative Support

The Education for All Handicapped Children Act P.L. 94-142, provides additional support for the utilization of outdoor education. Public Law 94-142 ensures that all disabled children be provided a free appropriate public education in the least restrictive environment possible. To ensure that each disabled student is placed in an appropriate instructional program in the least restrictive environment, an Individual Education Program (IEP) is developed.

The IEP which is jointly prepared by parents, educators, and other support personnel to include necessary special and related services is based on the assessed strengths and weaknesses of each individual learner.

One of the most important concepts in P.L. 94-142 is that of least restrictive environment (LRE). This often misunderstood term refers to the placement of disabled students in an educational setting in which they can achieve to their maximum potential. For some mildly disabled students, this may mean full or part-time placement in regular classes. More severely disabled students, however, may require the services of a special class or perhaps some type of institutional placement. Therefore, a variety of placement options, or a continuum of services, needs to be provided by school districts. (See Figure 1, Continuum of Services.) Similarly, outdoor education programs should provide a variety of programs ranging from segregated to mainstreamed programs. (See Figure 2, Continuum of Services for Outdoor Education Programs for the Disabled.)

Associated with least restrictive environment are three concepts: mainstreaming, normalization, and risk taking. Mainstreaming refers to the education of disabled students with non-disabled peers in regular classes whenever appropriate. One of the primary problems associated with mainstreaming is effective social and academic integration of disabled and non-disabled students. Outdoor education provides students with cooperative learning experiences in which students are able to work together to accomplish learning tasks. As previously stated, outdoor activities enhance social relationships and academic achievement. For mainstreaming to be successful, parents, regular and special educators, and other support personnel (i.e., recreation therapists, speech therapists, physical therapists, etc.) must work together in providing appropriate learning experiences for each individual. Many educators and support personnel may have to take on new roles and acquire new skills as mainstreaming occurs.

The concept of normalization refers to the basic human rights of the disabled. The principle emphasizes that the disabled be able to experience the patterns and conditions of everyday life just as the non-disabled are able to experience them. These experiences should be provided within a normal setting, rather than in a segregated program for the disabled. Outdoor education offers students real-life experiences in a setting which is conducive to the integration of disabled and non-disabled peers.

The concept of risk taking makes the assumption that as individuals are able to take risks in a normal setting a basic human dignity develops. As disabled students explore and interact with the environment along with non-disabled peers, this "dignity of risk" develops. With only minimal modifications, the outdoor environment provides an excellent setting in which this development can occur.

The IEP is the management tool that ensures disabled students an appropriate instructional program in the most normal setting possible. Developed jointly by parents, educators, and support personnel the IEP includes instructional goals and objectives as well as special and related services needed to meet the assessed needs of each student. Goals may include social, emotional, physical, and cognitive skill development. Since outdoor education does improve skills in these areas and does provide for real-life experiences, instructional programs should include outdoor activities. Many environmental curriculum materials, such as the Project Learning Tree Supplementary Activity Guides are based on stated objectives which can easily be incorporated into an IEP.

By incorporating outdoor education approaches into the IEP, all persons involved in providing services to disabled students can utilize these interdisciplinary approaches. This is especially the case for regular and special educators who provide the primary instructional program for disabled students, as well as

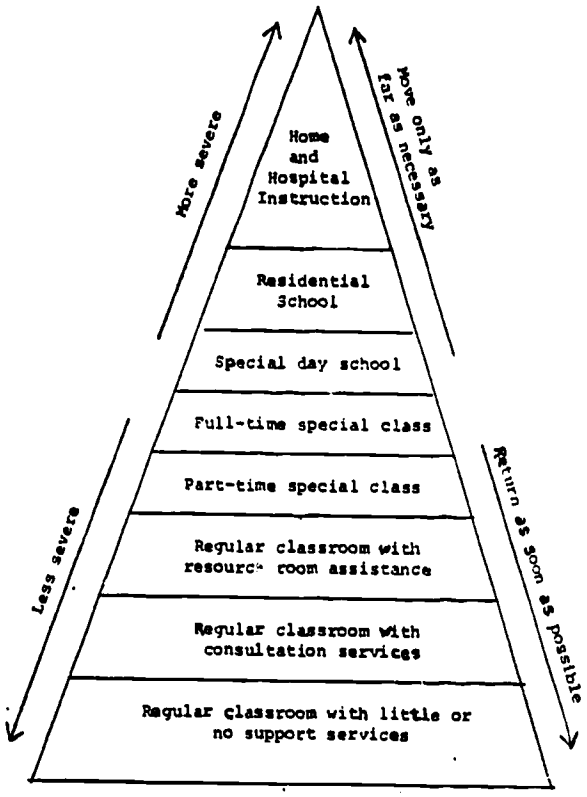

FIGURE I

CONTINUUM OF SERVICES

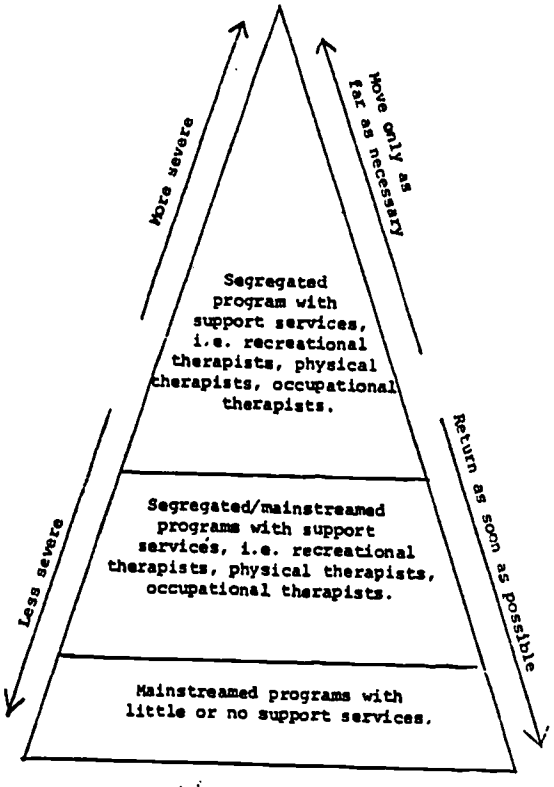

FIGURE 2

CONTINUUM OF SERVICES FOR
OUTDOOR EDUCATION PROGRAMS
FOR THE HANDICAPPED

camp staff, volunteers, and other personnel involved in outdoor education programs for the disabled. Keystone Junior College's Pocono Environmental Education Center in Pennsylvania held a five-day workshop (August 1981) for personnel from schools, environmental field centers, and related facilities to learn about the needs of the disabled and ways to adapt programs for them.

Agency Cooperation. The West Kentucky Environmental Education Consortium (17) is an excellent example of agencies working cooperatively to provide services and training for educators. In 1975, eleven school districts in West Kentucky (now 15) committed to pool their resources to develop a regional environmental education program. A Board of Directors of area superintendents was formed, and a regional coordinator was hired. Initially, the consortium was funded by Murray State University and the Tennessee Valley Authority. The Coordinator was employed as a Murray State faculty member, with TVA and Murray State providing additional staff support and services. Participating systems developed a funding formula

through which they support the consortium. The consortium identified four priority areas which included establishment of a resource center, provision for a school-site teacher awareness program through the use of an environmental van, identification, development and utilization of local environmental study sites, and provision of regional environmental workshops. As the relationship between the consortium schools and Murray State developed further, the Center for Environmental Education was established. It continues to provide services in the four original priority areas, as well as in preservice teacher education, program development, and research.

Federal and state grants have provided an impetus for the development of many personnel training programs. Project EASE, Environmental Approaches to Special Education at Murray State University was an example of inter-agency cooperation in providing training (18). Funded by the Bureau of Education of the Handicapped (now Office of Special Education), Project EASE utilized the resources of the university, local school districts, and the Tennessee Valley Authority's Land Between the Lakes area to provide training for educators and parents in fifteen local school districts. Through this model, educator-administrators, regular and special teachers, and support personnel, were trained to recognize the unique needs of disabled students and to provide appropriate instructional programs for them by utilizing outdoor teaching techniques. Training occured through an intensive two-week summer institute, two to three day follow-up workshops, and school site visits by field consultants. During the site visits, field consultants assisted educators in incorporating outdoor approaches in student's individual educational programs and in conducting outdoor activities. After the first year of project participation, participants were trained to share their newly acquired skills by offering inservice training to other personnel in the school district. This training often included parent

persons providing related services. Public Law 94-142 includes physical education and recreation as related services, with leisure education listed under recreation. Therefore, physical education teachers and recreation therapists are involved in the interdisciplinary planning and programming. If the school system does not have the appropriate personnel to provide these related services, personnel from other agencies may then become involved.

Additionally, the need to provide inservice training for educators and support personnel to assist them in acquiring skills needed to provide appropriate learning experiences for the disabled is identified in P.L. 94-142. Outdoor education training may be incorporated into this inservice training.

Public Law 94-142 also guarantees the rights of parents in helping to determine their child's appropriate education. Parents serve as members of the interdisciplinary team which develops and later reviews the IEP. Therefore, parents can be advocates for the use of outdoor education approaches in their child's education program.

In addition, the signing in 1977 of Section 504 of the Rehabilitation Act of 1973 prohibits the disabled being a) excluded from, b) denied the benefits of, or c) discriminated against under any program or activity receiving federal financial support. Section 504 prohibits discrimination against disabled persons of all ages in terms of physical and program accessibility as a matter of civil right. In general, the rights and protections guaranteed under P.L. 94-142 are also affirmed in Section 504.

OUTDOOR EDUCATION PROGRAM MODELS FOR THE HANDICAPPED

Traditional Program Models

Traditionally, outdoor education programs for disabled have been segregated programs with a student's placement based solely on disability. These segregated

programs do not take into consideration the unique interests, needs, and abilities of students. Nor do segregated programs allow for the interaction of disabled with non-disabled peers in a normal setting. As required by P.L. 94-142, a variety of continuum of outdoor education services should be available in order for each disabled student to receive appropriate instruction in the least restrictive environment.

Also, many of these traditional models are residential outdoor schools or camps designed specifically for disabled students. Some residential and school-based programs integrate mildly disabled and non-disabled students. However, few programs are designed to meet the needs of severely or physically disabled students. Problems which often inhibit the integration of these students into existing programs are inaccessibility of facilities; inappropriateness of curriculum, equipment, and materials; lack of training of personnel to work with the handicapped; and in some cases, negative attitudes of personnel and non-disabled students toward the disabled.

Efforts are being made through improved programming and personnel training to alleviate these problems. The following discussion includes descriptions of the outdoor education program models currently utilized in serving the disabled. Segregated models are described first, then, segregated/mainstreamed models, and finally, mainstreamed programs. Residential and day camp programs are discussed separately, since in outdoor education programming they may provide services anywhere along the continuum from segregated to mainstreamed placement.

Segregated Programs

Segregated outdoor education programs are those designed specifically for disabled students. Students are placed in these programs based on specific disabilities, e.g., mental handicaps or physical impairments. Segregated experiences occur at outdoor education centers, residential outdoor labs which

provide programs in cooperation with public school special classes, and school-site outdoor labs.

The Breckenridge Outdoor Education Center* in Breckenridge, Colorado, is a non-profit corporation located on thirty-eight acres of wooded mountain land. It offers year-round programs of one, two, three, five and ten day courses in ski touring, snowshoeing, hiking, climbing, desert hiking, rafting, fishing, and horseback riding for physically and/or developmentally disabled, ages four and up. Courses are designed for six to eight students with a staff ratio of one to three and sometimes one to one depending on the severity of the disability. Students are charged a course fee.

Camp Confidence* in Brainerd, Minnesota, provides a year-round camp and outdoor education facility for the mentally handicapped of all ages, offering both day and resident camping opportunities. The goals of the camp are: to further the individual's social adjustment, to help generate a feeling of self-worth and self-confidence through accomplishment, and to develop a consideration of others. Activities include water skiing, swimming, sailing, canoeing, fishing, downhill skiing, cross-country skiing, snowshoeing, snowtubing, broomballing, skating, tobogganing, and show boarding.

The Sante Fe Mountain Center* in Santa Fe, New Mexico, utilizes wilderness adventure courses to provide a therapeutic milieu for special populations, most particularly juvenile offenders/emotionally disturbed. Activities include mountaineering, canyoneering, rockclimbing, caving, technical river running, and other adventure activities.

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*More information on these programs may be found in the Outdoor Education for the Handicapped Project's publication Innovative Approaches to Providing Outdoor Education for Handicapped Students.

The program does not teach these specialized skills as ends in themselves, but rather uses them as a means of building the students' self-esteem, self-awareness, responsibility, and acceptance of others.

Classroom labs on school sites provide another setting for segregated programs. Concord Elementary in Paducah, Kentucky, has developed such a site. As a result of training through Project EASE, the teacher of educable mentally handicapped students utilizes the site to provide instruction in all subject areas.

Segregated programs do have certain advantages, especially for more severely disabled students. In segregated programs, longer range experiences, more intensive instruction, and smaller adult-student ratios can be provided. Personnel in these programs may be specially trained to work with the disabled. Remedial academic programs are often included in segregated outdoor experiences. These segregated programs may be more beneficial for students who are not yet ready for a mainstreamed program. Since many severely disabled students are often placed in segregated classes and institutions, segregated outdoor programs may provide more consistency for them.

However, segregated programs do not provide the opportunity for disabled students to interact with non-disabled peers in a normal setting. When integrated, disabled and non-disabled peers can serve as models for each other in learning social and academic skills. This modeling does not occur in the segregated setting. Also, placement in a segregated program often has a negative stigma attached to it which may lead to further deterioration of the student's self-concept. Further, separate placement may perpetuate the negative feelings and lack of understanding that non-disabled students may have of their disabled peers.

Segregated/Mainstreamed Programs

Segregated/mainstreamed outdoor education programs are those in which disabled and non-disabled students are integrated for some activities and separated for others. Placement of disabled students in groups, either segregated or mainstreamed, should be made only after careful consideration of the student's individual needs and the nature and objectives of the outdoor activities. The student should always be placed in the least restrictive environment possible.

Examples of segregated/mainstreamed programs include camps which provide one or two units entirely for disabled students while providing additional units for non-disabled students. Students in the special units often have the potential for full-time regular placement, but still need to be in a segregated group for some activities because of insufficient skill development in some areas. This type of programming may also occur in school site programs.

Another segregated/mainstreamed model is that of the Easter Seal Society for Crippled Children and Adults of Connecticut (15). Since the 1950's, this five stage program has provided for the gradual transition of disabled students from segregated to mainstreamed programs. Individuals are evaluated in order to determine readiness for placement in one of the stages. During the first stage, students are taken out of the home and placed in a community, segregated recreation setting for planned activities on a weekly or biweekly basis. In stage two, students attend a segregated day camp for four to six hours per day for an extended period of time. Stage three involves a segregated residential camping program. Students who have appropriate social, emotional, physical, and cognitive skills are then able to move to stage four. In this stage, a "buddy system" is utilized to maintain a residential camping program. Disabled students are paired with non-disabled peers as they participate in program activities.

Through segregated/mainstreamed programs, disabled and non-disabled students are able to interact and develop friendships while learning from each other. Non-disabled students develop an increased sensitivity and awareness of the problems that the disabled face. Placement in some mainstreamed activities allows the disabled to learn in a normal setting. Since many disabled students exhibit strengths in some skill areas, yet need assistance in others, segregated/mainstreamed programming offers more appropriate placement options based on the student's abilities. The dual placement may be less stressful for the student than the totally mainstreamed program. Segregated/mainstreamed programs may also serve as means to enhance cooperation between educators and other support personnel as they share knowledge and skills needed to work with the disabled.

The provision of segregated activities may keep the student in this group long after he/she is able to participate in the mainstreamed program, if learner needs are not continually evaluated. Participation in some segregated activities also may result in non-disabled peers attaching a negative stigma to the disabled student. Students, as well as parents, may not accept this model unless a careful orientation is provided. This model may also increase the need for personnel training, scheduling adjustments, and modification of curriculum and materials.

Mainstreamed Programs

Mainstreamed outdoor education programs are those in which disabled and non-disabled students are integrated. Some special support services or consultation services may be provided to assist in providing an appropriate program for the disabled students. Grouping in mainstreamed programs is accomplished by considering age, functional ability, interests and/or by use of the buddy

system. In utilizing the buddy system, disabled and non-disabled peers with similar interests are paired together.

Mainstreamed programs offer many benefits for students, as well as adults. Students develop positive and accepting attitudes of each other. Mainstreaming promotes a greater tolerance for individual differences and reinforces the idea that all individuals have strengths and weaknesses. Students are able to participate in group activities with persons of different ability levels, as in real life. Disabled students are also provided an opportunity to develop normal social relationships and be a member of a group.

Problems also arise with the implementation of mainstreamed programs. Educators and resource personnel must know how to promote interaction among disabled and non-disabled students. They must also know how to plan for success experiences by considering the student's interests and skills. Educators and resource personnel may need to acquire additional skills in planning and adapting appropriate programs and materials for disabled students. As in the segregated/mainstreamed program, students, parents, and personnel may require a carefully planned orientation to the mainstreamed model.

Residential Programs

Residential outdoor education programs are those in which the student actually lives at the outdoor facility for a time period as short as two days to a period of twelve to eighteen months. Residential programs provide group living experiences in an outdoor environment. These programs may be segregated as are the first three programs described in the segregated programs section of this chapter. Residential programs may also be segregated/mainstreamed or mainstreamed. However the majority of residential programs described in the literature are segregated. Residential programs are provided by youth organizations, churches,

voluntary organizations, national and state organizations serving the disabled and universities.

Residential programs combine a stimulating environment and motivating activities to enhance the development of therapeutic goals and acquisition of new skills in the social, emotional, physical, and cognitive areas. Through residential programs, the student's total environment can be controlled. Activities can be structured to meet the student's individual learning needs. A twenty-four hour real-life learning experience, which is usually not possible at a regular school site, can be provided. In many cases, the separation of the student from the often over-protective home and family environment is advantageous.

However, the separation from parents may cause some students to be extremely homesick and unable to function effectively. For shorter residential programs, time may not be sufficient to note significant gains in skill development. Insufficient funding, transportation, and lack of trained personnel may also present problems in residential programming.

Day Programs

Day programs are those in which participants are involved in activities for all or part of the day then return to their homes for the evening. Often committees consisting of parents, educators, and park and resource management personnel plan and organize the program. Usually, students are involved in outdoor activities for one to three days per week for eight weeks, to four to five days per week for four or eight weeks. Daily activities are scheduled for approximately five to seven hours per day. Sites for day programs include parks and recreation areas, school sites, and camps. Activities range from nature study, pioneering, hiking, games, and sports to crafts, music, dramatics, and service projects. As with residential programs, day programs fall along the

continuum from segregated to mainstreamed; and like residential programs, the majority of day programs described in the literature are segregated.

In Los Angeles County, California, the Rehabilitation Unit through the Los Angeles County Department of Parks and Recreation maintains a comprehensive day camp for autistic children (8). The camp is held three times per year for one week and is held in several parks and special education schools throughout the county. Each site is limited to twelve children with a three to one ratio between students and staff. Behavior modification techniques are utilized to achieve the objectives of increased self-awareness, environmental awareness, self-help skills, and fine and gross motor skills.

Day programs utilize the outdoor environment to provide students with satisfying contacts with the outdoors. Improved self-concept occurs as studnets acquire skills and develop recreational interests. Students also initiate social relationships and gain independence while being separated from their parents. Day camps may be a preparation for participation in residential programs. They serve as a gradual step away from the isolation of the home and allow parents and children to get used to the idea of being separated. Day camps also provide a setting in which students can develop an appreciation of the outdoor environment.

Day camps are greatly affected by funding. The number of chidlren served, number of staff, transportation services, equipment/supplies, food, etc. are all dependent on finances. Depending on whether the program is segregated or mainstreamed, problems may arise with integration of disabled and non-disabled students in least restrictive settings. Lack of properly trained personnel may also present problems.

In order for disabled students to be appropriately served in a learning environment which best meets their unique needs, a continuum of services must be provided. This continuum for outdoor education includes segregated, segregated/

mainstreamed, and mainstreamed programs which are provided in residential settings, day camp settings, and school-site labs. However, programs and facilities are not enough. Well-trained professionals in the areas of special and outdoor education must be available to provide students with effective programs.

Personnel Preparation

Universities. Quality training programs are essential for exemplary outdoor education programs for the disabled to be established and maintained. Educators, support personnel (i.e., recreation therapists, physical therapists, occupational therapists, etc.), and park and resource management personnel require training in both special and outdoor education. Training in outdoor education includes a study of philosophy and goals, instructional approaches, curriculum and materials. Preparation in special education provides for study of the characteristics and problems associated with various disabilities, assessment of learner needs, appropriate instructional programming, and adaptation of programs and materials. This training occurs through university, federal, state, local school district, and private organization programs.

Universities provide for personnel preparation through preservice and graduate programs, as well as inservice and workshop experiences. Most university preservice programs are designed in such a way that students may focus on a degree program in one area, e.g., special education, recreation, environmental studies. However, undergraduate students who plan to work in outdoor education programs for the disabled do have the option of taking courses in related areas. Many states require special education majors to take therapeutic recreation courses and education majors to take at least one special education course for certification purposes. Special education majors at Portland State University,

Portland, Oregon, are given the option of taking a two-week outdoor education/ recreation practicum during the summer months at the Mt. Hood Kiwanis Camp.* This course offers opportunities for both graduate and undergraduate students to learn to work with disabled children in a residential camp setting. The course not only exposes university students to a variety of disabilities but also gives them an opportunity to apply their skills and techniques gained from a classroom environment to an outdoor setting. Also, The Center for Environmental Education at Murray State University, Murray, Kentucky, offers two intensive week-end workshops which provide preservice students with direct experiences in utilizing outdoor instructional approaches. All education majors take one of these workshops. The most effective preservice programs include courses such as the preceding which not only expose students to the philosophies and goals of outdoor special education, but also provide practical experiences in working with disabled students in the outdoors.

University graduate programs also require students to acquire a degree in a specific area of study. However, students often have more flexibility at the graduate level in taking elective courses. The Bradford Woods Outdoor Education, Recreation and Camping Center at Indiana University offers a graduate course titled "Outdoor Education with the Handicapped." Other universities offer similar courses. Graduate degree programs are available in special education, environmental education, recreation, and other related areas.

Universities also sponsor both credit and non-credit inservice programs and workshops for educators, support personnel, and parks and resource management personnel. The Bradford Woods Center conducts an annual workshop of educators,

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*More information about the Mt. Hood Kiwanis Camp may be found in the Outdoor Education for the Handicapped Project's publication Innovative Approaches to Providing Outdoor Education for Handicapped Students.

groups. The EASE Model has greatly improved educators' attitudes toward working with disabled students and has increased the utilization of the outdoor environment as a learning lab in Western Kentucky.

Training is also provided by local school districts, private associations, government agencies and professional organizations. Many professional organizations, such as the Council for Exceptional Children (CEC) and National Association for Environmental Education (NAEE), offer conference workshops pertaining to outdoor education for the disabled.

Numerous training programs are available to personnel who want to improve their skills in providing outdoor activities to the disabled. As agencies begin to pool their ideas, skills, and resources to develop new preparation programs, both the quality and variety of training options should improve.

FUTURE TRENDS

Education for the Twenty-First Century

How will society and the world change in the next twenty-five years? What will be the crucial issues? How will these societal changes and issues affect students and educational programming? Questions such as these were recently presented to an international panel of 135 scholars and scientists by Harold Shane, Director of Phi Delta Kappa Curriculum project which was funded by the Lilly Endowment. In attempting to answer these questions, panelists first described the world as they predict it to be in the next twenty-five years. Panelists agreed that a state of turmoil will exist as a result of the following factors: (1) competing values between those who think the environment should be exploited to provide human needs and those who feel that a balance should exist between man and his environment, (2) development of a new economic order characterized by improved management of the world economy, (3) world-wide

inflation, (4) increased private and public debt, (5) increased unemployment, (6) energy deficits, (7) environmental pollution, (8) overpopulation resulting in increased problems with food distribution, (9) increased political tension as many small, underdeveloped nations are established, (10) increased threat from weaponry development, (11) greater tension and strain on democratic governments and (12) increased "assault on human reason" by the media (23).

If these descriptions of the future are accurate, what concepts do students need in order to live in such a turbulent society? The panelists mentioned the following concepts as being most important. They include a need to develop: (1) survival concepts - conservation and recognition of the increased interdependence of individuals and their environment, (2) an understanding of the holistic quality of the environment, (3) awareness that individuals are environmental change agents, (4) an understanding of trade-offs, (e.g., trade-offs between environmental quality and energy demands), (5) a realization that society is global, yet mobile, (6) an understanding of the need for frugality, (7) an awareness of individual differences in learning, (8) an understanding of cultural differences in learning, (9) an understanding of cultural differences and the effects of cultural backgrounds on behavior, and (10) a realization that all attitudes are learned. Students who acquire these concepts should have an understanding of their responsibility toward other individuals and the environment.

If these are the basic concepts which students need, what must schools do to ensure that students attain them? Shane suggests that the learning environment which includes the home, school and community should provide for the establishment of prioritized goals, (e.g., personal security in a turbulent society might be a priority); personalized education based on individual needs; an emphasis on "healthy" mental, emotional, and physical development; greater

emphasis on subject matter mastery while maintaining student interest and motivation; development of observation and problem-solving skills; and greater awareness and appreciation for democratic principles through participation in group decision making processes. Shane also stresses the need for cooperative efforts between parents and teachers to improve the learning environment and to serve as role models.

With these societal trends and needed educational changes in mind, educators must determine which instructional approaches can be utilized to best meet learners' needs. As an interdisciplinary instructional process, outdoor education provides students with experiences in a learning environment which facilitates concept development. Through outdoor education, students acquire a better understanding of their relationship to others and a greater understanding of the natural environment. Therefore, outdoor education is an appropriate process for meeting educational needs of disabled and non-disabled students in the next twenty-five years. Yet, societal trends must be considered in order to maintain current outdoor programs and to develop new ones.

Research

Additional research must be conducted to further establish the efficacy of outdoor education and the need for personnel preparation programs. Research pertaining to outdoor education for disabled should include evaluation of the program design, content, and learner outcomes in skills, knowledge, and attitude changes. A review of the literature indicates that considerable research is available concerning the effects of outdoor education programs on disabled learners. However, most of this research is based on programs in segregated residential or day camp settings. There is a need for research concerning school-based programs at each level of the continuum of services. A need also exists for quality studies of program design and content.

Personnel preparation is another area in which additional research is required. Again, research should be quantitative in nature and be based on program design, content, and learner outcomes as indicated by changes in skills, knowledge, and attitudes. Results of the research must then be used to make program modifications and to establish new personnel preparation programs.

Personnel Preparation

According to the results of the curriculum project conducted by Shane, students must learn nine basic concepts to survive in a changing world and schools must make curriculum changes to ensure acquisition of those concepts. Therefore, personnel preparation programs must be designed to prepare personnel to meet these changing needs.

A variety of personnel training programs, including university pre-service and graduate programs, inservice and professional workshops at the local, state, and national level must be provided for all persons - educators, park and resource management personnel, and parents - who are involved in outdoor education programs for the disabled. The need for well-planned and easily accessible inservice programs and professional workshops may increase as adults continue their education, and as persons who are already in the field require training in outdoor education.

Personnel programs must include training in the areas of child growth and development, awareness of individual differences, environmental awareness, instructional processes and materials for teaching in the outdoors, group integration and decision-making processes, subject area content, instructional programming based on learner's unique needs, and awareness of the interdependence of humans and the environment. Additionally, educators, park and resource management personnel, and parents must be trained to plan cooperatively and to

share facilities and other resources as a means of providing better services to students and in making programs more cost effective.

Economic Considerations

Economic factors such as increasing inflation, public and private debt, and energy costs play an important role in educational programming. Residential programs are especially affected by greater costs for transportation, utilities, facility maintenance, food, equipment, insurance, and salaries. In addition, disabled students often require modification of facilities, special equipment, specially designed buses, and a higher ratio of trained personnel to students. As costs rise, school-site programs may become more feasible in providing special services. Even though costs increase, schools must still maintain appropriate facilities, equipment, and transportation for disabled students.

With increased personal economic burdens, citizens often pressure state and federal governments to decrease governmental spending and to cut taxes. The public also pressures politicians to reduce spending for social and education programs which they consider to be "frills." Even though research may support outdoor education, it is often considered to be one of those "frills", because instruction occurs outside of the traditional classroom. Also, many citizens feel that the excess cost of education programs for the disabled is unfair to "normal" students. Proposed federal and state budget proposals for education exhibit the result of these pressures. The trend seems to be to place more control for education in local school districts by not earmarking funds for particular educational programs and by reducing budgets for educational programs. Even with tightened budgets, many school districts maintain quality outdoor and special education programs; yet other districts reduce services.

Reduced educational funds from state and federal governments increase the need to seek other financial sources for maintaining outdoor education

programs. Local financial sources may include private individuals and businesses, foundations, volunteer groups, and service clubs.

The economic trends also place pressure on educators, parents, park and resource management personnel and staff from other agencies to plan cooperatively and share resources. Shared resources may include facilities, transportation, equipment, and materials. Also personnel can share knowledge and skills, thus serving as consultants for each other (7). As educators and personnel of residential facilities pool resources, it may become more economically feasible to maintain some residential programs. However, support for non-residential outdoor education programs that center on the school site and locations within a close proximity of schools and that are generally less expensive to operate may increase. These programs may be an alternative for school districts who no longer see residential programs as economically possible.

Impact on Education for the Disabled

The trend to provide more personalized educational programs based on individual needs has a significant impact on disabled students. As professionals are trained to design appropriate, experience-based instructional programs for all students, their ability to develop appropriate individual programs for disabled students which include outdoor learning experiences increases.

Increased integration of disabled and non-disabled students helps students become aware of individual differences and recognize the interdependence of individuals, and individuals and the environment. Increased integration of disabled students into real-life learning settings improves their mastery of subject matter, problem-solving skills and ability to function in a "normal" group setting. Shane (20) recognizes each of these areas of learning as ones which the school curriculum must focus on in the next twenty-five years.

Shane also emphasizes that the curriculum of the future must teach students the concept of "healthy" living as it applies to mental, emotional, and physical health. Outdoor education experiences provide an excellent means for doing this. In order for disabled students to develop life-long skills and interests which promote health and wellbeing in these areas, recreation/ leisure education must become an integral part of the curriculum.

Finally, the trend toward cooperative planning between professionals and parents has significant implications for outdoor education for the disabled. Joint planning and implementation, as well as the sharing of resources, ideas, and skills should greatly improve services. As professionals and parents develop an awareness of individual differences among students and learn to base instructional programs on individual needs, more appropriate programs in the least restrictive environment can be provided. Also, mainstreaming can be facilitated.

Impact on Parks and Recreation

The involvement of disabled individuals in schools and parks and recreation programs has increased, often as a result of state and federal legislation. As persons become more aware of the need for disabled individuals to develop skills in "normal" settings, the use of parks and recreation areas by the disabled should increase. Therefore, parks and recreation personnel must consider possible changes in several areas in order to provide appropriate services.

Physical access of facilities is an area of important consideration. Physical modifications to eliminate architectural barriers, such as stairs, narrow doorways, curbs and small restrooms, may be necessary. Section 504 of the Rehabilitation Act of 1973 requires that federally assisted programs be physically accessible. In removing architectural barriers, concerns may arise

over preserving the authenticity of historical sites and wilderness areas.

Often accessible transportation is not available to transport disabled persons to parks and recreation areas. Cooperative efforts with parent groups, service organizations, and organizations for disabled may provide alternative solutions to this problem.

Programmatic access is another area of concern for parks and recreation personnel. Again, Section 504 requires that programs receiving federal assistance be accessible. However, programs, including activities, materials, and equipment, should only be adapted to the extent necessary. The issue of segregated versus mainstreamed programs must also be considered with continuum of services provided.

The trend toward increased programming for the disabled results in increased administrative responsibility. First, it may be necessary for the administrator to develop a policy statement in support of programs for the disabled. Secondly, programs must be designed and monitored to ensure that programs and facilities are accessible. Thirdly, disabled persons should be employed. And finally, administrators must provide employees with appropriate inservice training.

Interagency cooperation is another major area of concern for parks and recreation personnel in providing services. By working with schools and other agencies which have developed outdoor programs for the disabled, ideas and resources can be shared in order to provide more effective programs and avoid duplication of services.

CONCLUSION

As an interdisciplinary instructional approach, outdoor education provides disabled students with learning experiences in the outdoor environment. Outdoor

education programs have evolved from what were primarily camping programs in the early 1900's to programs in the 1980's which utilize school and community sites to provide appropriate instructional programs designed to meet individual student's needs. Outdoor education programs range along a continuum from segregated to mainstreamed programs. With an increase in programs and increased evaluation of those programs, specific benefits for disabled students, educators, support personnel, and parents are identified as resulting from the availability of outdoor experiences for the disabled. These benefits provide a rationale for incorporating and maintaining outdoor education as a viable instructional approach for the disabled in the schools of the future. It is an instructional process which meets the needs of the "total" child and enhances environmental awareness.

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CHAPTER 2 THE COOPERATIVE PLANNING APPROACH

- CONDUCTING A NEEDS ASSESSMENT
- EXPLORING POSSIBLE OUTDOOR EDUCATION PROGRAM MODELS
- CURRICULUM DEVELOPMENT AND DESIGN

CHAPTER 2

THE COOPERATIVE PLANNING APPROACH

Innovative approaches to educational programming have to begin somewhere. Someone - a teacher, administrator, student - will have an idea which, through hard work, planning and nurturing will grow and blossom into a vital, exciting means of helping children learn and enjoy learning. The information provided in this guide is designed to assist teachers, park and resource management personnel and parents who know that the out-of-doors holds the key to a world of adventure and learning to make their conviction come alive through programs in outdoor education for children with all disabilities in their community.

Throughout the planning process outlined in the pages which follow runs a thread of cooperation between three primary groups of people: educators, park and resource management personnel, and parents. This cooperative planning approach has been developed to encourage and promote opportunities for interested persons from each of the three groups to work together as a team to plan, develop and implement outdoor education programs for students with disabilities.

In following this cooperative approach, persons interested in beginning an outdoor education program for students with disabilities should seek out members of each "facilitator" group to serve on the planning team. Formation of a planning team will need to be one of the first tasks undertaken prior to implementing any programming. An effective planning team will include:

- educators - special educators or regular classroom teachers, principals, or other interested personnel within the school system;

- park and resource management personnel - supervisors, program leaders, naturalists, facility managers or others involved in outdoor programs in community parks, nature centers or other facilities;

- parents - of children with disabilities and those who are not disabled who are interested in including outdoor education in the programs offered in their schools.

Of course, other interested persons may choose to become involved in planning outdoor education programs, and their contributions are not to be denied (see Recruiting Local agency and Community Resource Personnel on page 62). However, the planning and program implementation information which follows will refer to the three primary facilitator groups.

Once an interested and committed planning team has been convened plans can be begun to implement outdoor education programming. One of the first steps to be taken will be to conduct a needs assessment to determine the actual types of programs which would have the best chance of success in the school system or community and to provide documentation of specific program needs. Next, a variety of program models and possible outdoor education sites should be explored, and an appropriate curriculum should be adopted, adapted or designed.

After an appropriate outdoor education model has been chosen, and the planning committee is clear on the direction to be taken, steps can be taken to obtain any necessary funding or to convince school boards or other administrative bodies of the need for the program and the benefits to the students, school system and community. Steps to be followed in

writing proposals and testifying before school boards are identified in Chapter 3. As program planning progresses, attention may need to be given to legal liability during outdoor education experiences. Some basic information on this subject is covered in Chapter 4. Once these items have been considered by the planning team, attention can be given to the actual implementation of the outdoor education program for disabled children.

Interagency Cooperation
Some Guidelines for Working Together

If program fragmentation, overlapping, and empty voids are to be eliminated, a team effort is imperative. Following are some suggested guidelines for working with others.

1. Involve others at the planning level. This implies a knowledge of available resources.
2. Have a framework ready for presentation for consideration so that best use can be made of the individual's or group's time.
3. Enlist the dynamic leadership and expertise to be found in such groups as industry and labor. Park and recreation personnel, educators, and parents can gain much from their special knowledge
4. Keep an open mind and forget past differences. There are many ways of approaching a problem.
5. Avoid criticism of other organizations and agencies providing services. They can hinder future team efforts.
6. Minimize professional jargon. It can be irritating to others who are not in the same profession.
7. Listen as well as talk. Cooperation and communication can only occur on a two-way street.
8. Give credit where it belongs.

9. Encourage others in such a way that they feel their ideas and contributions are being used.

10. Keep those involved informed of progress or lack of it.

11. Enlist the help of public relations personnel to inform the public of local, state, and national programs.

12. Be patient. Remember when working with others it is likely to take more time than when working alone, but - it is worth it in the final analysis.

CONDUCTING A NEEDS ASSESSMENT

Conducting a needs assessment is the first step in any program planning and development phase. The purpose of a needs assessment is to clearly define the need within the school or community for outdoor education programs. Every school system is unique. The characteristics of its student population, their problems, and its present program offerings need to be carefully examined and defined in terms specific to the conditions which exist in that setting. National statistics are helpful, but they cannot always be applied to local situations. Also, the specific resources and programs available in each community differ and should be investigated thoroughly.

The assessment process essentially consists of four major components. They are:

1. Identifying the problem areas or needs.

2. Establishing a well-designed procedure to document the needs or problem areas.

3. Obtaining concrete data and information concerning these problems or needs.

4. Analyzing and summarizing the data obtained to determine priorities.

Generally, the first step in conducting a needs assessment is to determine if there is a general need for outdoor education programs. Obtaining information from personnel and other resources within both the school and community, the planning team will then begin to actually define the need, thus eventually convincing both school and park and resource administrators, principals, supervisors and other key personnel that outdoor education programs are, in fact, needed and then will justify any additional expenses (if any) that may be involved.

As the planners begin to design and develop the process for conducting a needs assessment, there are several key questions that should be addressed. For example:

1. What existing outdoor education programs are currently available to students within the school and/or community? Are students with disabilities currently served?

2. How many handicapped students from your school or school district would be able to participate in and benefit from an outdoor education program?

3. What interests have been expressed or skills demonstrated in outdoor education by the students?

4. What community resources and personnel are available to assist with or complement outdoor education programs? Are there park staff available to assist with program planning and implementation?

5. What resources, including personnel, funding, equipment, transportation, etc., are available within your school or school district that will help support an outdoor education program? Are there resources which could be provided by park or resource management personnel? By parent groups?

6. How conducive are existing sites for serving individuals with disabilities in outdoor education programs? Are buildings and facilities accessible and useable by all populations?

7. How can parents become involved with an outdoor education program? What will the relationship between the schools and parks be in providing programming or facilities?

Conducting a comprehensive needs assessment will also assist park and resource personnel on the planning team to increase their knowledge of working with and serving special populations. For example, they may:

- Become more knowledgeable about community agencies and organizations concerned with the needs of the handicapped.
- Develop an understanding of the unique needs and requirements of disabled individuals.
- Become knowledgeable regarding administrative or programmatic barriers confronting the handicapped utilizing park or outdoor education facilities.

At the same time, educators will be made aware of the willingness of park personnel to share their expertise and facilities with school groups, including students with disabilities. As the cooperative planning venture progresses, parents will begin to see how their support and involvement encourages and facilitates this shared learning, thus ultimately benefiting their children and the community as a whole.

Identifying Program and Personnel Needs

Recommended approaches and strategies are provided below which will help program planners determine community needs in relation to outdoor education programs.

- Identify the numbers of students with disabilities

  Find out how many handicapped students are currently enrolled in the school district that could benefit from an outdoor education experience. Informal meetings or discussions held with special education teachers will help determine if an outdoor education program would meet the needs of their students. The identification of a large number of students with disabilities who would be able to participate, will help justify the need and "sell" the program to reluctant administrators.

- Identify existing outdoor education programs

  Determine what outdoor education programs, if any, are currently available wit in the community designed to meet the needs of disabled and non-disabled students. There are several public and private agencies and organizations located in most communities that offer recreational and educational programs, which might include outdoor education components. For example:

  Societies or Associations

  March of Dimes
  Muscular Dystrophy
  Multiple Sclerosis
  Easter Seal
  Paraplegia Foundation
  Cerebral Palsy
  Arthritis Foundation
  Wheelchair sports/Recreation groups
  Association for Retarded Citizens (ARC)

  State or Local Government Agencies

  State Department of Mental Health
  State Department of Parks and Recreation
  Local/Municipal Park and Recreation Departments

  Youth Agencies/Groups

  Girl Scouts of America - Handicapped Program
  Boy Scouts of America - Handicapped Program
  Camp Fire
  4-H Youth Extension Service
  YMCA
  YWCA
  Church youth groups

  Other

  Colleges and universities
  Local community service organizations (i.e., Kiwanis, Lion's Club, Jaycees, etc.)

Listings of organizations concerned with outdoor environmental education and state outdoor and special education directors can be found in the

Guide to Outdoor Education Resources and Programs for the Handicapped published by the Outdoor Education for the Handicapped Project may also be helpful.

However, not all of these agencies/organizations may offer programs and activities that would be appropriate for the needs of a particular classroom. The planners should investigate each program carefully to ensure that it would be beneficial for the students and, most importantly, would compliment the classroom curriculum. This task may best be undertaken by the educators in the planning group. In addition, there may be outdoor education programs that are currently being offered for non-disabled students within the school or other surrounding schools that are interested in having students with disabilities participate with them. In this case, a cooperative programming effort could be initiated between schools, as well as with other community agencies, that would provide:

- an opportunity to share ideas and information between agencies
- an exchange of personnel resources and support
- co-sponsoring activities and programs
- sharing expenses to cover program activities

- Identify community resources

  Many public and private agencies are often very willing to assist educators with developing activities and programs for their students. Park and resources management personnel involved in the planning process could be asked to identify and contact appropriate agencies such as the National Forest Service, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service and other park and resource based operations which may have personnel who are trained to work with

school groups and can provide needed technical assistance as well. For the educator who is interested in developing an outdoor education program for special education students, information can be obtained as to what resources they have available to help with or support program planning and implementation. The cooperative programming idea is again reinforced as both agencies work together to accomplish a common goal.

Some possible resources that may be available are:

- personnel to provide pre-planning and on-site technical assistance
- equipment, supplies or educational materials that will support the planned outdoor education activities
- outdoor facilities or sites on which outdoor education programs can be conducted
- transportation services to and from the outdoor facility
- funding or financial support to help off-set expenses
- outdoor education workshops and training programs for educators, parents and other interested persons

It is important to emphasize that many park and resource personnel or other potential resource groups may be reluctant to work with a class of handicapped students because of their lack of training or background with groups of this kind. In exchange for their services, special education teachers, for example, can offer their assistance by conducting training programs, workshops or awareness-building activities for all members of the park or agency staff, thus eliminating any fears, apprehensions or attitudinal barriers. The result will only create a more positive experience for all concerned.

- Determine resources available within the school

  More often than not, there are usually many resources that are available to educators within their own school or school district. A comprehensive (but general) assessment should be made to determine the availability of these resources and how they can be best utilizing to support an outdoor education program. The kind of resources that may be needed will of course depend upon the type of outdoor education program that is selected. However, in general terms, most outdoor education programs will require the following

  - Personnel - how many and what types of persons would be willing to or interested in assisting with the program design and development. Also determine what levels of expertise or training, if any, these persons may have in outdoor education/ recreation programming.

  - Equipment and supplies - determine what equipment and supplies that are needed for the outdoor education program. Again, the equipment needs will vary depending on the nature and design of the program.

  - Transportation - what types of services will be required to transport students to and from the outdoor education site. Check to see if private vehicles or public transportation lines may be used.

  - Funding - determine the availability of possible funding sources within the school to finance the outdoor education program. Also, begin to investigate the possibility of initiating fund-raising activities that could be conducted in both the school and community. For additional ideas on funding, see Chapter 3, Funding and Financial Considerations.

- Determine the role of the parents

  Parents are and should be one of the most important persons in an outdoor education program and will most likely be the group demonstrating the greatest amount of support, especially if their child can be assured of a positive and educational experience. Parents

provide vital contacts between the planning team and other potential resource groups in the community. They are apt to be problem solvers, as well as being able to identify potential problems which may limit the success of the outdoor education program. Parental apprehensions and concerns can be easily alleviated if parents become involved with the planning process from the very beginning.

In the early stages of outdoor education program planning, parents should be the primary persons to contact when conducting a needs assessment. They will want to contribute ideas and information regarding the types of programs and activities in which they would like to see their child participate, thereby, providing some positive insight and direction toward the development of your program (see sample Parent Interest Survey in the Appendix of Sample Forms).

Parents can become involved in an outdoor education program in several ways. For example, they can:

- Provide transportation services to and from the site
- Serve as program staff
- Work with community resource persons, administrators and other parents to help promote and "sell" the program
- Testify at school board, PTA or other similar meetings
- Conduct activities in the home environment that will help prepare the child for the outdoor experience
- Serve as members of the planning team

Designing an Assessment Format

There are several methods or strategies which are commonly used to obtain the information required for program planning. The methods

that seem to be most effective for the program planners are:

Written Surveys. Surveys of this kind are usually less time-consuming for both parties involved. In addition, the person(s) who answer these surveys are more apt to put time and thought into formulating their answers. When designing a written survey, the following guidelines should be considered:

- Keep it short. Surveys that are usually longer than 3-4 pages are likely to remain unanswered.
- If possible, preface the survey with a short, friendly cover letter explaining the purpose of the survey, how the information will be used, etc.
- Use clear, concise language throughout the survey. Avoid using terminology that may not be familiar to the respondent.
- If possible, make questions "open-ended". Avoid using questions that elicit a yes or no response.
- Indicate on the survey the date to be returned. Also, enclose a self-addressed stamped envelop to hasten the return.
- Include name, address and telephone number on the survey in case the respondent has any questions.
- If possible, identify the appropriate person within the agency to whom the survey should be sent. This person may be a therapeutic recreation specialist, outdoor education specialist, program administrator or director, parents, etc.

(A sample Assessment Inventory is included in the Appendix of Sample Forms.)

Telephone Surveys. Telephone surveys are usually more time consuming for both the caller and the agency staff. However, the advantage to a survey of this kind is the personal contact made with the agency/ organization and, on the whole, more detailed answers to questions asked. Telephone surveys should generally follow the same format and design as that of a written survey, however, the entire conversation should be no longer than 10-15 minutes.

Personal Interviews. Personal interviews are surveys that are usually conducted with representatives of user groups such as the disabled who would be enrolled in an outdoor education program. Again, this method can also be time consuming, but at the same time, would demonstrate genuine interest in and concern about the needs and requirements of program participants. This also gives the disabled individual, for example, an opportunity to provide suggestions and recommendations as to how the program might better serve their individual needs. The same format recommended for written and telephone surveys can also be used for personal interviews, with some general modifications of your question/ answer format.

It is important to emphasize that the survey method selected should reflect the needs of the proposed outdoor education program as well as considering the amount of time required to complete the process. It should also be noted that a variety of survey methods can be implemented at the same time, depending on the availability of staff, funding or other considerations essential to day-to-day operations. By involving educators, park and resource management personnel and parents in the needs assessment process, it should be possible to convincingly document the need for out-

door education programming the school or community and to gain some specific insight into the type of programming which would be best received.

Analyzing Assessment Results

After all data and information have been collected and recorded on the assessment surveys, the last and most important step is to compile and analyze the results and outcomes and begin to apply this information toward the design and development of outdoor education programs for the handicapped. A careful analysis of the information will then allow a determination of the general needs as well as identification of any potential problem areas that may restrict or limit certain outdoor education activities and programs. This information will be especially helpful when developing a proposal to be submitted to the local school board, superintendent or building principal (see Chapter 3, Funding and Financial Considerations for a more detailed description of this procedure).

Recruiting Local Agency and Community Resource Personnel

At this point, the planning team may want to begin to identify individuals who may be interested in the actual implementation of outdoor education programs and want to join the planning process. Recruiting and locating personnel within the community who have background and experience in outdoor education planning and implementation as well as having a working knowledge of the handicapped can often be a difficult task. However, finding persons with background and experience in one area or the other is much easier, and with the proper training and

orientation, interested personnel can soon become knowledgeable in both areas.

The first step in locating interested persons to assist with the outdoor education program would be through the needs assessment survey efforts. As recommended, questions should be included on the survey that ask specifically whether any person associated with an agency has training or experience in outdoor education/recreation programming; and whether this person(s) would be available to assist with program planning. If not, they may be able to recommend others who have worked with them previously in other similar activities.

Many outdoor education centers and programs that serve or include the handicapped often utilize volunteers to assist them with their programs. Volunteers become very important, especially with handicapped children who, in some cases, require one-to-one supervision. Parents, community service groups, senior citizens, high school and college students are usually available and quite willing to volunteer their services and time, provided they have some training and background in outdoor education, special education or recreation programming for the handicapped. Volunteers will also be easier to recruit as the program becomes more well-known and publicized within the community.

EXPLORING POSSIBLE OUTDOOR EDUCATION PROGRAM MODELS

There are several different types of outdoor education program models in which special education students can participate. However, it is important to emphasize that the program selected must reflect the

need of the individual student or the classroom as a whole. Also, the type of outdoor education program should represent the basic philosophy and teaching practices endorsed by the school district and the classroom teacher, which depending on the level of the student(s), may or may not include mainstreaming.

Traditionally, outdoor education programs for persons with disabilities have been segregated with a student's placement in them based solely on handicapping conditions. Often these segregated programs do not take into consideration the unique interests, needs and abilities of handicapped students. Nor do segregated programs allow for the interaction of disabled with non-disabled peers in a normal setting. As required by P.L. 94-142, a variety of continuum or outdoor education services should be available in order for each student to receive appropriate instruction in the least restrictive environment. This continuum is more fully explained in Chapter 1. More detailed descriptions of successful outdoor education programs can be found in the publication Innovative Approaches to Providing Outdoor Education for Handicapped Students published by the Outdoor Education for the Handicapped Project.

As program models are explored, it is important to remember that programs such as the Nassau BOCES Outdoor and Environmental Education Program and Lathrop E. Smith Outdoor Education Program also described in the above publication did not start out with million dollar budgets, an arsenal of staff persons and facilities boasting working windmills, nature trails and dormitories. These, and other programs like them, began with the dedication and persistence of a handful of men and women

convinced of the value of outdoor education in meeting classroom goals and their willingness to make their dreams reality. There are options available to those who wish to begin programs on limited budgets and with only a handful of resource persons willing to assist. The Guide to Outdoor Education Resources and Programs for the Handicapped, part of the series published by the Outdoor Education for the Handicapped Project, identifies 172 separate outdoor education programs and centers in 38 states serving both disabled and non-disabled persons in segregated or mainstreamed settings. If any of these programs appear to meet the needs identified through the earlier needs assessment process, members of the planning team may want to write or visit to find out more about their beginning efforts and their current programs. As with needs assessment surveys, it is best to ask questions which will elicit specific, needed data rather than making a blanket request for program information.

Starting with the Schoolyard

Green and Plaisance (1) describe the school ground as "probably the largest and the least used resource area under your control". Certainly, it provides an ideal site for outdoor education programming. There are no transportation costs; it holds a vareity of plant and animal life; the influence of man on his environment can readily be studied; and the list goes on and on. However, it will be necessary to get the permission of the school principal and will be helpful to win the support of other teachers, parents and the students themselves to make the experience a success.

Special education teachers may want to enlist the aid of park and resource management personnel in their area to make the most of their "school yard" program. These professionals are experts on the local environment and will usually be pleased to assist teachers in preparing lesson plans. In many cases, park personnel will be able to visit the classroom to work directly with students on an occasional basis. Park personnel may also be able to suggest resources and outdoor education curricula which focus on activities to be undertaken in and around the school.

Parents, too, can add greatly to the success of the program. Parental support through working with the students at home and family participation in follow-up activities in neighborhood parks will help to reinforce the outdoor education experience. Parents can also be invaluable in helping with the actual program, serving as volunteers in the classroom, assisting in locating supplies and sharing their knowledge of the out-of-doors with the students. They may also be helpful in convincing school administrators of the value of the outdoor education program, thus getting the program implemented in the school.

As the outdoor education program progresses, it may be possible to expand to the immediate area around the school with a reasonable traveling distance. Perhaps a local naturalist could lead a nature walk through the neighborhood or the students could take part in a nature "scavenger hunt".

Using Neighborhood Parks

Once the outdoor education program has been accepted by the students and by administrative personnel, it may be possible to begin to utilize neighborhood parks or recreation centers as part of the program. Effective use of these types of facilities will be enhanced by the working relationship developed between educators, park and resource management personnel and parents through the cooperative planning approach. If park staff have been involved in the outdoor education program in the schools, they may be more comfortable with the students and may have little or no problem adapting or designing activities which meet their needs and fit in with educational goals. If, on the other hand, the staff have had little or no experience in working with students with disabilities, the special education teachers will want to work closely with them explaining needs, describing abilities, and assisting in the modification or adaptation of recommended activities. If parents have been encouraged to participate in follow-up activities with their children, their use of park facilities with the whole family, including children with disabilities, may help to ease the apprehension of park personnel as they observe the use made of equipment and facilities.

Park and resource management personnel may feel that they need information on modification of their facilities in order to better serve disabled individuals. Information on this topic is included in Chapter 6 of this guide. Those most familiar with working with disabled populations should help resource personnel to understand that removal of attitudinal barriers can be as important as eliminating architectural

barriers. Suggestions for dealing with this topic can be found in Chapter 5 under Personnel Preparation.

Expansion of the outdoor education program outside the school grounds brings with it its own rewards and difficulties. Certainly, the students may appreciate being able to apply lessons learned in the classroom in situations. The effectiveness of the program may actually be enhanced by a change from the schoolroom and a new closeness with the natural world. However, once the class leaves the school grounds, attention must be given to transportation, safety and liability, parental and administrative permission, and monetary resources.

What About an Overnight Experience?

Many successful school-based outdoor education programs culminate in an overnight experience lasting one to three nights. Involvement in a cooperative planning venture will be extremely valuable if this type of experience is to be successful. Locating an appropriate site (especially for students with disabilities who may require accessible facilities), raising sufficient funds to implement the program and enlisting the support of parents and administrators may take the talents of all those on the planning team. The benefits of such an experience, however, may make all the efforts worthwhile. Residential programs provide an excellent opportunity for the student to learn group living skills in an outdoor setting. Various agencies and organizations such as churches, youth groups, local civic groups and universities often have residential facilities or camps that are available during the academic year on a contract or lease basis. Although residential programs are more costly than day programs, the experience is usually more beneficial for the students as it provides greater opportunities to teach and reinforce skills consistent with an outdoor environment.

CURRICULUM DESIGN AND DEVELOPMENT

Once the most appropriate outdoor education sites and program models have been identified, the planning team can begin to determine the specific curriculum content and approach best suited to the needs of the students being served. A statement regarding the scope of the implementation program, strategies to be utilized, and suggested methods

of integrating the outdoor education program into the existing classroom curriculum are all tasks that may be completed at this time.

By involving the entire planning team rather than leaving curriculum design decisions solely to the educators involved in the planning process, a number of important considerations can be taken into account befcre final decisions are made. Park and resource management personnel may be familiar with outdoor education curricula which, with little or no modification, would be well suited to the needs of the program. Parents may be especially helpful in suggesting strategies to convince administrators and other parents of the need for incorporating outdoor education activities into the classroom. Parents, too, may be invaluable in determining appropriate activities to be carried out in the home which would reinforce classroom learning.

As with any educational program designed to meet the needs of students with disabilities, a great deal of planning and preparation is needed to ensure that outdoor education activities and program areas will meet the individual learning needs of the child. Efforts must be made to select curriculum materials that will enhance, support or reinforce the students instructional goals and objectives as well as complimenting the special and related services that are required to meet these individual needs. Goals may include social, emotional, physical and cognitive skill development. Since outdoor education does improve skills in these areas and does provide for real-life experiences, instructional programs should include outdoor activities.

A variety of curriculum materials designed to implement outdoor education programs in the schools are commercially available. Many of

these are designed specifically for students with disabilities. Specific activity guides and suggestions are also available from a number of sources. The resource and bibliography section of this guide lists several such publications; others may be found in the Guide to Outdoor Education Resources and Programs for the Handicapped published by the Outdoor Education for the Handicapped Project.

Characteristics of a Well Designed Outdoor Education Program

1. Utilizes the outdoor environment for all or most activities.
2. Provides for small group activities.
3. Allows children to explore, observe, and ask questions and to make decisions regarding the wise use of our natural resources.
4. Allows children to use all of their senses to investigate and learn about the outdoors.
5. Utilizes a variety of sites and settings.
6. Incorporates all subject areas (i.e., reading, math, language development, etc.)
7. Includes leisure and recreational activities.
8. Allows children to learn to work and live cooperatively and independently.
9. Provides a variety of activities that are motivating and fun.
10. Facilitates social, emotional, cognitive and physical skill development.
11. Allows students to explore possible career opportunities associated with outdoor or recreational settings (e.g., working in a state or national park).

Outdoor Education in the Individualized Educational Program (IEP)

Public Law 94-142, The Education for All Handicapped Children's Act of 1975, was enacted by Congress to ensure that all handicapped children receive a free and appropriate public education. Among the provisions included under this law, one in particular is especially significant, and guarantees that handicapped children will be provided with an individualized educational program that is based on the needs and abilities of each child. To assure that the child's education program is appropriate for his/her functioning level and that the program is implemented and monitored, a written Individualized Education Program (IEP) must be prepared at the beginning of each academic year.

Related Services. P.L. 94-142 also requires schools to make available to handicapped children all educational programs and services available to non-handicapped children in the particular school district in which the child is enrolled. This includes nonacademic services and activities which are extracurricular in nature. This "may include counseling services, athletics, transportation, health services, recreational activities and special interest groups or clubs sponsored by the public agency". Outdoor education programs when available to non-handicapped children are a part of these required educational services.

Role of Parks and Resource Personnel in the IEP Process. In the past, parks and recreation leaders have not operated much within the educational system and are currently not required as a member of the IEP child study team. This does not mean that they are not important in the IEP process for they can offer parents and educators valuable assistance,

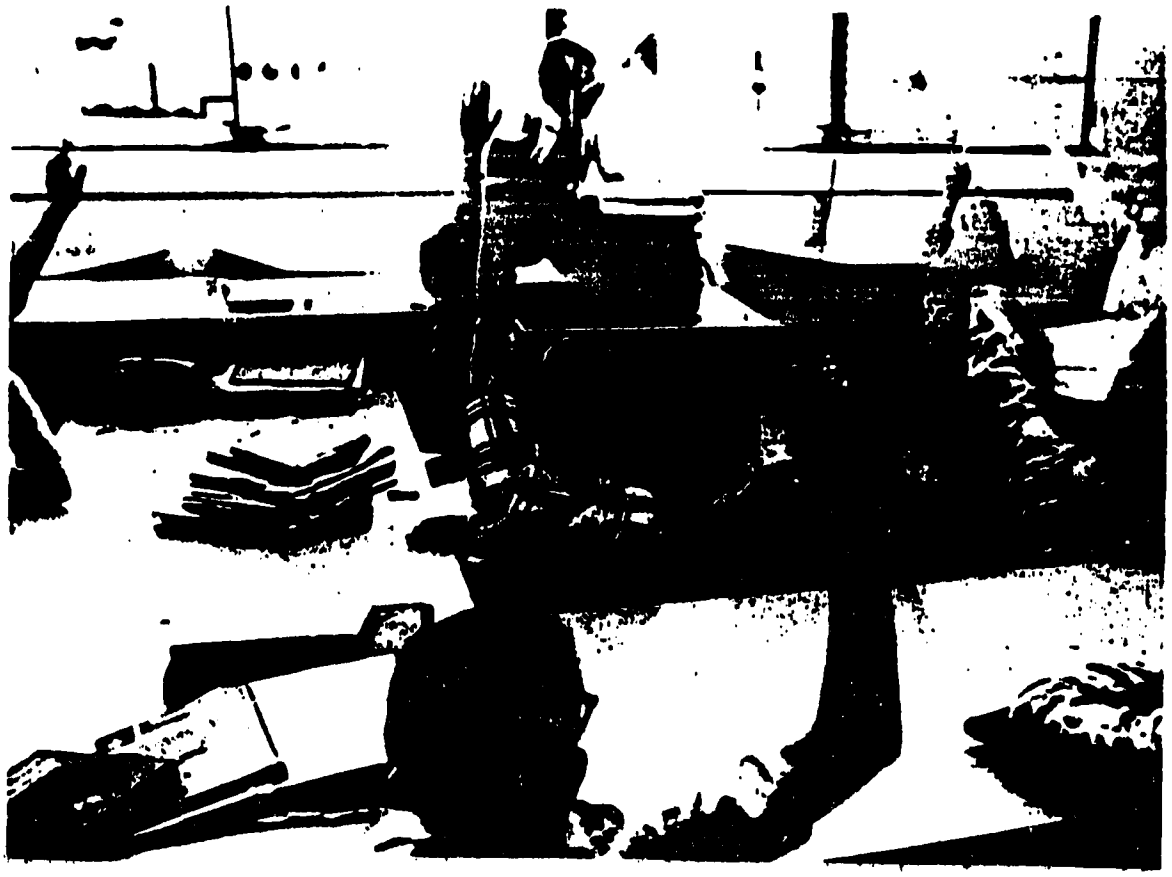
support and expertise in the development, implementation and evaluation of outdoor education programs for the handicapped. The Therapeutic Recreational (T.R.) Specialist has taken a lead in providing direct related services to handicapped children and youth. The involvement of T.R. Specialists in the IEP process will help assure that the educational needs of the student are met, not only at school but in community programs, on an ongoing, year-round basis. The educators involved in planning the outdoor education program may be able to suggest other ways that interested parks personnel can become involved in this process.

Role of Parents in the IEP Process. By law, parents must be made aware of the IEP for their child and must agree with the goals set each year. Parents can see that outdoor education activities are included in the IEP or may suggest that specific outdoor activities be used to meet educational goals already set for their child. For more information on involving parents in the outdoor education program, see Working With Parents in Chapter 5.

Outdoor Education in the Classroom

Although legislative support has been provided for the inclusions of outdoor education into a student's educational program, effective planning, instruction, evaluation and advocacy efforts must be employed to assure that outdoor education becomes a necessary and essential service for students with disabilities. Integrating outdoor education into the individualized program is one way of accomplishing this goal.

There are two basic approaches which are the most accepted for including outdoor education in a student's individualized program. They are:



- Outdoor education included as a separate goal area
- Outdoor education activities infused into the individual educational goals and used as a means for attaining those goals

Another approach that is especially effective for students participating in a residential outdoor education program is to design a separate IEP or individualized program that specifically focuses on the outdoor education curriculum developed for the residential experience.

The IEP which follows provides an example of a plan which incorporates outdoor education as a separate goal area. In this case, specific outdoor education activities are part of the student's science unit for the academic year (see sample IEP in Appendix of Sample Forms).

Infusion of outdoor education activities throughout the special education student's educational program is another possibility. Even

one outdoor education activity may impact on the student's work in social studies, reading, home economics, art, physical education, science, math, health, careers, industrial arts, and leisure education as the following examples demonstrate (3).

Equipment, Activity and Facility Modifications

Depending on the nature of the children's disabilities, slight to extensive modifications of activities or environments may have to be considered. The guiding principle should always be not to over-modify or adapt, a tendency in many cases. An assessment should always be made to determine if adaptation or modification will alter the activity to the point that it no longer resembles or meets the original objective for its use. In fact, careful selection of activities will allow children, regardless of ability, to participate without adaptation, or with an adaptation that will equalize participation of all students.

Participation in a cooperative planning approach to outdoor education programs should facilitate necessary modifications. Educators, who may be most familiar with modification of activities, can assist park and resource management personnel adapt planned events to meet the needs of particular students. Parents, too, may be able to provide practical adaptations which both educators and park personnel may use in conducting outdoor programs. In addition, several strategies are recommended that will assist park and resource personnel in making appropriate decisions regarding the level of adaptations/modifications necessary for groups using their facilities:

MAJOR CONTENT AREA:	4.0.0	Nature Study, Appreciation and Development
ACTIVITY SUB-CONTENT AREA:	4.3.0	Raising, Caring for, Breeding of Plants
ACTIVITY:	4.3.1	Raising, Caring for House Plants

OVERVIEW:

Raising and caring for houseplants is a popular activity, with a variety of worthwhile outcomes. Involvement in this activity requires little prerequisite knowledge of plant care, yet offers a high degree of success for the student. The applicability of this activity to a wide variety of curriculum areas is possible. It provides the student with an opportunity to be involved in a high-interest, highly visible learning activity which can be easily transferred to the home setting. Growth and care of plants can present a multi-sensory experience, especially for those students having sensory deficits, as well as provide enjoyment for individuals with varying degrees of handicap. This learning experience is easily transferable to an outdoor setting and its relationship to the environment is readily apparent. The only materials required are the plants, potting soil, fertilizer, pots and a trowel.

Plants add beauty to our indoor living environment as well as oxygen and moisture to the air. They help make the hours spent indoors more pleasant and can be thought of as "pets," projects, hobbies or educational aids. They provide an opportunity for a class to participate in the decoration of their classroom, thus helping to keep student interest high. The current popularity of houseplants has made them easily available in most communities, at a wide range of prices.

GOAL STATEMENT:

The student will raise and care for a healthy house plant.

ASSESSMENT:

1. Is a student able to follow a series of instructions? With supervision or independently?
2. Is student physically able to manipulate the following: cutting plants, potting plants, watering, etc.?
3. Is student willing to take on and carry through with responsibility of the task?
4. Assess level of fine motor skills.

LEAD-UP STRATEGIES:

1. Visit a reputable nursery or plant store as an introduction to the varieties of house plants.
2. Discuss various ways to obtain plants--nurseries, stores, cuttings from friends, seeds.
3. Invite a florist or nursery person to visit the class and talk about plants and plant care.
4. Have samples of house plants in the classroom and allow the student to care for them.
5. Discuss the responsibilities involved in owning and caring for plants, such as providing water, proper light, proper temperature.

FOLLOW-UP STRATEGIES:

1. If every student has a plant, have a plant show! Provide prizes!
2. Raise a plant for a special occasion--Mother's Day, Christmas, class sale, etc.
3. Write experience stories or make a collage of the student's experience.
4. Purchase own plants.
5. Build a terrarium.

SHORT TERM OBJECTIVES:

1.0 Distinguishes between living and dead plant material.

2.0 Identifies different types of plants to observe.

3.0 Locates a variety of environments in which to study living plants.

4.0 Observes plants in their natural environment.

5.0 Studies plant parts and their functions.

6.0 Collects specimens for a pressed collection.

7.0 Collects and makes a living collection in a terrarium.

8.0 Identifies and labels specimens.

TASK ANALYSIS: (sample of objective 6.0)

6.1 Chooses specimens with slender stems (for easier pressing).

6.2 Collects specimens carefully, so as not to pull up the roots. Cuts or pulls with fingers.

6.3 Places specimens between several layers of 4 or 5 thicknesses of newspaper.

6.4 Continues adding layers of papers and plants, making sure to have 4-5 thicknesses of paper between plant layers.

6.5 Places the whole stack on a flat box or table.

6.6 Places a board, brick, a dozen large magazines, or several heavy books on top of the stack.

6.7 Looks at the specimens after 4 days (they'll be flat, but not dry).

6.8 Moves the specimens carefully onto dry papers.

6.9 Arranges stems, flowers, leaves exactly as he/she wants them to look when dry.

6.10 Repeats steps 6.3-6.6.

6.11 Lets specimens dry for 2-3 weeks.

6.12 Removes specimens from papers and uses them in a variety of ways.

ADAPTATIONS/MODIFICATIONS:

DEGREE OF DIFFICULTY: DECREASE ↓ INCREASE

- Looks at, feels and smells plants.
- Derives pleasure from looking at pressed flowers and living collections done by others.
- Picks specimens.
- Helps in displaying collections.
- Sits in one spot and sees how many specimens can be identified without moving from the spot.
- Participates in walks and field trips to view plants.
- Sorts specimens by plant parts and functions.
- Makes living collections, pressed collections, 3-D collections, using the same types of flowers and compares the finished products.
- Displays collections for other classes.
- Displays collections at PTA meetings, craft shows, exhibits.
- Makes specimen-collections of specific things (grasses, wildflowers, flowers from bushes, etc.).

RESOURCES:

Science in Your Own Backyard, Elizabeth K. Cooper, Harcourt, Brace and Company, New York.

Flowers, A Guide to Familiar American Wildflowers, Hubert S. Zimm and Alexander C. Martin. Golden Press, New York.

Responses to Environmental Conditions--BFA Educ. Media, 1969.

Wonders of Growing Plants, Churchill Films, 1976.

Leaf Function--BFA Educ. Media, 1970.

National Audio Visual Center Film Catalogs--National Archives and Records Service, General Services Adm., Catalogs, Washington, D.C. 20409.

Botanical gardens, Public parks, Horticultural centers, National and State Park Services.

Colleges/universities with horticultural progs., Nurseries & greenhouses.

INTEGRATIVE LEARNING CHART		NOTES
SOCIAL STUDIES	Identifies places in the community to purchase plants. Visits park, aboretums and nurseries to look and learn about plants.	
READING/LANGUAGE	Reads directions about plant care. Knows basic vocabulary related to plant care.	
HOME ECONOMICS	Decorates home or room with houseplants.	
ARTS	Uses plants as decorations or table centerpieces. Makes plant hangings by weaving and macrame. Decorates or makes containers to be used as pots.	
PHYSICAL EDUCATION	Hikes or walks outdoors for purposes of observing or gathering plants.	
SCIENCE	Understands the essentials of plant growth. Identifies the basic parts of a plant.	
MATH	Charts growth.	
HEALTH	Recognizes that plants provide oxygen in the air for us to breathe.	
CAREERS	Develops awareness of careers related to plant growth and care, such as gardening, grounds keepers, etc.	
INDUSTRIAL ARTS	Builds plant stands, window boxes, and flats.	

MAJOR CONTENT AREA	4.0.0	Nature Study, Appreciation and Development
ACTIVITY SUB-CONTENT AREA:	4.2.0	Observation, Exploration, Discovery Activities
ACTIVITY:	4.2.5	Observation, Identification of Plants

OVERVIEW:

Observation and identification of plants is a learning activity which provides the student with direct knowledge of the natural environment. By learning to appreciate plant life, a student becomes familiar with the elements constituting a healthy environment and is, therefore, more apt to treat the outdoor environment with greater care. An enjoyable way to learn about and appreciate plants is first to observe them where they are alive and growing. Further learning then comes from carefully collecting and preserving specimens for use in additional study or in aesthetic, artistic ways. A collection of plant specimens affords an opportunity to study plant development and to identify characteristics in plants which will enable a student to recognize plant types in settings other than the classroom (museums, natural surroundings, horticultural exhibits). It is also possible to compare plant specimens from various habitats to gain a broader understanding of how plant species develop and their growth requirements.

Plant identification is an activity which encourages participation by all students. Lessons can easily be adapted to include individuals with varying degrees of mental and physical impairments. Exploration of the living environment is a high-interest, motivating activity which can be included in a classroom program with little or no additional expense. The opportunity for infusion into other curriculum areas makes this activity a valuable learning experience to be included in a student's educational program.

GOAL STATEMENT:

The student will explore the natural environment, through observation, identification and collection activities which will enhance the development of skills and appreciation of nature-study.

ASSESSMENT

1. Assess the student's fine motor skills that are needed for handling plants.
2. Ascertain the student's ability to distinguish various types of plants, using specimens, pictures, and illustrations.
3. Assess language skills necessary for describing and identifying plants (same or different, shape, colors, textures).
4. Determine ability to move in environment to observe plants and make necessary adaptations for handicapping conditions.
5. Determine areas available to student for observation and identification.

LEAD-UP STRATEGIES:

1. Take the student on field trips to nature museums, botanical gardens and horticultural exhibits to view collections of live and pressed flowers and plants.
2. Discuss the types of plants to be found (wildflowers, garden flowers, trees, shrubs, weeds, food plants).
3. Discuss where to find plants (fields, woods, roadsides, mountains, parks).
4. Look at and discuss parts of plants (stems, leaves, flowers).
5. Discuss the importance of wildlife and plant conservation.
6. Demonstrate and practice techniques for cutting and picking specimens.

FOLLOW-UP STRATEGIES:

1. Go on nature hikes and walks in the neighborhood and look for plants, flowers, and shrubs.
2. Describe and discuss poisonous and non-poisonous plants.
3. Discuss seasons and various plants which are abundant in the environments.
4. Display specimens.
5. Make a collage from specimens or from pictures for magazines, etc.
6. Have students write or record their experiences.
7. Make a nature notebook.

SHORT TERM OBJECTIVES:

1.0 Selects a healthy plant.

2.0 Selects a location for plant considering light, air and temperature requirements.

3.0 Pots plant if necessary.

4.0 Waters plant if necessary.

5.0 Fertilizes plant if necessary.

6.0 Prunes plant if necessary.

7.0 Propagates plant if necessary.

8.0 Considers needs when moving or on vacation.

9.0 Transplants the plant if needed.

TASK ANALYSIS: (sample of objective 1.0)

1.1 Looks at available plant selection.

1.2 Selects plant to examine.

1.3 Checks the leaves for healthy color.

1.4 Checks the leaves for distinctive, full shape.

1.5 Looks for/finds signs of new growth on plants.

1.6 Checks the bottom of pot for good drainage of holes.

1.7 Checks for porous, healthy potting soil.

1.8 Looks for signs of insects.

1.9 Compares several of the same types of plant before choosing one.

1.10 Chooses the desired plant.

ADAPTATIONS/MODIFICATIONS:

DEGREE OF DIFFICULTY — DECREASE ↓ INCREASE

- Enjoys having house plants in his/her home, but does not care for them independently.
- Cares for plant with physical assistance.
- Cares for plants with guidance and reminders from others.
- Shares responsibility for care of plants.
- Cares for plant independently.
- Keeps a chart of his/her plants' growth, feeding, and watering.
- Experiments with plants of same type, growing them under different conditions.
- Starts his/her own plants by taking cuttings and rooting them.
- Organizes and cares for an outdoor flower garden.
- Understands different growth stages of plants.

RESOURCES:

House Plants for the Purple Thumb, Maggie Baylis. 101 Productions. San Francisco, 1973.

Foliage House Plants, James Underwood Crockett. Time-Life Books, New York, 1973.

Mother Earth's Hassle-Free Indoor Plant Book, Lynn and Joel Rapp. J.O. Tarcher Publ., 1973.

Kids Indoor Gardening, Aileen paul. Archway Paperback.

Windows of Growing Plants, Churchill Films, 1976.

Plant Responses to Environmental Conditions, BFA Educ. Media, 1969.

Leaf Functions, BFA Educ. Media, 1969.

Play With Plants and Seeds, by Jean Van Derford, Teaching Staff, 1975.

4-H Clubs, Nurseries, greenhouses, garden centers, plant stores, State and County extension services, horticulture teacher at school.

City parks, gardens, arboretums, botanical gardens, national and state parks.

INTEGRATIVE LEARNING CHART		NOTES
SOCIAL STUDIES	Awareness of local places (parks, neighborhoods, nurseries) to see and study plants. Identifies sources of information about plants as stores, libraries, nurseries, etc.	
READING/LANGUAGE	Verbalizes and expresses interest. Learns vocabulary of basic plant identification; poisonous, non-poisonous, green, leaf, stem, etc.	
HOME ECONOMICS	Prepares a meal with edible plants.	
ARTS	Organizes plant specimens into displays and projects.	
PHYSICAL EDUCATION	Walks, jogs, or hikes to where plants can be found.	
SCIENCE	Studies plant identification. Learns about conservation and preservation practices towards plants and outdoor environments. Learns about seasonal changes.	
MATH	Measures growth of plants.	
HEALTH	Becomes aware of spending time outdoors as part of maintaining good health. Recognizes poisonous plants. Understands basic first aid.	
CAREERS	Awareness of careers related to nature study, plant study, and environmental preservation.	
INDUSTRIAL ARTS	Builds a wooden plant press. Constructs frames and display cases for preserving and displaying plant specimens.	

- Plan a visit to the classroom or agency several weeks prior to their scheduled day of arrival to observe the students/ clients in their daily activities.

- Plan a meeting with the classroom teacher, specialist or aide to discuss the activities planned with regards to any adaptations that may be necessary for the students.

- If possible, lead-up activities should be implemented prior to their scheduled visitation time, utilizing some of the recommended activity or equipment adaptation to determine if they are appropriate.

The following are examples of how activities, equipment and facilities may be structured to insure maximum participation by all potential participants. It should also be remembered that individual circumstances will, in fact, dictate the degree and extent of modification required.

Case Study: A Tree Climb Activity (2)

A group of five students participated in a Tree Climb Activity. Two were able bodied and three had muscular dystrophy (of these three, two were barely ambulatory and one was severely involved; he had no control of either arms or legs). The group ranged in age from 14-19 years.

The group assembled at the base of the tree and received instructions for climbing. A student with muscular dystrophy (ambulatory) volunteered to go first. With much trouble (due to weakened arms and legs), the student made it to the 30 foot high platform. Everyone applauded as is the custom at the tree climb activity. The two able-bodied students made their way with a lot less physical effort but had to deal with their fear of heights. The other ambulatory student made the climb also. With a little coaxing, the student who was in a wheelchair consented to

go. It took the staff several minutes to get the student fitted properly with a seat and shoulder harness. His hands and legs had to be tied together to keep them from rubbing against the tree. Also, a support had to be rigged up so his head would not fall back. With a great deal of hoisting, the student was pulled to the platform thirty feet up. The student was elated as he has spent his whole life in a chair or on a bed. What a view!

After the activity the leaders and students talked about (processed) the experience. The four ambulatory students agreed that the student who had to be hoisted up the tree had a greater challenge to overcome with this activity because of the following reasons:

- He had to put all his trust in the ropes and the leaders because he could not hold onto the branches with arms or legs.
- At least if something went wrong, the ambulatory students could grab onto something. None of the ambulatory students volunteered to have their arms and legs tied and be hoisted up the tree. They said it was too risky.

As a result, the four ambulatory students realized that a severely disabled person can participate in activities on a similar level as they. That there are other kinds of challenges that have to be dealt with and are just as important. They gained respect for their disabled peer and their peer obtained a good dose of self-respect and self-esteem just by climbing a tree!

Outdoor education and recreation literature is filled with information on adapting outdoor sports and camping activities to maximize participation by individuals with a variety of disabling conditions. One example is provided below.

Sample Canoeing Activity Adaptations (4)

Blindness/Visual Impairments

- Use buddy system with sighted partner
- Emphasize good verbal communication
- Placement of blind person in bow position with experienced sternman
- Stimulate paddle strokes on dry land; use sense of touch as teaching technique
- Communicate about upcoming obstacles (overhanging limbs)
- Partner can describe surroundings

- Partner should verbally communicate paddle stroke preference in key situations (i.e., bend in stream, boulder on right side of canoe)

Deaf/Hearing Impaired

- Participation at either bow or stern, probably best to begin at bow and progress to the stern position as skills increase
- Visual communication is better if the deaf canoeist is at the stern position
- Use of hand signals; signing
- Deaf bowman is at a disadvantage in communicating with his partner at the stern position

Amputees

- Single arm amputees may use adaptative devices for grasping paddle
- Double-arm amputees may function as a passenger from the bow position
- Single arm amputees may use a short paddle in paddling with one arm
- Single leg amputees have no major concern
- Double leg amputees may want to sit on cushions in bottom of the canoe; perhaps remove seat
- Prosthesis devices should probably not be worn in the canoe for protective reasons pertaining to the prosthesis and safety for the participants

Paraplegics

- Vertical and lateral stability are important safety considerations
- Use of attachable stadium seats attached to the canoe seat
- Progress from bow to stern position as skills increase
- Use fold-up lawn chair with leg shortened for lower center of gravity (arm rests good for lateral stability problems); may want to remove canoe seat to place chair in proper position

- If person is carried in the canoe as a passenger, keep legs above the thwarts to prevent them from getting caught in case of turn over
- Use short paddles from low seating position
- Remove middle thwart, if possible, when carrying a passenger in the middle of the canoe (two able-bodied partners at the bow and stern for safety purposes)
- Provide adequate cushioning to prevent pressure sores (cushions, insolate pads)

Other considerations which may be helpful in modifying outdoor activities for various disability groups are included in the Appendix. Chapter 6 provides specific information on modifying environments to better serve individuals with disabilities.

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1. Green, Dan and Sue Plaisance, "Using Your Schoolgrounds". Clearing, No. 26.

2. Robb, Gary M., Mark D. Havens, and Jeffrey P. Witman. Special Education in the Natural Environment Training Manual. Bloomington, TN: Indiana University, 1981.

3. S.E.L.F., Leisure Learning Curriculum. Washington, D.C.: Institute for Career and Leisure Development, 1981.

4. Thompson, G. and G. Hitzhusen, "Canoeing and Kayaking with Individuals with Physical Disabilities". The Bradford Papers, G. Robb (ed.), Indiana University, 1981.

CHAPTER 3 FUNDING AND FINANCIAL CONSIDERATIONS

- IDENTIFYING SOURCES OF FUNDING
- WRITING A PROPOSAL
- MAKING A PRESENTATION

CHAPTER 3

FUNDING AND FINANCIAL CONSIDERATIONS

When the planning team has conducted a thorough needs assessment, analyzed the results, considered available program models and options, and reviewed a variety of outdoor education curriculum materials, the time has come to determine how much money will be needed to fund the desired program and how to get that money.

Current economic conditions such as increasing inflation, public and private debt and energy costs are beginning to affect the quality of educational programming. Residential outdoor education programs, for example, are especially affected by greater costs for transportation, utilities, facility maintenance, food, equipment, insurance and salaries. In addition, students with disabilities often require modification of facilities, special equipment, specially designed buses, and a higher ratio of trained personnel to students.

Lack of available money within the school system budget is generally the greatest problem with funding needed for educational programs. While the benefits of an outdoor education program for the handicapped may be quite evident to the planners, the cost of such a program must still be justifiable to the school board, school and park administrators, and taxpayers. Therefore, total cost becomes an important factor in the feasibility of the outdoor education curriculum.

Cost may be expressed in physical terms (real resources) or in financial terms (monetary resources). There is a tendency to deal with cost only in financial terms, but both must be considered. The inputs needed to effect the implementation of the outdoor education curriculum (i.e., stu-

dents, teachers, transportation, instructional materials, physical facilities, supplies, and equipment) all contribute to the overall cost. The cost of implementing outdoor education will vary greatly, depending upon the type of the program (See Section 2.2 for Program Models). Initially, a great deal can be accomplished with a small budget; but to fully implement the program, whether in phases or as a whole, a basic amount of financial support and commitment will be required.

A variety of techniques can be used to estimate the costs of a program. For example:

- economic trends of the community should be examined
- cost reports from other outdoor education programs should be reviewed
- data and other information obtained from the needs assessment showing the extent of community and school (in-house) resources that are available.

By compiling information from these and other sources a cost estimate for the total program may then be obtained. A sample budget should be developed at this point, itemizing as many "line items" as possible. Consideration should be given to any costs for wages or salaries (maintenance personnel, bus drivers, nurses/doctors, park staff or teachers), rental of facilities such as private camps or fees for parks or campgrounds, materials and supplies, transportation, insurance, modification of facilities or equipment, if needed, and any other miscellaneous expenses. All members of the planning team should review the proposed budget to ensure that it is realistic, and that all forseeable costs have been itemized.

The program budget should then be reviewed to determine if any of the costs can be reduced, or whether some supplies or services could be donated to the program. Obtaining donated materials may involve a series

SAMPLE BUDGET FORM

BUDGET ITEM	SCHOOL DISTRICT EXPENSES	OTHER SOURCES/CONTRIBUTIONS			TOTAL
		PTA	PARENT CLUB	OUTDOOR EDUCATION CENTER	
Site/Facility Rental $__per day x ___ people					
Personnel (i.e., nurse) $__per ___ x __days/ weeks					
Food $__per day x _persons x __days					
Transportation $__per day x __days					
Insurance $__per person x _days					
OE Equipment/Materials estimated amount					
Medical Supplies $__per ___(day/week)					
Postage estimated amount needed not covered by school district					
Telephone estimated amount needed not covered by school district					
Printing estimated amount needed not covered by school district					
Other (List)					
TOTAL (Each Column)					

of phone calls or writing several proposals (see the section on Writing a Proposal on page 95), but the effort will be well worthwhile. Other methods of reducing program costs should be considered, including:

- Cooperative program planning with other community agencies and/or school district outdoor education programs which can help alleviate the financial burden by encouraging the sharing of resources such as transportation, equipment, supplies, personnel and facilities.
- Implementation of the program in phases starting with smaller programs or activities that are less expensive. This is also a good way to demonstrate to administrators that programs, such as outdoor education, can be offered for students that provide quality educational experiences with only small amounts of funding required.

IDENTIFYING SOURCES OF FUNDING

In recent years, money for special programs seems to have become harder to find. Federal monies which once supported an almost infinite variety of programs (directly or indirectly) are not as available as they were in the past. However, monies are available to those who take the time to look for them.

Outdoor education programs have used a variety of creative approaches to obtaining funds. Camp Confidence* in Brainerd, Minnesota, has an annual operating budget in excess of $180,000, yet provides year-round camping and outdoor education services free of charge to users. Funding for this program comes from a variety of sources including foundation grants, service and fraternal organizations, business and industry grants, promotions, United Way Funds from communities throughout Minnesota, and individual contributions. Promotional events contribute substantially to Camp Confidence, and at the same time provide needed publicity and public exposure. Successful events have included racquetball tournaments, snowmobile "pledge rides", a statewide Coffee Day sponsored by the Minnesota Restaurant Association, telethons,

and a Celebrity Golf Tournament.

The Mt. Hood Kiwanis Camp* is funded primarily through the collective efforts of the Kiwanis Clubs in the Portland, Oregon area. The Kiwanis Clubs have been involved in a variety of fund-raising efforts, including a Mt. St. Helens (before and after) photo series project, and a Walk-A-Thon/Jog-A-Thon. Other financial assistance is provided to the camp by the Special Education Department at Portland State University through faculty salaries, year-round secretarial assistance, student scholarships, training and research grants, educational supplies, and instructional materials and communication.

Successful means of generating needed funds used by other outdoor education programs have included:

- Residential outdoor education programs have been funded with P.L. 94-142 monies. Outdoor education may become a mandated service when it is written into the IEP.
- Fund-raising projects involving students, their teachers and parents have been very successful in generating funds needed to provide a residential outdoor education program. Successful fund-raising projects have included everything from parent-teacher organizations bake sales, student run car washes, crafts sales and carnivals to community organizations soliciting, e.g., Lions, Rotary and Kiwanis clubs, college student organizations, and women's organizations.
- Private foundations, including community foundations have been receptive to providing funds for outdoor education programs.
- State and/or local education agencies have combined to provide funding through block and discretionary grant programs that are administered by the state and carried out by local education agencies.

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*More information on these programs and funding for other outdoor education programs may be found in the Outdoor Education for the Handicapped Project's publication, Innovative Approaches to Providing Outdoor Education for Handicapped Students.

Obtaining Grants from Foundations

Money from private foundations presents an attractive solution to funding problems for many educational programs. The key to obtaining such funds is to realize that while foundations do give generously, they have specific program interests and restricting policies (2). It is important that potential sources of funds be carefully researched so that the best prospects can be identified and proposals or other requests can be carefully worded to meet the foundation's special requirements.

The public library is a good starting point for researching foundations on national and local levels. There are a number of directories which will help members of the planning team narrow the search for funding sources. These directories will provide information on the types of programs which the foundation has been funding and any special areas of interest to the foundation. In general, most foundations prefer to fund:

- demonstration projects, to establish the effectiveness of a concept or program which will then be picked up by larger sources of federal funding or integrated into existing educational programs;
- consortia, or programs which foster inter-agency cooperation and sharing of resources;
- seed grants, to get a promising new program off the ground;
- research programs, which add to the body of knowledge in certain fields of interest to foundations;
- resource centers, which can serve many schools;
- dissemination projects, which spread the word about particularly effective or innovative programs;
- curriculum development, which has application on a broad scale;
- special-need populations, such as minorities or the handicapped.

Funding Resources

For more information on obtaining funds for outdoor education programs, a listing of useful resources for seeking outside financial support is provided in the Resources and Bibliography section of this guide. Other resources are listed in the Guide to Outdoor Education Resources and Programs for the Handicapped, published by the Outdoor Education for the Handicapped Project.

WRITING A PROPOSAL

In order to convince a reluctant administrator of the value and importance of an outdoor education program for handicapped students, especially if outdoor education is being introduced as a new concept or program in the school system, it is imperative that a sound rationale or proposal be developed. This way administrators, principals, and others will not only be provided with a written rationale but will also see the strong commitment, desire and support by school personnel and others in the community to implement a program of this kind.

Developing a written proposal should be a cooperative effort with input and suggestions from as many persons as possible. The members of the planning team should have an opportunity to contribute to the content and design of the proposal, thus reflecting broad support and commitment.

Format/Content of the Proposal

The content of the proposal should not only reflect the results of the needs assessment but should also provide a sound rationale and justification as to why an outdoor education program is needed. In addition, in an initial proposal information should be presented in general terms, providing several

GUIDELINES FOR DEVELOPING AND PRESENTING A WRITTEN PROPOSAL

(1) The proposal need not be long or lengthy. Generally, 8-10 pages are sufficient.

(2) State the needs, problem areas and ideas in a clear, concise manner. Define any terminology that may not be familiar to the reader.

(3) Provide factual, concrete data and information that will support the need for outdoor education programs for the handicapped. Also, be prepared to support all facts and figures should the need arise.

(4) Prepare and present the proposal well in advance of the time the outdoor education program is scheduled to begin.

(5) Determine the most appropriate time and place for presenting the proposal, such as during faculty meetings, school board meetings, etc.

(6) Supplement the proposal and/or presentation with actual examples of people who are implementing similar programs.

(7) Audio-visual materials and resources such as films, slides or photographs may be helpful when making large group presentations.

alternatives and solutions from which to choose. For example, a listing/explanation of possible outdoor education program models that could be implemented within a particular school system would provide other options if one particular or favored program is not feasible because of budgetary problems. Information contained in Chapter 1 of this guide may be useful in developing a rationale for the proposed program. Additional resources which may be useful can be found in the Resources and Bibliography section of this guide, and in the Outdoor Education for the Handicapped Project's Guide to Outdoor Education Resources and Programs for the Handicapped. In presenting a rationale, Milne (1) suggests that it is:

"important to point out that outdoor education is not a new subject to add to the curriculum, but a method of enriching existing curriculum. It should also be pointed out that outdoor education is not camping. Nor is outdoor education a series of field trips designed to entertain children for a day away from school."

Once a background and rationale for the proposed program have been given, the specifics should be described. These would include (1):

- statement of need
- support data for need
- goals of the program (emphasizing consistency with the published school system goals)
- outline of the program (instructional activities, leaders, support personnel, student selection and participation, what will be done for students who cannot attend, and cost and safety considerations)
- evaluation and accountability considerations.

Other inclusions in the proposal might be:

- Presentation of all possible outdoor education program models that are feasible to implement with examples of curriculum activities appropriate for each model.
- An explanation of the planning procedures that will be conducted.
- A listing of the proposed members of the planning team/staff.
- An approximate cost breakdown and analysis of each outdoor education program model to include any administrative costs, such as staff release time, etc.
- A list of possible funding sources within both the school and community.
- A list of resources, materials, facilities, etc. which would be provided by park and resource management personnel and by parents.
- A list of other supporting literature and information that may be helpful for administrators to review.

Once the proposal has been written, it will be important for all members of the planning team to review the document to ensure that the

proposed program has been presented in a positive and comprehensive manner. Planning team members may want to add letters of support for the outdoor education project to document support by park and resource management personnel, parents of children with disabilities, and influential members of the community (such as civic groups, parent teacher organizations and local business and political leaders). Milne (1), however, suggests avoiding letters of support from citizen action groups, whose political views may be viewed as "extreme".

Proposals to Foundations

Many foundations prefer a brief "letter proposal" rather than a longer, more detailed proposal when a program first seeks funding (2). In four pages or less, the letter should "succinctly and persuasively" tell:

- who you are
- what need you are trying to fill
- what the program is
- what your qualifications to provide the program are
- how much it will cost
- how the program will be managed and implemented
- how you will be sure that the program is meeting needs
- why the particular foundation should get involved

If it appears that the proposed program is one which the foundation may want to fund, it will then request additional information or a more formal proposal.

"What NOT To Do When Approaching Foundations" (2)

1. Don't send out tens or hundreds of duplicated proposals to foundations.

2. Don't assume because you see one foundation give a grant to a project similar to yours that the foundation will be interested in your project. Review the foundation's total record of giving and current policies.

3. Don't develop a project which departs from your organization's goals and direction simply to take advantage of special grant programs. Such attempts are usually transparent.

4. Don't submit a government grant application to a foundation.

5. Don't ask a foundation to replace public monies no longer in your budget.

6. Don't pad your budget with frills; don't underestimate your real costs. Be realistic.

7. Don't assume foundations have unlimited money for any type of project.

8. Don't fail to mention past grants which you have received.

9. Don't discuss only one project at a foundation interview; seek the foundation's reaction to many possible projects.

10. Don't ask for general operating support if you can help it. Redefine your budget in terms of specific project areas.

11. Don't expect a foundation to support your project for more than a few years.

12. Don't forget to thank a foundation for its support; give the donor some credit for the project's success.

13. Don't make a desperation appeal to a foundation. Most foundations are unwilling to support an appeal that says, "If you don't fund us now, we'll be dead!"

14. Don't neglect details of a proposal. It should be complete, neat, in proper business format and free from all typographical errors.

15. Don't think of a foundation as a nameless, faceless money machine. Each foundation is composed of men and women with unique personalities. Build rapport with the people involved.

MAKING A PRESENTATION

Following submission of the written proposal to the proper authority, the school board, an administrator, or other authorizing body, it will most likely be necessary to make a verbal presentation about the program. Since board members, administrators and even parents may be skeptical of the actual value of the outdoor education program, it is crucial that the presentor have literally an arsenal of information at hand to answer questions and concerns.

It is recommended that members of the cooperative planning team take an "evolutionary approach" to introducing other educators, park and resource management personnel and parents to the outdoor education program. This process takes time, but it is usually well worth the wait. All too often proponents will try to bring on change suddenly, expecting everyone to approve. This revolutionary approach seldom works and much time and effort are wasted. Consider the following guidelines when initiating changes or presenting new programs to a school community (3).

Resistance will be less if. . .

1. administrators, teachers, board members and community leaders feel that the project is their own and not one devised and operated by outsiders.
2. the project clearly has whole-hearted support from top officials of the system.
3. participants see the change as reducing rather than increasing their present burdens.
4. the project accords with values and ideals which have long been acknowledged by participants.

5. the program offers the kind of new experiences which interest participants.

6. participants feel that their autonomy and their security is not threatened.

7. the project is adopted by consensual group decision.

8. participants have joined in diagnostic efforts leading them to agree on what the basic problem is and to feel its importance.

In the beginning, the outdoor education advocate should begin talking with teaching personnel and administrators, sounding them out as to their perspective of outdoor education. Have they heard about it? Have they read about it? If so, do they see any links between the outdoor environment and school studies? After this exploratory stage, there is then the need to get individuals active in selling the program. If this outdoor program is accepted, or at least approved to be looked at more closely, then it must be referred to as "our" program, and not "my" or "his" program.

If the outdoor education program is to be approved, the members of the planning team must commit themselves to becoming involved in the "politics" of making the decision go their way. Milne (1) suggests winning the approval of individuals who can influence authority figures, and to becoming aware of those individuals to whom the school board looks for advice to involve them in the writing of the proposal. Timing is also important - authority figures do not normally like to have a program appear too close to completion before approval to begin has been given.

When the time comes to present the program, the person making the presentation may be almost as important as the presentation itself.

Introductory remarks by an ally in the school administration or testimony by an outside expert from a university or a successful outdoor education program may be helpful. Most important is a thorough knowledge of the proposed program and the assurance to present it in a positive, well organized manner.

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CHAPTER 4 ISSUES OF LEGAL LIABILITY

CHAPTER 4

ISSUES OF LEGAL LIABILITY

One of the primary concerns of park and resource management personnel considering involvement in an outdoor education program--especially a program designed to include students with disabilities--is the legal liability involved. This is particularly true if the park personnel in question are not familiar with the needs and abilities of "disabled" participants. Involvement in a cooperative approach to planning outdoor education programs can be helpful in ensuring that all personnel--educators, park and resource management personnel and parents--understand the concepts involved in legal liability, and take proper precautions to see that the program is conducted in a safe and responsible manner.

Of course, care and concern for the safety of all participants involved in outdoor education activities should be a top priority for anyone connected with the program. However, with proper attention to staff and volunteer training, compliance with the safety and insurance policies of the school system or park authority, and communication with participants and their parents, the major risk factors can be substantially reduced.

In general terms, legal liability for the outdoor education program refers to "liability in tort arising from negligent acts" (3). A tort is a non-criminal wrong against a person; negligent acts are unintentional wrongs. There are four elements of negligence under the law (3):

- the duty owed by the person in charge to protect the participants from undue risk of injury
- failure to provide the standard of care required
- the breach of duty was the proximate cause of injury

- the injury in terms of actual damage.

For outdoor education programs, this means that participants can expect that the leaders will be knowledgeable and competent in leading activities, that all activities will be properly supervised and that there will be a written plan of supervision so that the staff are aware of their supervisory roles and responsibilities, that the leaders are aware of appropriate first aid measures and will be able to react promptly. Persons in charge of the activities will need to make sure that all equipment is in proper repair, and is being used in the correct manner and that rules and regulations regarding safety practices are followed each and every time. Attention should be given to environmental dangers, and participants should be given adequate warning; the program leader should be alert to "hidden perils". The participants in the outdoor education program also have responsibilities--to follow safety rules, and to exercise care for their own safety. When children are involved, however, staff may have to be responsible for the child's self-protection.

In summarizing legal liability issues for those providing outdoor education programs for individuals with disabilities, Colton (2) states:

> Responsibilities in providing outdoor education for handicapped individuals are very similar to those assumed in providing any type of services...Agencies have the responsibility to warn visitors about any special risks that they are about to undertake. Those working with the handicapped should tell them about potential hazards related to disabling conditions. Warning should not be given to discourage participants but should indicate hazards and difficulties that will need to be overcome.
>
> Outdoor education leaders need to introduce activities and explain risks and hazards...Problems could exist where individuals are not capable of understanding risk in activities. In such instances, special attention is needed....After the leader has explained the activity and participants understand and assume risk, it is the responsibility of the leader to stay within close proximity to oversee the program area....If an accident or injury does occur,

> the leader must provide first aid and ensure that subsequent medical attention is obtained as quickly as possible. In a remote outdoor setting, a group may need to return to a "home base" in order that the injured may receive adequate medical attention....
>
> While most outdoor education activities are not inherently dangerous, conditions occurring in natural environments can be hazardous. The outdoor educator must continually be looking for these conditions, especially if participants are not aware of hazards that exist....Conditions that lower mobility, balance, and other mental capabilities may need special attention. If handicapped individuals receive proper instruction and are told needed precautions, they can learn to appreciate and to flourish in the outdoor environment.

It is recommended that a member of the planning team take the responsibility to make sure that insurance matters are given proper attention. Most school systems have group insurance policies which cover students on school sponsored events; in some cases inexpensive "trip insurance" is available to provide special coverage for trips away from the school grounds, including overnight experiences. Likewise, park and recreation departments and most other facilities which offer outdoor education opportunities are covered by insurance. These policies and the types of coverage they provide should be reviewed prior to program implementation.

Outdoor education program leaders (whether educators or park personnel) should make sure that all participants have signed parental permission slips which conform to the policies established by the school district or park department. If medication is to be given to participants on overnight or extended-day outdoor education experiences, parental permission must be obtained, and procedures must follow established school or park department policy. Only trained staff should be allowed to assist participants with prostheses or other appliances.

Safety procedures should be reviewed by all members of the planning team. Each facilitator group will have its own perspective and a review by

educators, parents and park and resource management personnel should serve to reduce potential hazards before they occur.

If the outdoor education program expands to the point that it has its own permanent facility, it may be best to retain the services of a lawyer to deal specifically with liability issues, as well as other matters of legal concern. In this case, also, the facility may need to purchase its own insurance coverage (See also the Book of Readings and Guide to Outdoor Education Resources and Programs for the Handicapped published by the Outdoor Education for the Handicapped Project for more information on legal liability.)

Checklist for Preventing Legal Liability in Outdoor Education Programs (1)

1. HIRE ONLY COMPETENT AND QUALIFIED EMPLOYEES--actions have been based on negligent hiring practices, failure to train, and incompetency of the employee.

2. TRANSPORTATION SHOULD BE PROVIDED BY QUALIFIED OPERATORS. They should not speed, and must operate using internal control and supervision, sound alighting and departing procedures, and good equipment and tires.

3. PROGRAM PROBLEMS can result from:

   -Negligent supervision by employees;
   -Inadequate warning of hazards;
   -Insufficient employees for proper supervision, such as spotters in gym classes or sufficient number of life guards on the waterfront;
   -Failure to perform routine maintenance such as testing water, fire extinguishers, alarms, handrails, stairs, etc.;
   -Dangerous instruments--equipment such as guns which are in and of themselves dangerous and hazardous;
   -Defective equipment--inspect all equipment before using;
   -Failure to use proper equipment for a particular game or activity;
   -Defective design of equipment--usually an area of manufacturers' liability--is it concealed or apparent?
   -Inadequate equipment, such as insufficient safety mats surrounding gymnastic equipment, improper guard or handrails;
   -Failure to prevent secondary injuries, such as further injury on administering first aid, failure to provide adequate medical treatment at the scene;
   -Failure to take immediate action on hazardous conditions which have been previously reported;
   -Failure to have proper safety procedures;
   -Failure to have procedures, tests or drills. Basically failure to teach or instruct;
   -Negligent entrustment. The entrusting of a gun, bow and arrow, or wild horse to a person who by age or for other reasons is not equipped or sufficiently instructed to handle the condition.

   ASK YOURSELF, IF SOMEONE WERE HURT, COULD I ADEQUATELY EXPLAIN IN COURT?

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CHAPTER 5 GETTING UNDERWAY

- PERSONNEL PREPARATION AND TRAINING
- WORKING WITH PARENTS
- PROGRAM IMPLEMENTATION
- SPREADING THE WORD

CHAPTER 5
GETTING UNDERWAY

Once a conceptual framework for the outdoor education program has been established, the work of the cooperative planning team begins in earnest. At this point, the program's location (schoolyard, nature center, resident camp) should already be established, as should the role of teachers, park and resource management personnel and parents in implementing the outdoor education activities. The students in the program should also have been identified, as a determination made as to whether the program will be segregated or mainstreamed. Thus, the implementation and training strategies described below can be tailored to meet the needs of the particular outdoor education program under consideration.

Cooperation between the three facilitator groups continues to be vitally important. In fact, this cooperation may be even more important as specific roles are assigned in program implementation. The expertise of each group should be taken into consideration as roles are assigned: EDUCATORS may be best equipped to serve as group leaders, to adapt particular activities to meet the needs of their students, to work with school authorities to work out program logistics (timing, transportation, permission slips); PARK PERSONNEL may best lead and interpret outdoor education activities, modify the natural environment for students with disabilities, and supervise the planning and sequencing of classroom and overnight experiences; PARENTS will play an important role in the success of the program and should be involved in outdoor education preparation

and follow-up activities at home, they can serve as volunteers in the program at school and in the parks, and can support the program through fundraising, locating materials and supplies, making needed contacts with persons in the community, and a variety of other ways. Of course, the actual roles played by each facilitator group in the implementation of a particular outdoor education program will vary with the experience and interests of the people involved.

5.1. PERSONNEL PREPARATION AND TRAINING

In order to provide a successful outdoor education experience for students with disabilities designed to meet their individual educational, social and physical needs, it is essential that all persons involved with the program receive appropriate training and orientation. This would include such persons as educators, park and resource management personnel, parents, volunteers and others who have been recruited to assist with the outdoor education program. Training programs are especially important if these persons have no previous background or experience in working with special populations or are not familiar with the basic concepts and techniques of outdoor programming.

There are two basic approaches that can be used for personnel training. In the first, specialists in the field of outdoor education and/or special education are brought in to conduct an all staff training workshop. This way, all persons would receive the same information and training regardless of their involvement in the outdoor education program. Alternately, selected staff members who have been identified to assist

and follow-up activities at home, they can serve as volunteers in the program at school and in the parks, and can support the program through fundraising, locating materials and supplies, making needed contacts with persons in the community, and a variety of other ways. Of course, the actual roles played by each facilitator group in the implementation of a particular outdoor education program will vary with the experience and interests of the people involved.

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Eliminating Barriers

Training for those involved in implementing the outdoor education program should include some information on eliminating barriers to participation by students with disabilities. This can be especially important in mainstreamed programs or when staff has not had much experience in working with special populations. There are many excellent resources and publications available which address the need for barrier-free environments (see the Resources and Bibliography section in this guide and the Guide to Outdoor Education Resources and Programs for the Handicapped published by the Outdoor Education Project for the Handicapped for listings). However, it is important to emphasize that "barrier-free" can be interpreted in two different ways. The first is certainly one that has been, and still is, a major issue in the parks: eliminating physical barriers so that all disabled people, especially those who are wheelchair users, can be independently mobile. Of course, there are many physical barriers that cannot be realistically changed or eliminated. Trees, steep hills, rough terrain, sand, tall grass, etc. are conditions that must be taken into account whenever a person who is disabled learns in the outdoors (see Chapter 6 for more information).

Barrier-free can also mean the elimination, or at least a substantial reduction, in negative attitudes towards people who are disabled. These attitudinal barriers can be manifested in several ways:

Paternalism/Maternalism. Overly solicitous and condescending behavior toward disabled persons is not only demeaning but may contribute to a devalued self-concept for the disabled individual.

Negativism. Sterotypic thinking, avoidance behavior, and overt discrimination are, from time to time, faced by every disabled person. Derogatory descriptors such as "crippled", "deaf and

dumb", etc. contribute to perpetuating negative thinking about disabled people.

Apathy. The public's lack of awareness and concern for the problems of disabled persons provides an atmosphere conducive to maintaining barriers of all types (2).

The statistics listed below provide basic information on some selected handicapping conditions which affects a major portion of our general population. The actual numbers and types of disabilities will, of course, vary from one community to another, but should provide those interested in outdoor education programs with a general knowledge of the populations within their own community or service area (4).

- Thirty-five million, or one out of seven, Americans are permanently disabled - up 37 percent over the past 10 years.

Approaching the Disabled Individual (2)

- Remember, a handicapped person is a person. He/she is like anyone else except for some physical, mental or emotional limitation.
- Be yourself. Show friendly personal interest in him/her.
- Talk about the same things you would with anyone else.
- Give assistance only if requested by the individual. Independence is important to everyone. However, if the situation dictates, then perhaps aks, "Do you need assistance?"
- Be patient. Let the disabled individual set the pace in walking or talking.
- Don't be afraid to laugh with him/her!
- Avoid being over-protective or shower the person with kindness.
- Avoid making up your mind in advance about the capabilities of the person. You may be surprised how wrong you can be about the individual's interests and abilities.

- Major types of disability are spinal cord injury, head trauma, cerebral vascular accidents, heart conditions, arthritis and rheumatism, visual and hearing impairments, mental retardation, nervous conditions, and hypertension without heart involvement.
- One out of every 10 school children is handicapped.
- One out of four adults aged 55-64 is severely disabled.
- More than 80 million Americans, disabled and their families, are directly affected by disability.
- Nationwide, an estimated 14.5 million persons have hearing disabilities; close to two million of them are living in total silence.
- Approximately 1.8% of the general population is reflective of the incidence of mentally handicapped persons.

- 40% of persons aged 65 or older have some limitation in physical activity.
- More than one-fifth of all disabled adults report impairments caused by on-the-job injuries.
- NINETY PERCENT OF ALL PUBLIC RECREATIONAL FACILITIES ARE INACCESSIBLE TO DISABLED AMERICANS.

Awareness-Building Techniques

There are several types of training approaches and formats that work well for persons desiring practical information on how to work with special audiences. One approach that seems to be popular and widely accepted is utilizing "awareness-building" techniques. These techniques are especially effective for parks personnel who are asked, for example, to give an interpretive hike to a group of disabled children or adults, without knowing too much about a particular disability. To build awareness on the part of those receiving training, simulations of specific disabling conditions might be incorporated in the awareness building segment of a training workshop. Participants really need to feel what a disability is all about before they are ready to listen to the trainers describe disabilities or hand out materials that define disabilities. Such simulations can include:

1. to simulate a wheelchair user (paraplegic): Have participants stay in a wheelchair for at least 3-4 hours, when they have to wheel from room to room, building to building, trail to trail, etc.
2. to simulate a fine motor disability: tape participants' thumbs so that only the fingers can be used, in eating, writing, etc.

3. to simulate cerebral palsy: place wooden sticks, about five feet in length so that they are behind the persons' back with the arms hanging over. Have the participants try to pick objects off the floor or tie their shoelaces.

4. to simulate blindness: blindfold the participants so that they will need a guide, or try using a walking stick. They should remain blindfolded for at least two hours.

5. to simulate deafness: place good earplugs in the participant's ears - and preferably place headphones over the ears.

6. to simulate a person who is physically disabled yet ambulatory: give the participants canes, crutches, walkers, etc. letting them use the aides over the course of the workshop.

7. to simulate a hearing impairment: begin by talking very softly, so that only participants nearby can understand what is being said.

8. to simulate learning disabilities: make a tape that has a high level of background noise; this simulates a person who has difficulty with auditory discrimination. Or pass out a paper (on characteristics of the learning disabled, for example) about two paragraphs in length. Have three or four of these papers with difficult to read sentences, so that the participants will not be able to keep up with the rest of the class.

9. to simulate emotional disturbance: "Plant" a staff member in the group of participants. While a trainer is explaining something to the class, this person should at first give the trainer a hard time by getting up frequently, and by making slight but annoying noises (tapping the pencil). The trainer next should then confront this person who preceeds to race around the room and cause a general disturbance. Obviously, this is not a general description of emotional disturbance, but it will give the participant a basic idea of the problems that may arise with this population.

For all these simulations, discussions should follow to get participants' feelings and reactions. After such sessions, participants do acquire a better understanding of the handicapping condition and are more likely to be motivated to seek additional information concerning disabilities.

Too often we are concerned with the giving of this information and hoping our students will remember as much of this information as possible. Tree, flower, and animal identification are at times beneficial - but usually only beneficial to those sincerely desiring that knowledge. For others, facts and names are meaningless, at least until there is sufficient motivation to seek out such information. For many people who are disabled, their first and foremost need is to feel comfortable in the park environment; acclimatization techniques can adequately meet this objective.

> A sample acclimatization activity would be the following...take a good look at the ground right in front of your feet. From now on we want to look up and around. Penetrate with your eyes up through the branches and back into the forest; notice different colors and shapes as you look. Make a square with your hands and frame a picture you can see. Focus on the contents of that square for a minute...now, move your camera down for a close-up of something that's alongside the trail - get really close to it and concentrate on what's inside your frame (5).

Such an activity can be utilized with most people who are disabled. It is suitable for the mentally handicapped, emotionally handicapped, learning disabled and especially appropriate for the severely handicapped. The activities are also ideal for children who are mainstreamed into a regular class, or for adults who join in an interpretative hike. Everyone becomes involved and really enjoys the activities. It is also an opportune time for both the disabled and able-bodied to share their senses with each other - everyone is on common ground.

A second approach is to invite guests who have disabilities to discuss their particular needs and abilities with the participants. This is a most effective way for real understanding to take place. For example, a person who is physically disabled and a wheelchair user might want to discuss the problems he or she might encounter during a visit to a nearby state, local or national park; or a mentally retarded person could be invited to talk about his/her interests, especially as they relate to outdoor education.

Activity Training

Practitioners interested in outdoor education programming will be anxious to learn about innovative and effective approaches to presenting specific activities to students with disabilities. Programming ideas should include information on

- how the activity can best be presented
- how the activity can be broken down into component parts (task analysis)
- preparation and follow-up activities
- sequencing of activities within the outdoor education program
- modifications for particular disability groups

If possible, a wide variety of activities appropriate for outdoor education should be presented. An effort should be made to choose activities best suited to the setting to be utilized, i.e., the school-yard, a neighborhood park, nature center or residential facility.

If possible, a trip to the outdoor education center or camp where the program will be conducted would be helpful, particularly, if the

persons involved can all go and view similar types of programs in progress. Additionally, if the outdoor education program includes a minimum of an overnight stay, a half or full day inservice training session should be designed for those persons who will actually be attending the residential experience.

Specific activity ideas can be found in the Outdoor Education for the Handicapped Project's Guide to Outdoor Education Resources and Programs for the Handicapped.

It is recommended that an effort be made by the planning team to see that outdoor education is included as part of the regular in-service training provided for educators by a school district. In fact, this should be considered as a goal of the cooperative team. Educators, park and resource management personnel and parents will all need to work to gether to convince those in authority to include outdoor education in inservice schedules, but an interesting, well-organized presentation on the benefits of curriculum enhancement through outdoor activities will go far in enlisting the support of teaching faculties for the program implemented by the planning team. (See Chapter 3 for information on writing proposals and making presentations to school boards and other authoritative bodies.)

5.2 WORKING WITH PARENTS

The active support of parents for the outdoor education program is vital to its success on several different levels. As has been discussed throughout this guide, parents play an important role in the

success of the cooperative planning venture. Only parents can alert the planners to some of the stumbling blocks which will be met along the way; parental support is absolutely necessary to convince reluctant administrators, school boards and others in authority to implement the outdoor education program; and parents can play a unique role in convincing other parents to support the involvement of their children in the program once it has been implemented in the school. Too, parents are important to the successful use of the outdoors in helping children, especially children with disabilities, learn. They can be especially helpful in:

- Assisting in determining specific goals/objectives that should be accomplished in the outdoor education program.
- Providing information relative to specific behavioral, physical, medical and other characteristics about their child that may not be readily observable in the classroom.
- Initiating home learning activities with the child in preparation for the residential outdoor education experience.

Responding to Parental Concerns

If serious consideration is given to answering any questions parents may have about the outdoor education program before they are asked, the program will have a better chance of success. Many parents are unsure about the value of the outdoor education experience and may be reluctant to involve their disabled child in new, and may be somewhat risky, activities. Reluctance may be greater when residential experiences are a part of the program.

To offset parental concerns, planning meetings should be held to involve parents of students in the outdoor education program in imple-

menting activities. Parents should be given an opportunity to review the program and explore the expected benefits for their child ahead of time. Members of the cooperative planning team, including educators, park and resource management personnel and parents should be available to answer questions. If a specific outdoor education site is to be used, parents should be encouraged to visit and perhaps observe similar programs before the new program begins.

Planning meetings for parents should be designed to answer questions frequently raised by other parents. If slide shows or other audio-visual presentations are available, these may convincingly answer parental concerns more effectively than oral presentations. In either case, areas which should be covered in parent meetings include:

Questions About Staff/Teachers

1. Are personnel trained to use outdoor education techniques?
2. Are personnel trained to work with handicapped children?
3. What is the ratio of children to staff?
4. Are personnel oriented to special needs of individual participants?

Questions About the Program

1. What are the major objectives of the program? (academic, social, emotional, physical)
2. How many children does the program serve?
3. What activities are included in the daily schedule?
4. Are methods, approaches and techniques appropriate for the groups with which they are used? Are they modified to meet the needs of the handicapped?

Questions About the Facilities, Equipment and Supplies

1. Are facilities and equipment appropriate and accessible for the handicapped? e.g., ramps, surfaces for wheelchair students.

2. Have safety procedures been established?

3. Are emergency equipment and supplies available?

4. What equipment/supplies must the child take with him?

Questions About Program Evaluation

1. Is evaluation used to improve the program and better meet the needs of participants?

2. Are parents involved in the evaluation? How?

3. Are students involved in the evaluation? How?

4. Are evaluation results and student records available to parents and/or teachers?

Questions About Parental Involvement

1. Can parents visit the program?

2. How are parents involved in the program? e.g., aides, group leaders, transportation.

3. What information must parents provide? e.g., medical records, information on behavioral characteristics, etc.

4. What forms must be completed by parents? e.g., permission, evaluation, releases, etc.

5. Are parents asked to give specific information (medical, behavioral, etc.) about the child to be used in program planning?

6. What activities are provided to acquaint and educate parents about the program? Is written information available?

7. Is there a parent visitation day?

Other Questions

1. What is the cost of the program to parents? Are scholarships or "camperships" available?
2. Is transportation provided through the program?
3. Is insurance provided by the program?

Once parents have become involved in their first outdoor education program, they may want to continue to provide similar experiences for their child. Parents should be given information on how to locate an appropriate program, designed to meet their child's needs. A sample listing of questions parents will want to ask is provided here.

Questions Parents Need to Ask About Outdoor Education Programs

Day Programs

1. When are the program sessions conducted? How many days/weeks is it held? How many days/weeks does each session last?
2. Should children bring their lunch?
3. Are medical personnel on staff or on call?
4. Who directs and conducts the program?
5. Is the program mainstreamed? If so, what is ratio of handicapped to non-handicapped participants?

Residential Programs

1. When is the program held? i.e., year-round, seasonal
2. What must the child take with him?
3. What prerequisite skills must the child have in order to attend the program?
4. Can the parents phone the child?

5. Can parents visit the child?

6. If the program is mainstreamed, what is the ratio of handicapped to non-handicapped participants?

7. Are medical personnel on staff and on call 24 hours/day?

8. Who directs and conducts the program?

Segregated Programs

1. What types of handicapping students does the program serve?

2. Are the program objectives, activities, facilities, and equipment adapted and designed to meet the needs of the child?

Integrated (Mainstreamed) Programs

1. What types of handicapping conditions does the program serve?

2. What is the ratio of handicapped to non-handicapped participants?

3. Are the program objectives, activities, facilities, and equipment adapted and designed to meet the needs of the child?

4. Are special provisions made in order for the handicapped to participate in activities? For example:

   Paul's feet were so badly malformed that he couldn't join his group on hikes. Rather than provide an alternate activity, the camp truck brought Paul to the hike's destination so that he could participate in the cookout and story hour and then was brought back to camp while the others hiked back. (2).

5. To what extent are program activities mainstreamed? e.g., full day, half day, mealtime only, etc.

The planning team may also want to distribute packets of written materials to parents that contain specific information relative to their child's participation in the program. Included in this packet might be

(for samples, see Appendix of Sample Forms):

- letters to parents explaining the program
- program information sheets
- samples of daily schedules (see page 131)
- clothing and equipment lists
- permission/release forms such as
  - medical history forms
  - emergency medical treatment release forms
  - picture release forms (permission to take pictures of the child for public relations purposes)
  - forms requesting parental approval to release records to school district, if applicable
- information on any existing or potential behavior problems that the staff might expect (this information may also be requested of the student's teacher).

It should be noted that any form distributed to parents should always conform to the requirements of the school district and/or park department.

Involving Parents in the Program

Parents are a valuable resource for those involved in the implementation of the outdoor education program. Too often parental involvement is limited to providing transportation to and from the outdoor education site. The use of the cooperative planning approach, however, should open the door to a number of other ways that parents can help the program.

Camp Confidence®, in Brainerd, Minnesota, offers a unique approach for parents to participate in their child's "camping" experience. Students are not sent to Camp Confidence, but rather they are brought by someone who is familiar with them such as a parent or teacher. Confidence does not have a staff or counselors. It is felt that someone who has been involved with the child prior to his/her "camping" experience has established a relationship from which to lead the outdoor adventure. Without this relationship, the apprehension of a new place might cancel the benefits.

While there are no staff counselors, there are program specialists and student interns who develop modified activities in outdoor education that can be used by the groups. These specialists teach skills and lead the "campers" in activities, but they also provide training for parents. For example, a parent may be reluctant to let his/her child become involved in downhill skiing. A program specialist will then take time to work one-to-one with him/her in skiing, i.e., a private skiing lesson. As the parent becomes familiar with this activity and how easily and safely it can be experienced through adaptive methods of instruction, s/he will probably be convinced to allow the child to participate.

Everyone who brings a child to Confidence is also provided with a comprehensive planning guide, "Adventure with Confidence". This guide contains directions for hundreds of activities; ideas on making the best use of facilities and time, and equipment and facilities available to them at Camp Confidence.

*For more information about Camp Confidence, see the Outdoor Education for the Handicapped Project's Innovative Approaches to Providing Outdoor Education for Handicapped Students.

5.3 PROGRAM IMPLEMENTATION

The work of the cooperative planning team culminates in the actual implementation of the outdoor education program in the school, park or nature center, or residential setting. After consideration of logistical matters, the program should be ready for leaders to present and students to enjoy. Some of the many matters which should be considered at this time are discussed here; the final program plan should be reviewed by all members of the planning team, to ensure that important areas have not been overlooked.

Scheduling

The schedule of activities to be conducted in the outdoor education program will vary greatly, depending upon the type of program, site characteristics, leadership availability, program goals and most importantly on the individualized objectives for each child participating in the programs. Therefore, the activities selected should correspond with and facilitate the achievement of individualized objectives. Most likely the key to continued involvement in outdoor education will depend on the educator's ability to select appropriate activities and demonstrate that they do indeed facilitate the achievement of individualized objectives.

Educators and park and resource management personnel should work together to determine the amount of time needed to conduct the outdoor program. In a school-based program, an hour several times a week may be sufficient; if the program goes off campus, less frequent but longer periods of time may be needed. Off-grounds activities may be supplemented by short segments interspersed in the regular curriculum. The daily schedule should be modified when necessary to insure that ample time is provided for student achievement. If an overnight stay is to be a part of the program, the length of the experience will also vary, depending upon site availability, funding, student characteristics and overall school philosophy and structure. Many teachers have found that a first time experience for handicapped children should be somewhat shorter than the traditional five day, four night program that many traditional outdoor education programs utilize. Either a four day, three night or three day, two night first time experience would appear to be appropriate, depending upon the above cited conditions. While schedules will indeed vary, the following sample schedule for a three day, two night program may serve as a point of departure for establishing a schedule suited to the needs of specific groups.

SAMPLE SCHEDULE OF ACTIVITIES

MONDAY

10:30 a.m.	Welcome! Arrival at Camp, Outdoor Center, or State Park
11:00 a.m.	Unpack and set up cabins, dorms, or tents
12:00 Noon	Lunch, songs

1:00 p.m.	Orientation to outdoor center facilities and procedures: including tour of buildings, resource areas and activity areas.
2:00 p.m.	Activity Period: large or small group activities.
3:30 p.m.	Activity Period: length of activity periods depends on nature of groups. Students with physical disabilities usually need longer periods due to the amount of time it might take to get them from one activity area to another. Students with behavior disorders may need several short activity periods to allow for quick changes in activities if one is not successful.
5:00 p.m.	Dinner, songs, stories.
6:00 p.m.	Free Time: cabin or tent groups could plan their own activity at this time.
7:00 p.m.	All camp evening program. A campfire program is usually beneficial on the first night.
8:30 p.m.	Return to sleeping areas. Good time for showers. Lights out generally around 9:30 p.m.

TUESDAY

7:30 a.m.	Wake up, clean cabins or tents
8:30 a.m.	Breakfast, songs, skits and any announcements for the morning.
9:30 a.m.	Check schedules, finish cleaning cabins and surrounding areas, start toward activity areas.
10:00 a.m.	Extended Activity Period: due to extended time, you may want to try boating, canoeing, or any other activity which takes additional time.
12:00 Noon	Jungle Co-op Lunch: students search for lunch and share what they find.
1:00 p.m.	Rest hour if needed.
2:00 p.m.	Activity Period: Outdoor learning activities (i.e., quadrant study, adopt-a-tree)
3:00 p.m.	Activity Period: Adventure programming (i.e., natural obstacle course, ropes course, initiative games)

4:00 p.m.	Students prepare their own cook-out meal (i.e., dutch-oven cooking, tin-foil dinners). Students eat with their own cabin or tent groups.
6:00 p.m.	Cabin groups plan/coordinate their own activity (i.e., fishing, archery, night hike).
7:30 p.m.	All Camp Square Dance
9:00 p.m.	Showers, stories, lights out at 9:30 p.m.

WEDNESDAY

7:30 a.m.	Wake up, clean up cabins or tents, pack up and make ready for departure.
8:30 a.m.	Breakfast, songs, stories, awards (everyone receives participation award), announcements.
9:30 a.m.	All camp special event (i.e., Indian Olympics, Carnival, Pioneer Day).
12:00 Noon	Lunch, farewell songs
1:00 p.m.	Departure time, buses arrive

Transportation

If the outdoor education program involves more than schoolyard activities, attention must be given to transportation. Transporting children from school to an outdoor center can most easily be facilitated by use of a school bus. The bus ride itself can be a very important part in readying children for the experience and provides an opportunity for group discussion of the day's activities on the way home. Many summer camps use bus rides to initiate group activity and to develop group cohesiveness. If bus transportation is not available through the school, the planning team should check with the outdoor education center or park department to see if other transportation might be available.

Other possibilities for transporting students to the outdoor education program include:

1. town or city bus service
2. charter bus service
3. church bus
4. Goodwill, Salvation Army or Easter Seal Society
5. National Guard or Army Reserve buses

If these services are not available, the planning team may consider using volunteers and parents to drive children to the outdoor center if distance is not too big a factor and if school or park department regulations allow. In all cases, it is imperative to determine insurance and liability coverages and ensure that proper coverage is provided.

Medical Care

Many states may require a full time registered nurse to be in residence during an overnight outdoor education program. With handicapped children, many of whom will have accompanying medical problems, this should definitely be a requirement. In addition, a pediatric physician should be on call, and a nearby hospital informed of the group's presence in the area, in case of emergency. All medications, including prescription as well as non-prescription drugs should be kept under lock and key in a safe place, and dispensed only by the nurse. Parental permission to administer medication will need to be obtained in accordance with school district or park department policies.

Diet/Food Service

Meal time is traditionally one of the most enjoyable and happy times. It brings people together in a casual atmosphere that is conducive to mutual interchange of ideas and sharing of experiences. Appetites on an overnight experience or all day program can generally be expected to be greater than at school, unless the weather is extremely warm. Children burn up more energy in the outdoors due to increased physical exercise and longer hours of activity. Therefore, proper arrangements must be made to insure plenty of healthy and nutritious food. The school dietition should be involved in planning and approving the menus, assuring that, where applicable, USDA requirements are met and that provisions are made for children with special dietary restrictions, allergies, etc. Generally, during residential programs at least one snack is provided in addition to the three meals per day.

On-site cookouts can be one of the most exciting and memorable experiences for the students while participating in the outdoor experience. Every effort should be made to plan one or two meals where students can cook over an open campfire. Meal planning and preparation is also an excellent lead-up activity that can be done in the classroom prior to the outing.

Health and Safety

Health and safety considerations are among the most important planning factors in preparing for an education program. Any potential success a program may have can quickly be snuffed out should an accident occur or a health problem encountered due to lack of precaution. The

outdoor environment contains many factors not found in a typical classroom or school environment but the out-of-doors should not be viewed as an ominous place where accidents are certain to happen. Through careful planning, competent leadership and recognition of some basic health and safety principles, the outdoor environment can become as safe and healthful an environment as any other. Written safety regulations should include information on:

Aquatics/Water Activities. All water related activities, including boating, swimming, etc., should be supervised by persons with proper credentials (i.e., Water Safety Instructor, etc.).

Crafts. Staff should be knowledgeable about operating procedures for all equipment and supplies as well as aware of any toxic materials and their antidotes should an accident occur.

Out-of-doors Precautions. A general inspection of the outdoor education site should be conducted to locate potential dangers such as poisonous insects, plants and reptiles, sanitation, water areas, fire hazards, and other areas where injuries/illnesses may occur.

Fire Safety. All students and staff should be briefed on fire prevention/protection and ensuring that evacuation procedures are designed and carried out prior to and during the outdoor experience.

First Aid. At least one staff person should be trained and certified on Advanced First Aid. First aid kits should also be carried during activities when students leave the main camp area.

Security. Appropriate security measures should be employed to protect the students, staff, equipment and general premises from any potential dangers or hazards inherent to the program's operation.

These and other precautionary guidelines should be noted and included in all components of the outdoor program and addressed in detail during student and staff orientation. In addition, disaster

(i.e., fire, electrical storm, lost student) procedures should be spelled out and all risks at the program site are identified and accommodated through standard operating policies. For more information on legal liability, see Chapter 4.

Outdoor Ethics and Stewardship

Another important component of the outdoor program is the development of a personal outdoor ethic by both the teacher and student. Many teachers have stated that their mentally handicapped students would never understand conservation and ecology concepts. But, if leaders can teach their students not to litter they would be far ahead of a large percent of the American population in understanding outdoor ethics.

It is most important to follow outdoor education ethics because it is the right thing to do, not just because it is the rule. Students must learn to minimize their impact on the land, developing a sense of stewardship in students. The real outdoor person understands the need to preserve the landscape but also develops an awareness of the "spirit" of the wilderness which makes it such a wonderful and educational medium.

There are several obstacles that need to be overcome before the exploitation of outdoor areas ceases. The frontier tradition, or the idea that man must conquer the wilderness must be changed. For information on programs which stress cooperation with nature, see the Outdoor Education for the Handicapped Project's Innovative Approaches to Providing Outdoor Education for Handicapped Students.

CONSERVATION EXPERIENCES WITH THE MENTALLY HANDICAPPED: RECYCLING PAPER - SAVE THOSE TREES!

Martha Ross Swope (3)

Ask not – what is America doing for us but what can we do for America.

America is made of people — all kinds of people: the brilliant, the average, and the not-so-brilliant or mentally handicapped. But even the mentally handicapped can make major contributions to conservation. To cultivate a community awareness for our future citizens the natural place to begin is in the public schools.

It is important that in our teaching we point out that we must not be passive spectators but active participants. I teach a class of junior high special education students with I.Q.'s of 53 to 80 who will ultimately receive a high school diploma and take their places as future citizens contributing to our community. (With an occupational program in our senior high level many of our students are employed before graduation.)

If the class is going to be "active participants" some planning must be done.

In a new adventure of recycling paper a coordinated program was developed with the school and the recycling company. Fliers were sent out to each homeroom explaining our intentions and the need for their cooperation and participation.

PREPARATION OF BOXES: We collected empty cartons from stores—one for each homeroom. The class decided on the information that should be placed on the side panel. Eventually we agreed on this list:

RECYCLING BOX NUMBER .....
ROOM NUMBER .....
TEACHER'S NAME .....

Please do not wrinkle the paper.

Place only newspaper, notepaper and tablet paper in the box.

Continue to use waste can for gum, tissues, etc.

They discovered that putting this information on large white sheets of paper and pasting them onto the carton was the best way to present the material.

Many boxes were needed for the more than thirty homerooms in the building. Everyone of my students had to prepare the label for at least one. Boxes were everywhere, for we kept them, admiring our writing from day to day, until all were ready to be delivered.

COMMITTEES WERE FORMED: Boxes had to be collected, emptied and returned quickly and quietly. The work schedule was limited to 45 minutes each Friday at the end of the day. The work area was left clean and tidy.

The paper had to be tied up. If students were finished with their work assignments during the week they could be chosen to tie up paper with a "foreman" from the class to keep things running smoothly and to inform me of any problems.

The school provided a truck at least once a month to take the paper to the recycling plant. Students loaded the paper and we received a report immediately upon the truck's return on the number of pounds of paper and the amount of money earned.

NEXT PROBLEM — USE OF MONEY: Without any discussion paper was handed out and each student was told to write down suggestions. It was amazing how many of these students thought of other people. Suggestions included, "give it to CARE," "Cancer," "take a field trip," "give it to the physically handicapped," "buy something for the school." "Buy something for the school" was the final vote after much discussion.

A HAPPY IDEA: What could we buy that everyone could enjoy? We did the work but everyone contributed the paper. After looking around the school, inside and outside, and looking through catalogs for ideas and prices someone came up with the idea of a tree. It was one of many thoughtful ideas, e.g. a state flag (the school had one), a microscope (not everyone could use it), something beautiful for the library where everyone could see it. Still without suggestions from the

teacher — this was their project — they selected the tree. The principal was invited to the class to hear the ideas, pro and con, and their final decision and agreed that a tree would be just great.

LEARNING ABOUT TREES: From there we zoomed in on trees and our knowledge concerning ecology grew. too, For we learned that trees make a difference. They:

- Make it cooler in the summer by providing shade.
- Make it warmer in the winter by providing shelter and serving as a wind break.
- Provide homes and shelter for birds, who in turn help reduce insect pests.
- Make an area more attractive, so increase property values.
- Screen impurities and dust from the air.
- Provide a barrier that helps screen out noise.
- Put oxygen into the air.

We put the above information on each invitation, written in their best handwriting. We invited two representatives from each home room to the tree planting ceremony along with the superintendent, the principal, one science teacher and a newspaper reporter.

After doing research on kinds of trees and preparing reports we selected a sugar maple for its beauty and because future classes would be able to tap it and learn about making maple syrup.

OTHER SUBJECTS: We read tree poems. Ideas grew and grew. We decided that we should have programs to distribute at the ceremony. The art teacher was asked to help with this, and was delighted to have the opportunity to do something that had special meaning for the group.

FINALLY, the hole was dug by class members. The nursery man came and actually planted the tree, giving important tips on planting and care.

The program response from administration and teachers was enthusiastic and recycling became more than just a conservation project — it helped bridge a gap between the special education class and the rest of the school system. Because we became involved we needed the help of others and proved that we, too, can contribute to environmental improvement.

TAKE ONLY PHOTOGRAPHS...
LEAVE ONLY FOOTPRINTS

Initiating Lead-up Activities

The most effective way to prepare students for an outdoor education program is to initiate them via activities for participation at school, in the home and/or at a local park or recreation area. Activities should be selected that will build skills and orient students to what they will encounter during an extended outdoor experience. Lead-up activities should initially focus on awareness of the environment. The following sample activities can be done anywhere, such as the school playgrounds or local park. These activities are designed to introduce students to the relationship between themselves and the natural world. The out-of-doors provides an unlimited laboratory for the development of sensory awareness, for example, a good for all students who are handicapped.

Roots

Have the students lie down (face up) around a tree like spokes on a wheel; feet to the trunk; arms and hands under the leaf cover on the ground. First have the participants tell whether the ground is hard/soft, hot/cold, wet/dry, etc. Then tell them to dig their fingers into the soil as far as possible. Explain that they are like the "roots" of this tree and continue if appropriate to explain what the functions of roots are. This is a good activity for getting students out of their wheelchairs and onto the ground.

Block of Soil

Dig a cubic foot or so of soil from a forest or lawn area. Place it in the center of the

students. Identify certain areas to put the various size objects found in the block (i.e., twigs, sand, dirt, living things, leaves, etc.). Have the students slowly take part the block and sort the items to have for this activity. If possible, encourage students who are in wheelchairs to leave their chair for this activity.

Outdoor education activities in a school-based program may be designed to prepare students for eventual overnight experiences, even if they are not part of the immediate plan. Park and resource management personnel should work in close cooperation with educators and parents to design a program of outdoor awareness which can translate to several settings and which can be part of a home follow-up program.

For more information on specific outdoor education activities, see Curriculum Design and Development, in Chapter 2, and the Outdoor Education for the Handicapped Project's Guide to Outdoor Education Resources and Programs for the Handicapped.

5.4 SPREADING THE WORD

As with any program or concept being introduced for the first time within a school or classroom, it is particularly important that close communications and relations be established and maintained between the outdoor education program and the local community. Building support for the outdoor education program and attracting possible resources require a continual process involving public relations activities. Parents can and should be involved in promoting the outdoor education program for the students in their school. They can be an easily accessed source of contacts with the community, and can be especially helpful in launching

a media campaign to publicize the outdoor education program. (Note that if photographs are released to newspapers, or if a news program sends a camera crew, it is important that photographic releases be signed by parents.)

Fund raising activities are also effective ways for building a public relations program, especially if the activities involve or require community support and backing. For example, local service-oriented groups (i.e., Kiwanis, Rotary Club, etc.) may elect to assist with raising money for an outdoor education program. For more information on funding resources for outdoor education programs, see Chapter 3.

Again, "selling" an outdoor education program is and should be a continual process and by gaining the support from the local community, the experience is sure to be a most rewarding and successful venture for all!

Principles of Public Relations (4)

- The public relations program should seek to build channels of school-community interaction.
- Public relations should be viewed as a legitimate facet of the educational program.
- Public relations should have centralized professional direction.
- Public relations must involve two-way communication (i.e., receiving as well as giving out information.)
- Public relations should be a continuous program operating beyond the planning stages.
- All available channels for public relations should be used. An informal, interesting, and varied approach should be emphasized.

- Appropriate media such as newspapers, school publications and bulletins, radio and television, and adult forums should be used.

- Lay committees or advisory groups comprised of responsible representatives of the community should be formed. The advice of these groups should be taken into consideration before making decisions.

- School-community councils and parent-teacher organizations at each school should be encouraged. These organizations create an environment conducive to better understanding between the school and the community.

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CHAPTER 6 ACCESSIBILITY

BY KATIE AHERN MCGUINNES
AND TERRY D'EUGENIO

- INTRODUCTION
- THE MANDATE
- DESIGN GUIDELINES
- DESIGNING FOR EVERYONE, REGARDLESS OF HANDICAP
- DESIGNERS, CLIENTS AND USERS
- USER-NEEDS DESIGN

CHAPTER 6

INTRODUCTION

"An Adaptive Environment is one that works for everyone, regardless of handicap" (22). An adaptive environment is a kitchen that works for a 5'2" cook; a playground where toddlers and teenagers can play without disturbing each other; or an outdoor park trail where blind and wheelchair users can navigate as easily as an able-bodied person.

An adaptive environment is planned by design professionals and users together. The kitchen is designed by a 6' architect in collaboration with the 5'2" cook. The playground is designed by a landscape architect, children, families, and neighbors. The park is planned by a landscape architect, recreation professionals, and members of the handicapped community. Following a user-needs design process, a design team studies who the potential users of the new environment will be and what they will do there. The adaptive design results from this portrait of user-needs.

The first Adventure Playground for Handicapped Children was initiated by landscape architect Lady Allen of Hurtwood in London, England. There children with varying physical disabilities could leap from a loft into a soft foam pit; ride adapted tricycles around a bike path; conquer slides; and make fires for warming hands and roasting hot dogs. As with all adventure playgrounds, the design was developed through a collaboration of children, professionals, and community members.

The Baylies Beginning Center is a preschool for able and physically handicapped children at The Massachusetts Hospital School, Canton, Massachusetts. On their playground children can walk, wriggle, and use wheelchairs to play on multi-level lofts built into a hill; use toy trucks and shovels in the

winding water trough; swing on different moving seats, including one that holds five children at a time; garden in raised plots; and zip the length of the playground on a 'space trolley'. This playground was designed and built with the participation of an architect, teachers, families, and therapists.

The Mt. Hood Kiwanis Camp* is a 40-acre site on Mt. Hood outside of Portland, Oregon. A summer outdoor education program for multiply-handicapped children is being expanded into a year-round facility for use by the whole community. Adaptive designs are planned for swimming, hiking, over-

Photo Credit: Courtesy of Fred Todd/Lucille Reid.

Able-bodied and handicapped preschoolers are "working" in the play ground of the Baylies Beginning Center.

*See Outdoor Education for the Handicapped Project's Innovative Approaches to Outdoor Education for Handicapped Students for more detailed information on this program.

night camping, sleeping and eating cabins, campfires, theatre, archery, fishing, skiing, and more. Camp staff are working with design professionals and the Kiwanis board to plan the camp's expansion.

In planning an outdoor environment that meets each person's special needs, one is planning for all ages and all abilities--from infants and toddlers to the elderly; and from healthy young adults to the physically and mentally disabled. It is important not to design just for the handicapped. Rather, one must design for all people. Although one woman's mobility is impaired, she can still see, hear, and appreciate to swim in salt water. Although a child is blind, he can still enjoy a hike in the woods. Although retarded, a young man may still be awed at the site of the Grand Canyon.

THE MANDATE

In the past twenty years, several significant pieces of federal legislation have mandated equal access and opportunities for people with handicaps. The Architectural Barriers Act (P.L. 90-480) was enacted in 1968. [illegible] "that certain buildings financed with federal funds are so designed and constructed as to be accessible to the physically handicapped."

Section 504 of the 1973 Civil Rights Act declares that "No otherwise qualified handicapped individual in the United States...shall, solely by reason of his handicap, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance."

The Education for All Handicapped Children Act (P.L. 94-142) was enacted in 1975, and mandates a "free and appropriate education" for all children in "the least restrictive environment."

Now being implemented by many U.S. government agencies and contractors, these laws are beginning to break down barriers in many programs and facili-

ties. National parks, playgrounds, camps, and nature trails are slowly opening to able and handicapped visitors. Most noticeable to the general public are ramps, larger bathroom stalls, and brailled elevator buttons.

Accessibility, however, is more than a wheelchair ramp. It comprises attitudes towards people with differences as well as environments that accommodate all who want to be there.

DESIGN GUIDELINES

Following is a list of design guidelines to keep in mind while planning new or adapted environments for outdoor recreational and leisure activities. They are guidelines to help ensure an environment that works for everyone, regardless of handicap. They are based on the premise that an environment that accommodates people with handicaps will work better for all people. One is not designing for the handicapped, but for all people, some of whom have limitations.

Accessibility: Beyond Barrier-Free Design

Barrier-free design implies a physical environment that has ramps at inclines, raised lettering on signs, lowered water fountains, large bathroom stalls, and other modifications now recognized as "design for the handicapped." Access, however, involves considerably more than that. Access also includes a feeling of welcome in public areas, security while traversing unknown terrain, independence getting around and finding information, and orientation as to where one is and where one is going. Accessibility is expressed environmentally by wheelchair ramps and lowered water fountains. Moreover, it is indicated by means of color, light, texture, size, and other variables. Accessibility refers to the able as well as the disabled, including and transcending barrier-free design. In short, barrier-

free design is design for the handicapped. Accessible design is simply a good design that works for a wide range of people.

For example a barrier-free park might have a single picnic table accessible to wheel chairs, adjacent to a parking lot that is hard surfaced and is marked with the international symbol of access. An accessible park, on the other hand, would use picnic tables throughout the park that accommodate wheelchair users as well as physically able people. Several of the picnic areas would be reached by hard surfaced trails. A map at the park entrance, printed with raised symbols and lettering, would identify which sites were most accessible. The accessible park would neither segregate nor unnecessarily identify a "handicapped picnic area." It would offer a choice of settings, some more secluded than others. Although useable by those in wheelchairs, the barrier-free park's one picnic site denies choice, thereby placing a stigma on those who use it.

Scale

Scale refers to the environment's size in relation to the people who are using it. In terms of the environment, people in wheelchairs can see and reach what is available to children who are standing. Thus, making information and facilities accessible to people in wheelchairs can also make them available to children. And, although there are variations in wheelchair sizes, they are not dramatic. Even a child's wheelchair is not that much smaller than an adult's (Tables 1 and 1a). A sign with raised letters, placed low enough for a wheelchair rider to read, is also at the correct height for a child and a blind person to "read" by touching its raised letters.

Well-defined Activity Areas

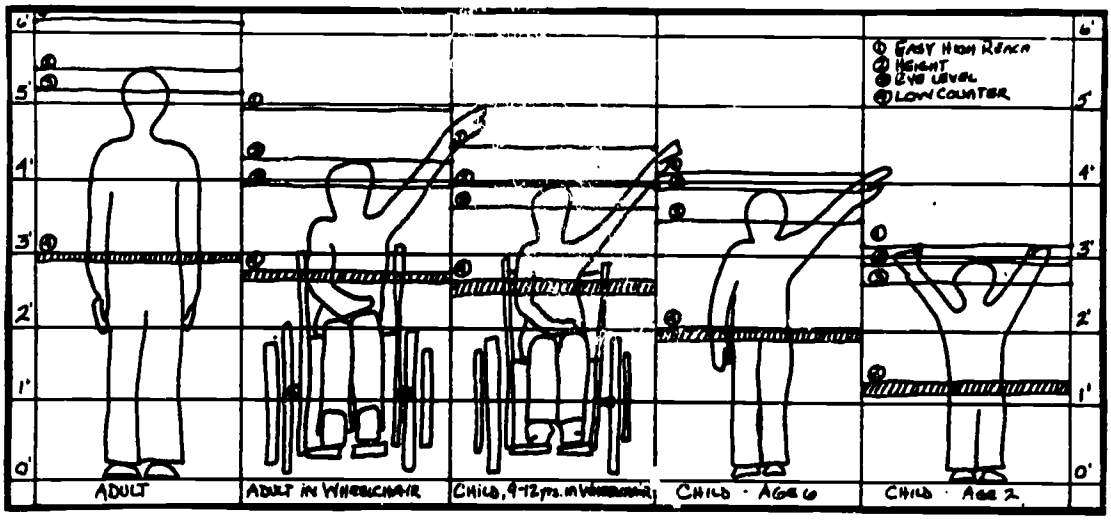
Most people recognize what activities are appropriate to certain areas.

If picnic areas are well-defined, people are likely to picnic there rather than throughout the woods. If swimming areas are well marked, swimmers are likely to limit themselves to those designated areas. Paths should have clear boundaries, such as a curb, railing, or distinct change of texture. Trails should change surface to cue their blind travellers to significant slopes, intersections, seating areas, fountains, plazas, or other environmental variations.

Transition

The source of much discord is the transitional time between activities, and the transitional spaces between well-defined areas. Entrances, for example, are important transition areas, defining where one is, welcoming, setting a tone, as well as giving people a chance to decide where to go and what to do. Playground design offers another example. Attention is often given to the different pieces of equipment--the swings, slide, sand, etc. Equally important are the areas between the equipment. How do children get to the swings? What do they do when they step or leap off the swing? Is the next piece of equipment an appropriate activity following swinging? By surrounding the playground with sand, entry to the swing area is slowed, and falls, softened. On multi-level climbing structures, the lower platforms are used for running and jumping. If the higher decks have limited access, the design will slow children down and limit the number of children there at a time. For example, a small hole children must crawl through to get to a tall deck and fire pole will allow only one child at a time to be on top, and thus limit crowded pushing and shoving which could result in an accident.

Table 1



Human scale from age two to adult

Table 1a

	ADULT	ADULT IN WHEELCHAIR	CHILD, 9-12 yrs., IN WHEELCHAIR	CHILD AGE 6	CHILD AGE 2
EASY HIGH REACH	74	54	57	50	37
HEIGHT	66	46	52	45½	34
EYE LEVEL	62	42	48	41½	30.5
LOW COUNTER HEIGHT	36	31	32½	23½	15

K. Abern McGuinness

Measurements of human scale from age two to adult

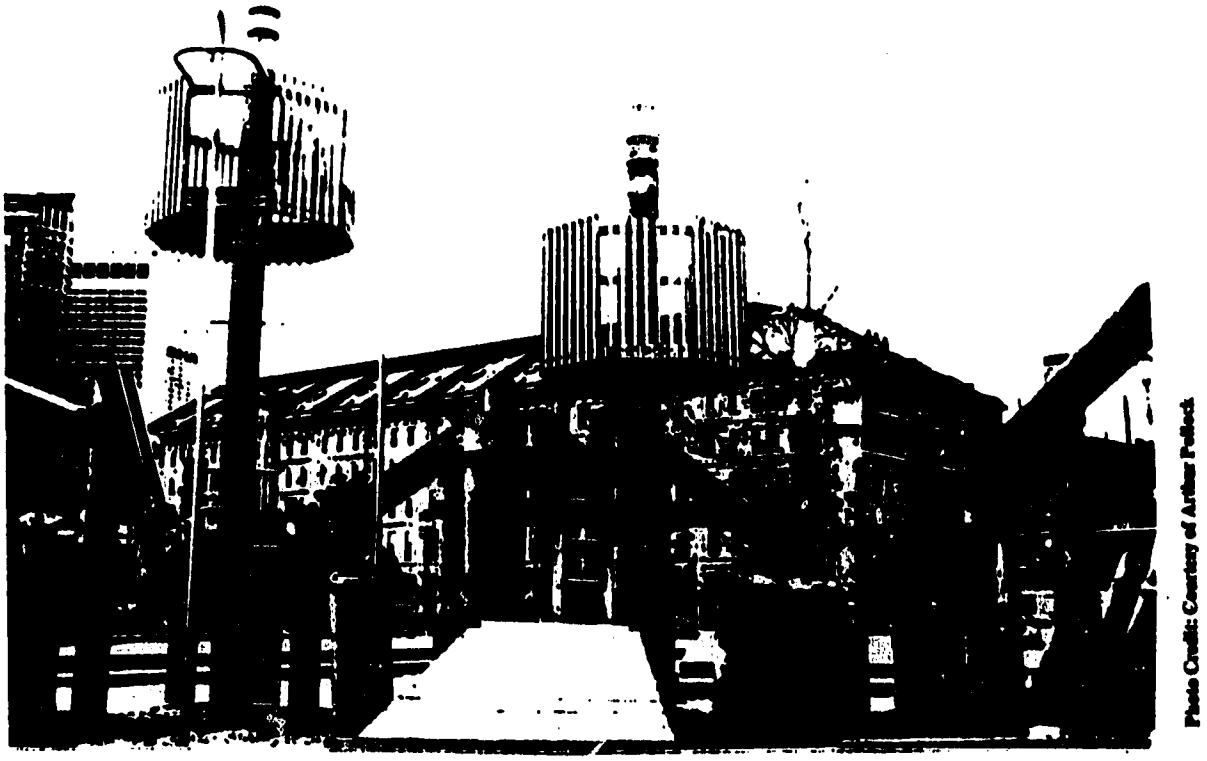


Photo Credit: Courtesy of Arthur Pollock

The tallest fire poles at Boston's Water front Park use crows' nests as a transition from the more active platforms below.

Storage

Storage is always an important issue, whether it be storage of sailboats and tennis nets over the winter at a camp, or storage of scrap lumber on a playground, or storage of dry wood at a campsite. The most important questions here are: what is being stored, and why? As any site is being planned, its activities and materials must be analyzed with respect to their storage needs.

Flexibility

Most recreational facilities must be planned with change in mind. Change can mean variations in weather, in users, or in interests. Making an environment flexible is the most effective way of dealing with change. Being flexible often means being "simple." For example, a playground may include a multi-level climbing platform. If designed with details that make it look like a spaceship, the platform will always be a spaceship. Without those details, children can use the platform imaginatively to

make it a boat, a mountain, a lighthouse, as well as a spaceship. This flexibility in use invites varied fantasy and dramatic play. With careful planning, an amphitheater can be a dramatic play area in the afternoon and a proper theater at night.

Multi-sensory Cues

Ours is a visually oriented society. Information, however, is communicated through all five senses: sight, sound, taste, smell, and touch. When planning facilities for people of varying levels of ability, it is useful to consider employing environmental cues that prompt all five senses. Changing texture of pathways has already been mentioned. Planting shrubs and flowers that have strong scents, providing areas with full sun and with shade, offering "guides-on-tape," and providing tactile maps are all means of providing multi-sensory cues.

Variety

Variety is the spice of life. Our natural environment provides us with a multitude of sounds, shapes, textures, and smells. When planning outdoor recreational facilities, that diversity can be maintained and emulated. Trail surfaces and slope can vary, offering greater and lesser degrees of challenge. Facilities can provide for human convenience in some areas, while the natural environment is left untouched in others. Large areas for baseball games can be balanced by places for solitary contemplation. This variety results in choice for its users. They can choose between the more challenging, or the less rigorous; large and small; and the man-made and natural.

Safety and Challenge

Public playgrounds need to offer opportunities for young children to

play in fairly protected areas, while older children play in more challenging settings. When planning each of these areas, one must assume that "the worst will happen." That is, a child will fall from the highest point of a climbing structure, or will walk in front of the swings. With these images of accidents in mind, one needn't remove the loft or swings. Rather, the climbing structure should be planned so that if a child does fall, it would only be to a next-lower level (18" below) rather than the full 10 feet. The swings should be sited so that they are not between two inviting activities, and are located out of the main pattern of traffic. Trails, too, can offer varying degrees of safety and challenge. The Minnesota Department of Natural Resources has devised a framework for classifying the difficulty and accessibility of different trails (3). (Table 2) Five trail classifications are defined according to:

1. length of trail
2. rest stops
3. width
4. shoulder material
5. slope
6. cross slope
7. surface
8. trail edge

This classification system eliminates the stigma of "handicapped" or "elderly" trails, and allows people to make a choice based on the trail's characteristics and each person's abilities at that time.

Independence and Supervision

Supervision can ensure the well-being of both people and facilities. It can also be stifling, especially in the natural environment. Some people need to sail alone across the Atlantic, while others want to be a part of a group on a chartered schooner. Independence and supervision need to be balanced, based on who the users are, liability, and the activities sanctioned and possible.

Responsive Elements

Whether making a teepee in the woods, or a playhouse from scrap lumber, people of all ages enjoy the productive experience of placemaking. Consider an area in a playground where children can use lumber and other "scrounged" materials to build fires, houses, swings, and ponds. European countries' experience with these adventure playgrounds have been successful. They are safe, attractive to children, and educational. They are enclosed, supervised areas where the children's play is using found materials to make their own play spaces. "Loose parts" in a playground may require supervision and storage, yet encourage more exploration, manipulation, and tests of cause and effect. Loose parts might include wood, styrofoam "logs", tires, tools, and rope.

Maintenance

Maintenance, like storage, is a necessary consideration for all outdoor facilities. When planning new facilities, one must relate initial construction costs to long-term maintenance costs. Personnel time and materials can be expensive in the long run if materials and construction are not of adequate quality to begin with. In some settings user maintenance is a viable alternative. School children or neighbors might take responsibility for the annual maintenance. Recreational programs might blend maintenance into their activity schedule.

Another type of maintenance is that of program and facility intent. The primary question here is: is the facility still appropriate to and supportive of the users and their activities? Maintenance implies a continual review of the facility, assessing its physical condition and its accommodation for the people utilizing it.

Table 2

Trail Planning Classifications *

Class of Trail	I	II	III	IV	V
Approx. length of Trail	0 - 1/4 mile	1/4 - 1 mile	1 - 3 miles	3 - 10 miles	Over 10 miles
[illegible]	[illegible]	[illegible]	[illegible] interpretation	Rest area or interpretation every 1 mile	[illegible] extremely unique interpretation
Width of Trail	1-way [illegible] 2-way [illegible]	1-way [illegible] 2-way [illegible]	3' - 6'	2' - 3'	undefined
Shoulder of trail	1-1/2' grass, [illegible] slope [illegible] trail	Clear understory brush to 1' from trail. gradual slope [illegible] direction	Clear understory brush to 1' from trail, no abrupt [illegible] adjacent	Clear understory brush to 1/2' from trail	undefined
Slope of trail	1:50	1:20 with 5' level space at 100' intervals	1:12 with 5' level space at 30' intervals	1:8 with occasional level space when possible	Slope of Natural
Cross Slope	None	1:50 for dra. of 30" and varied from one side of trail to other	1:25 for dra. of 30", vary from side to side	1:20	undefined
Surface of trail	Concrete, asphalt	Asphalt, perpendicular wood planking, very fine crushed rock solidly packed	Firm surface, well compacted	Sound woodchips, class 5 gravel mixture coarse	Sandy, rough [illegible] wood chips, roots
Trail Edge (Rails, curbs, etc. use natural materials whenever possible.)	Curbs used where necessary for safety; 3' high rails for safety or for resting along [illegible] slope where necessary	Gradual ramping, rails for resting along [illegible] slope and to provide safety on cross slope or hazard area	Compacted earth level with trail edge, definite texture change. Rails for holding slope at steepest grade and for safety.	Texture change with moderate drop to natural terrain from trail edge. Rails used to guard hazard.	Nothing

* Courtesy of [illegible] Department of Natural Resources.
** [illegible] commercial type or a big log or boulders suitable for sitting.

Siting

The location of activities and facilities on a site can affect their success. Siting can certainly affect the energy efficiency of a facility by making use of natural sun, shade, and wind. How activities are situated in relation to each other can influence how they are used. On a playground, equipment might be arranged into areas that offer a developmental sequence of play opportunities and protection. The state park, rest stations with benches, accessible bathroom facilities, and drinking fountains should be located near the accessible parking, picnicking, play, and swim areas. Many people with disabilities need to use these facilities more frequently because of their chronic conditions. With proper planning, at least some facilities in northern climates can be used year-round. These facilities should be placed near the parking area, or provision for snow removal should be made.

DESIGNING FOR EVERYONE, REGARDLESS OF HANDICAP

One out of ten school-age children in the United States is disabled to the extent that she or he requires special educational services (21). Between 14% and 20% of non-institutionalized people in the U.S. suffer from a chronic illness or impairment "which causes them to be handicapped by physical barriers and constraints in the designed environment." If non-chronic impairments are counted, the number of people handicapped by the designed environment may be as high as 60% (14). "All people are handicapped at some point in their lives" (23,5). The "normal" environment does little to support children in strollers, the elderly, a person who is tired. As the environment is adapted to allow people with handicaps to move about more independently, everyone will benefit. Consider some of the following problems and solutions which would be implemented "for the handicapped;" and which might be appreciated by many more.

Photo Credit: Courtesy of Terry D'Agostio

Tires are inexpensive, manipulable loose parts which encourage cooperative and creative play.

Bathrooms

Many handicapping conditions require people's going to the bathroom frequently. Providing public bathrooms, where one of the stalls, the sink, mirror, and towels are accessible to wheelchair users is essential. The codes that make the bathroom accessible require a spacious stall with ample room to place belongings and to maneuver (see Figure 1). The ANSI standards detail the acceptable dimensions for these facilities. Be sure that:

a. Grab rails are 1-1/2" in width, and placed no more than 3" from the wall.

b. The sink has clearance beneath it to accommodate the person in a wheelchair. A hospital sink is not necessary and is not preferred, since it increases the connotation of sickness. Carefully chosen bathroom fixtures will yield an accessible bathroom that does not look "handicapped."

c. The mirror is placed--perhaps tilted, perhaps lowered--so that wheelchair users can see into it. Its lower dimension should be 40" from the floor (Figure 2).

d. Enclosed changing facilities are available for infants as well as adults whose disability renders them incontinent.

These bathrooms will benefit everyone, including mothers with small children, pregnant women, and the public at large.

Shade

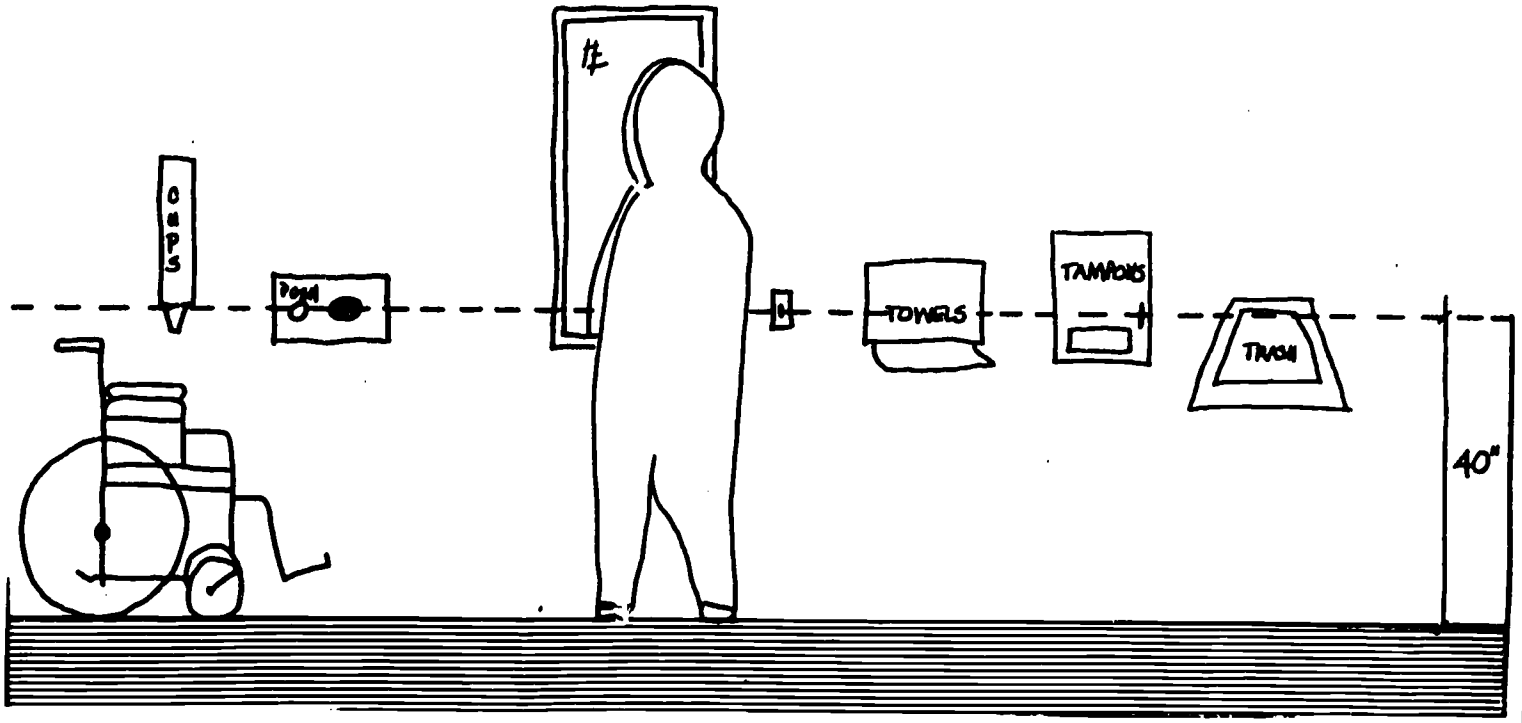
People with some handicapping conditions--such as epilepsy, heart disease, brain injury--cannot tolerate a great deal of sun. Shaded areas--under trees, canopies, gazebos, or roofs--are necessary in such cases for their comfort and well being. These shaded areas will also be enjoyed by all who simply prefer shade. When using trees and shrubs to provide shade, it is important not to use deciduous trees where their leaves will drop on pathways, making them slippery and dangerous.

Drinking Fountains

People with neuromuscular and orthopedic handicaps, and those with brain

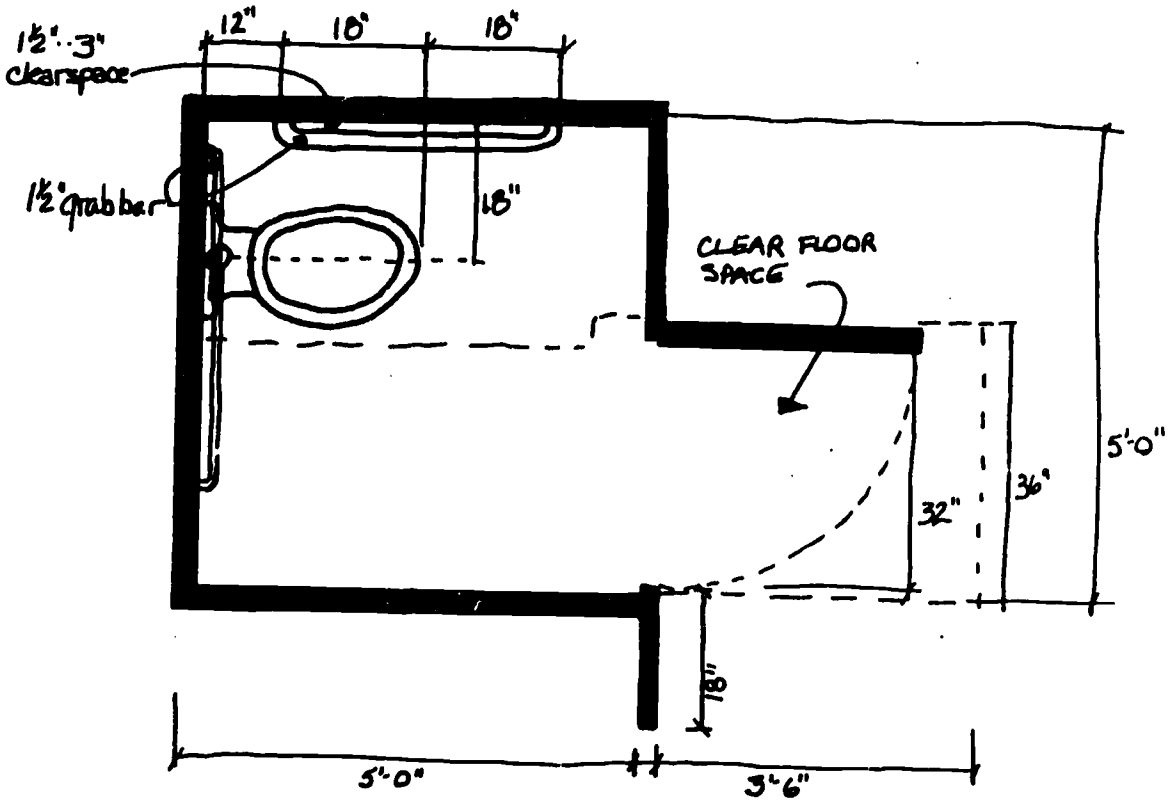
Figure 1

E. Ahrn McGuiness



Mirror and other amenities placed at 40" from the floor are accessible to everyone.

Figure 2

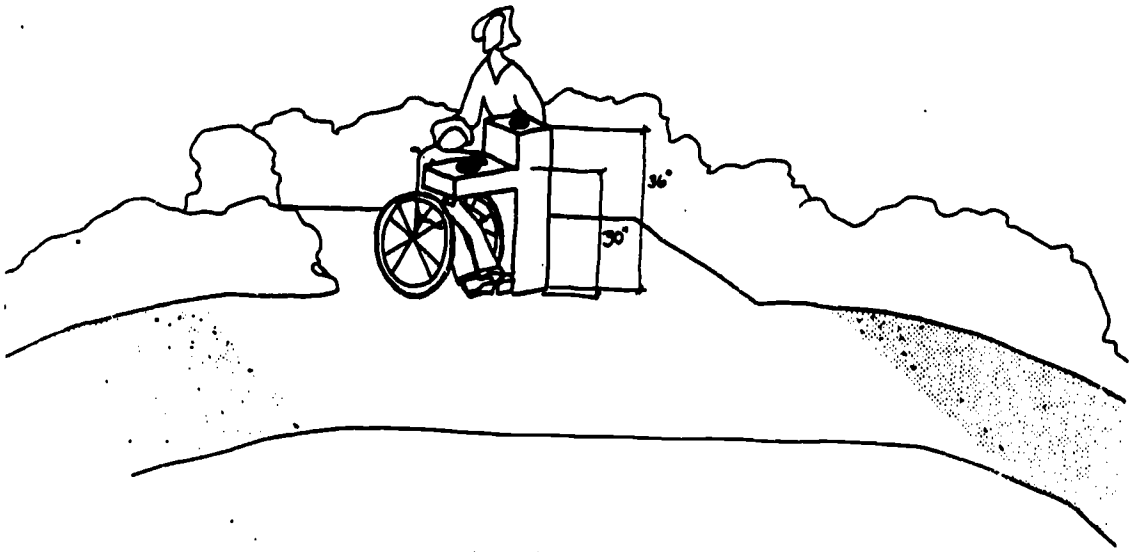


K. Ahern McGuinness

Floorplan of a 5' x 5' bathroom that is comfortable for most people

injury and/or mental retardation, often need to drink water frequently. Water fountains that are accessible to wheelchair users are also accessible to most children (Figure 3).

Figure 3



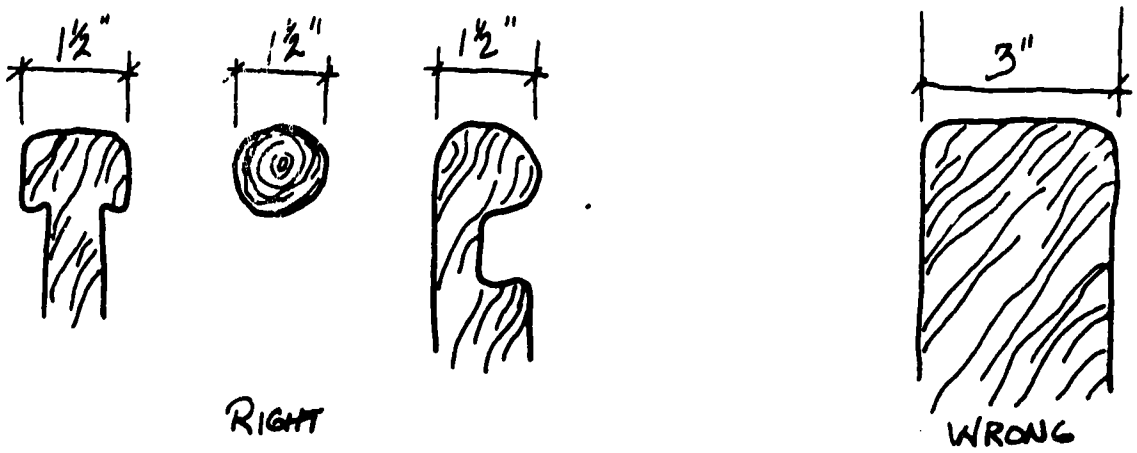
K. Ahern McGuinness

Drinking fountains located 30" from the ground are at a good height for people in wheelchairs and children.

Railings

Railings along trails, ramps, pathways, halls, stairs, and piers can prevent injury from falls, and assist many people who need to lean and/or who tire easily. Railings should have a 1-1/2" grab rail (Figure 4) and should be placed at two heights: 19" and 31". The taller rail is for adults who are walking. The lower rail is for people in wheelchairs and children at stairs. The railings should extend 12" plus the width of one tread at the bottom, and 12" at the top (See Figure 5). Fishing piers and docks should have a place for seated fishermen, with a flat bait shelf and a railing above it that can be leaned on (13) (Figure 6).

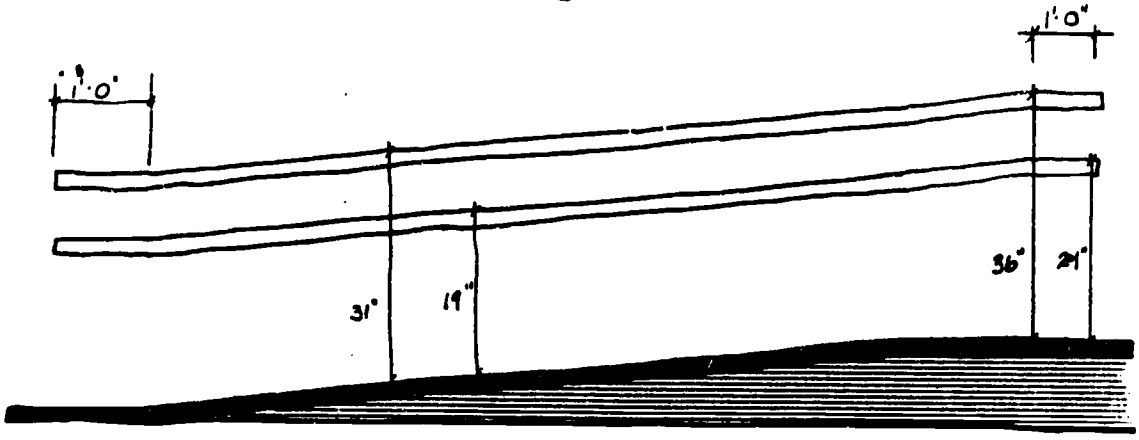
Figure 4



K. Abera McGuinness

Sections of three accessible handrails, each 1 1/2"; and one 3" handrail that is too wide to grab securely

Figure 5



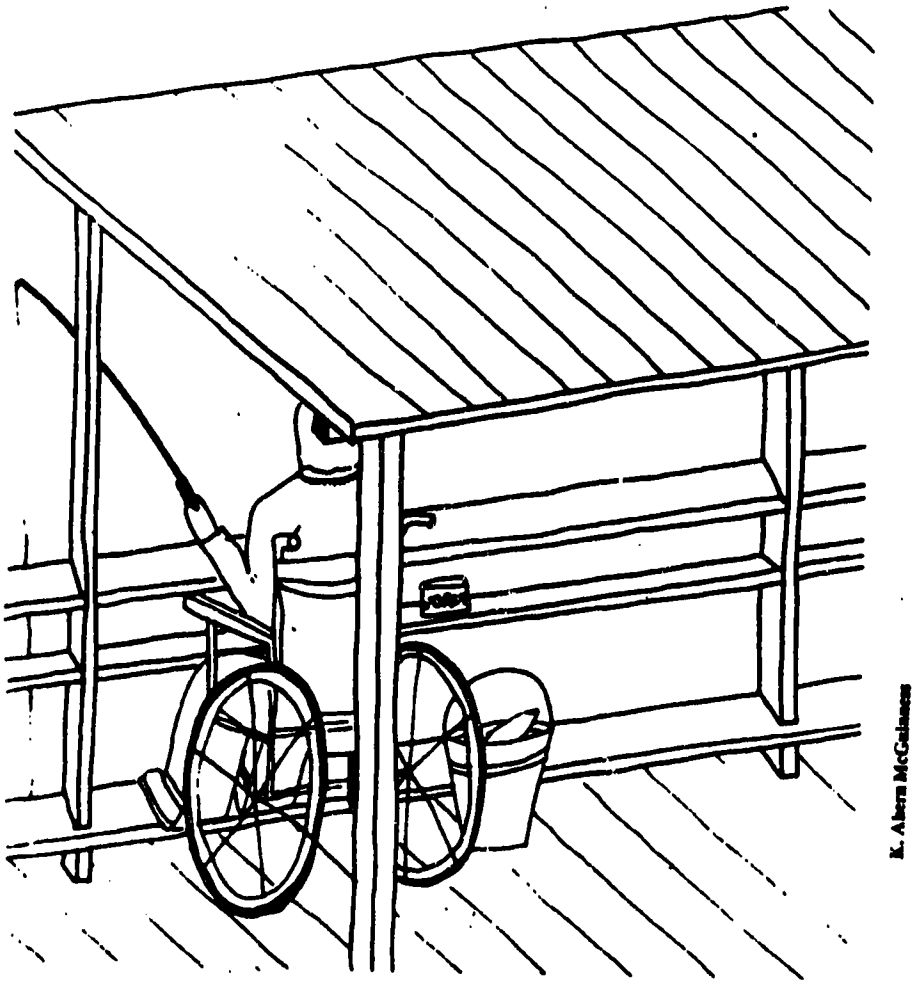
K. Abera McGuinness

Ramp with 1:12 slope, showing location of handrails

Rest Places

Places to stop and sit, outside or adjacent to major circulation paths are needed by many people: those who have arthritis, heart disease, epilepsy, those who are tired, and those who simply prefer to sit and watch for a while. Sturdy benches, logs, boulders, and seating with back support should be available, with space left for a wheelchair near the seats.

Figure 6



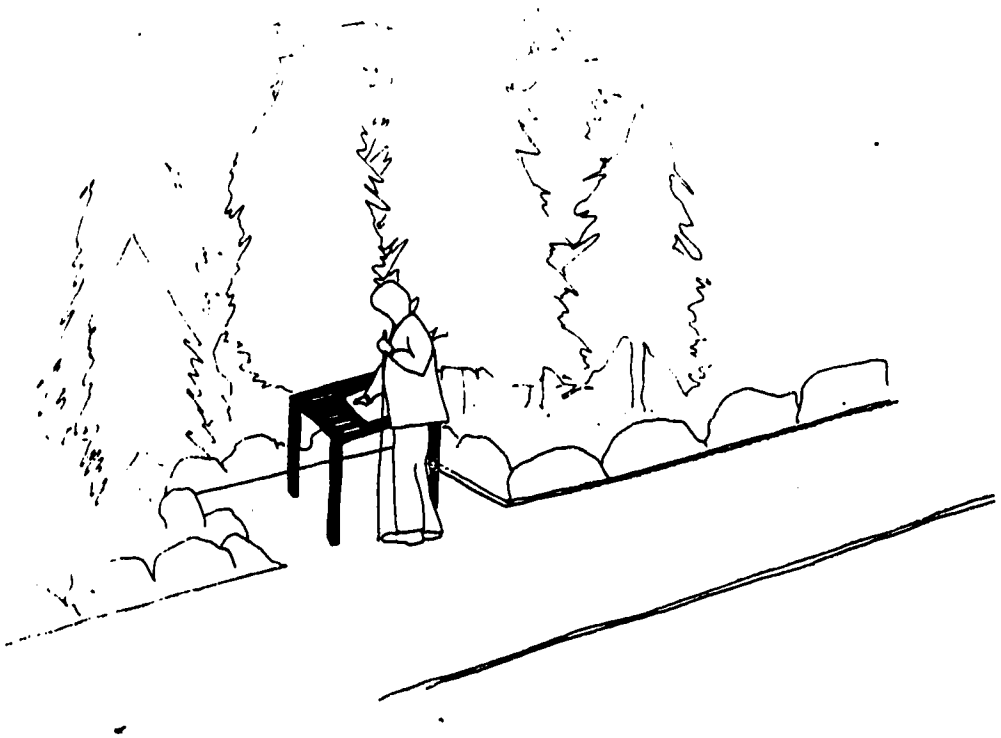
K. Ahern McGuiness

This fishing pier has slanted arm and foot rests, a flat bait shelf, and a section that is shaded by a roof.

Signage

Signs and graphics help orient people to where they are and how to get from here to there. Signs are most legible by sighted and visually impaired people when the letters are a light color, printed on a black or dark background. For these signs to be accessible to children, to people in wheelchairs, and to people who are blind, they need to be low and textural. Placed between 32" and 42" off the ground, a slanted sign can be read by almost everyone (Figure 7). Letters and maps should be raised at least 1/32" from the background surface. Braille is not recommended, as most visually impaired people read raised letters more easily than braille. Cassette

Figure 7



K. Abera McGuinness

This sign can be read by most children and adults, regardless of visual impairment.

Cassette tapes can be provided on nature trails, at zoos, and at historic sites. The international sign for access should be used carefully, to reserve parking places, identify bathrooms, entrances to buildings, and phones. However, care should be taken not to create a stigma around certain facilities by overusing or magnifying the sign out of proportion.

Passive Play

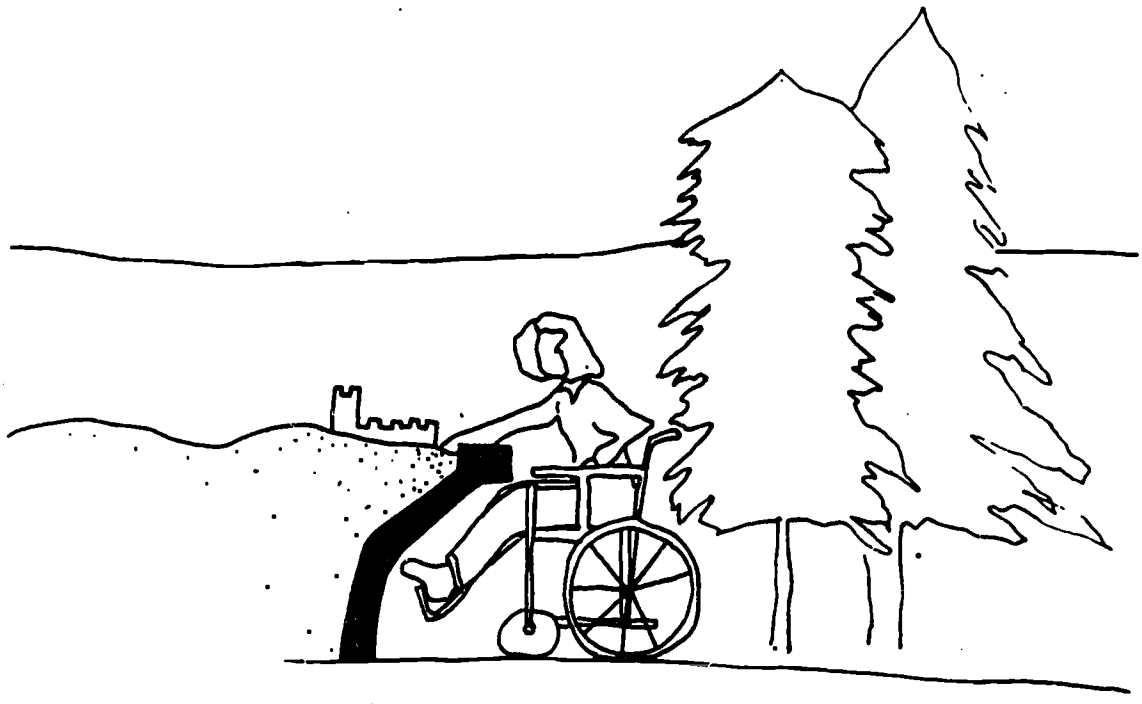
Passive play opportunities should be offered for children who cannot or should not participate in active sports, or who need frequent rests from those activities. Children with some orthopedic and neuromuscular handicaps, epilepsy, and heart conditions need places to play with their peers in sand or water, at gardening or storytelling. Places for one child at a time, or for small groups will help slow the pace as well (6).

Integration

The legislation quoted earlier in this chapter is one indication of the trend toward integrating able and disabled people in all activities, including outdoor recreation. Children's playgrounds can be made to offer integrated play opportunities by:

1. adding beepers to basketball hoops to orient the visually impaired;
2. design sand and water play areas for use by children in and out of wheelchairs; (Figure 8)
3. constructing raised gardening plots;
4. emphasizing cooperative and parallel play, as opposed to competitive play; and
5. including a ramp and/or lift into swimming pools, and a boardwalk or stabilized sand path from the parking lot, across the beach, to the sea (Figure 9).

Figure 8



Section of a sand play area where children in and out of wheelchairs can play together.

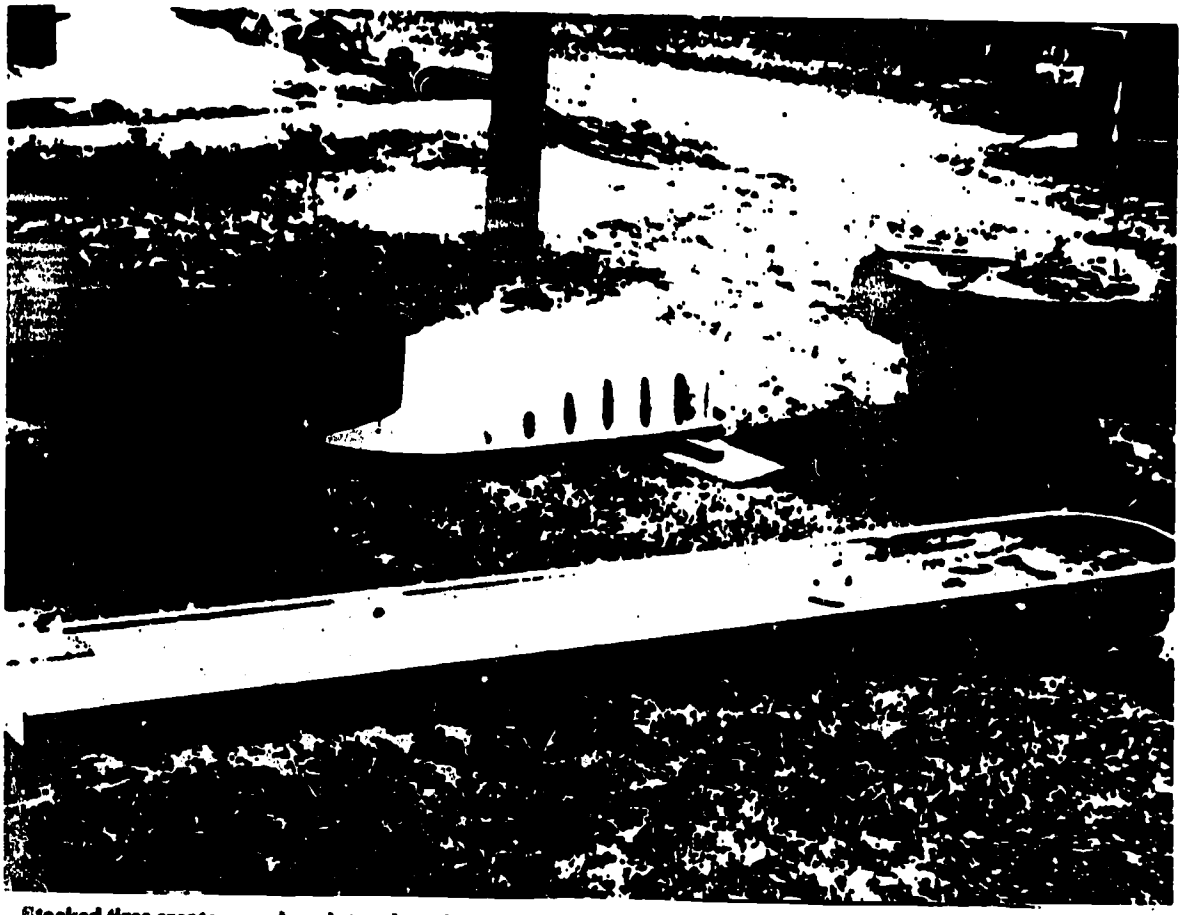


Photo Credit: Courtesy of Lucy Rich

Stacked tires create a garden plot and sand area where all the children, including those in wheelchairs and braces, can play together.

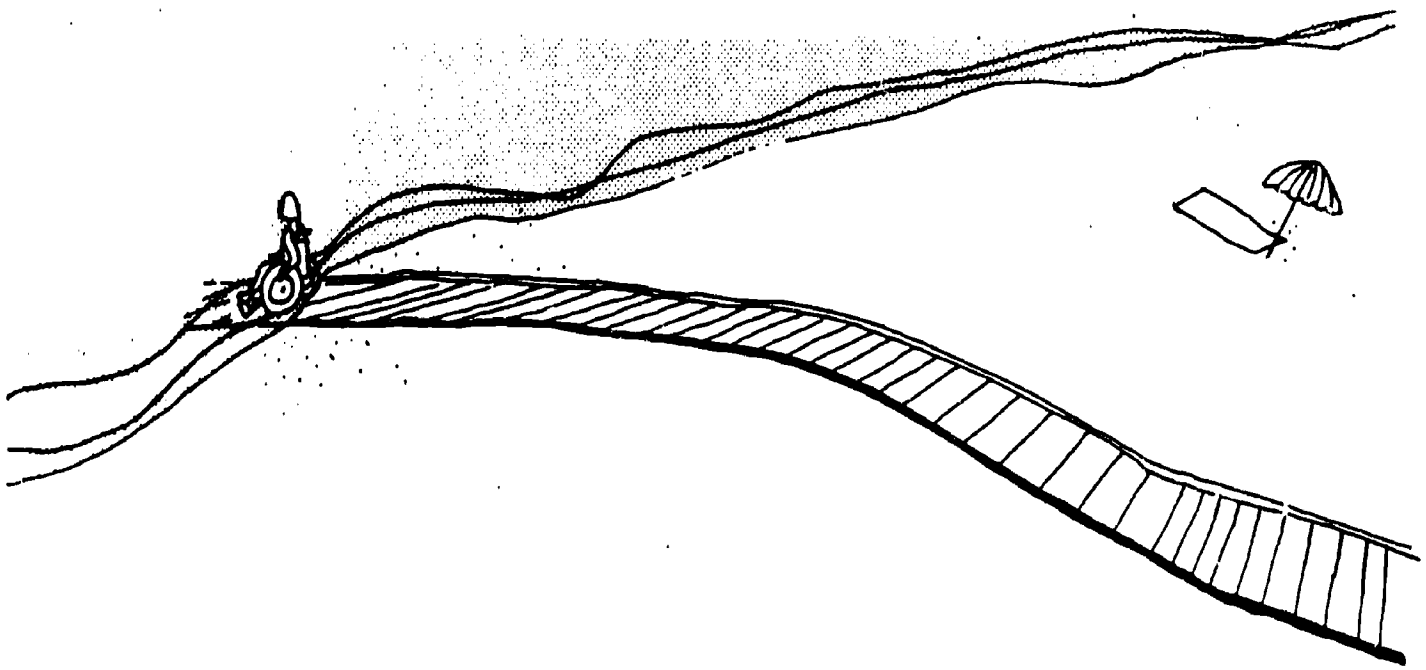
Parking

Provide well-marked parking spaces for people with mobility impairments. These parking spaces should be 12' wide with an adjacent 5' access aisle, and be on grade or adjacent to a ramp leading to major pathways and entrances. Once built, their use by HP-plated cars should be strictly enforced (Figure 10).

Ramps

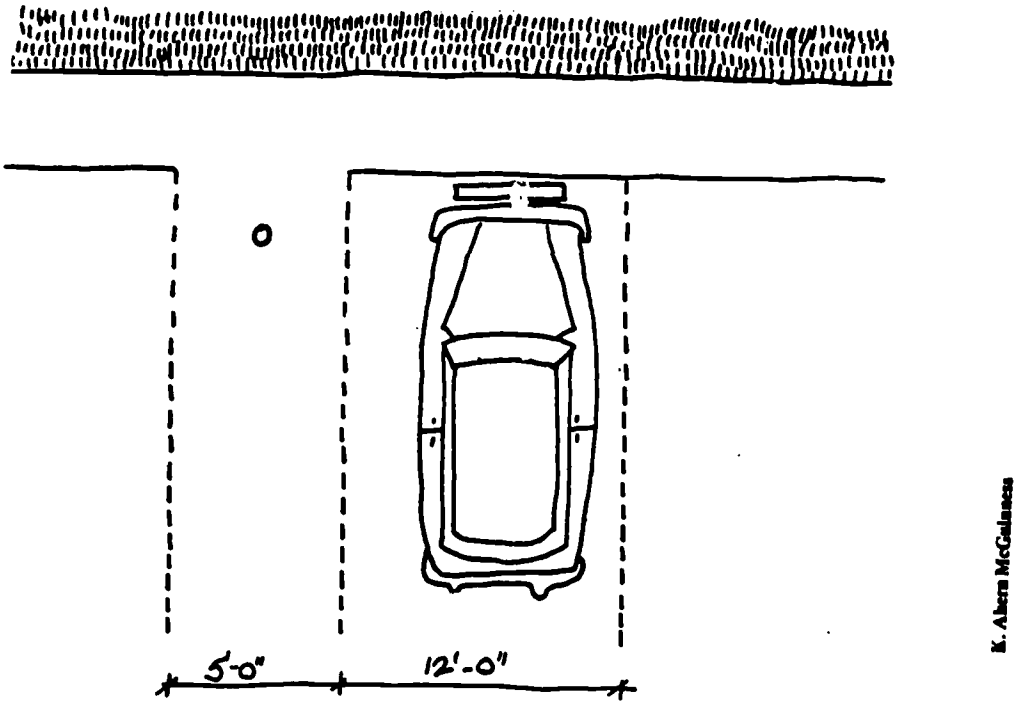
Ramps are necessary only when facilities have been built that are not at grade. Thought should be given in new construction to planning sites and buildings that do not require steps or special ramps. When needed, ramps should have a slope no steeper than 1:12. That is, for every one inch of

Figure 9



Boardwalk from the parking area to the water's edge.

Figure 10



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A parking space for HP-plated vehicles should be 12' wide, with an adjacent 5' access aisle.

vertical distance, there must be 12" of ramp. Thus, if a ramp is built to go up 24", or three steps, the ramp will be at least 24' long. For every 30' of ramp, a rest stop must be provided, since people tire going up these inclines. The clear width can vary from 3' for one way traffic to 4' to 5' for a wheelchair and walking person to 6' for two people side-by-side in wheelchairs. When built, these ramps must be level across their width, to avoid wheelchairs tipping sideways.

Egress

Most people with handicaps can escape a building or park in an emergency. Fire alarms should be both visible and audible so that everyone can be alerted. For people with mobility impairments, however, emergency egress is still a difficult problem. The accessible entrance should be useable

as an emergency exit. Fire emergency roads can be used as a secondary, accessible exit. Most elevators do not operate during a fire alarm. Smoke-proof stairwells can be used as a refuge until assistance is available.

Photo Credit: Courtesy of Mary K. O'Shaughnessy

Accessible exits are well marked at Boston's renovated Quincy Markets.

DESIGNERS, CLIENTS, AND USERS

The process of design is essentially one of problem solving resulting in a physical solution. And the manner in which the problem is defined affects what the solution is. In effect, how something is designed affects what is designed. There is no one correct solution; nor is there a single, perfect design process. Given a problem and ten different designers, ten different approaches and solutions will inevitably result. These solutions may be equally valid and may range from the artistic, to the functional.

to a combination of the aesthetic and practical. All design processes include initial analysis of the problem, brainstorming of possible solutions, and synthesis of information into a solution. The following are three general approaches to design in which the designer's and client's roles vary.

Traditional

In a traditional design process, a designer is hired to solve a problem. The client may or may not be the user. The client may be an administrator, or building committee or developer, and is the person or agency with whom the design contract is written. The users are the people who will utilize the facility or environment which is designed. For example, when a family contracts an architect to design a house for them, the family is both client and user. When a town contracts an architect to design a school for its population, the town is the client and may be represented by a building committee comprising citizens who advocate different interests and expertise. The users are the students, faculty, administration, and staff who will work in the school once it is built.

In a traditional design process, the architect will be given a "design program" detailing how much space is needed, a budget, timeline, and other considerations for the building. The designer will consult with the client to clarify any questions about the design program, visit the site, and begin devising a solution. After developing "schematics"--the designer presents these to the client for review. With feedback and approval from the client, the designer will then embark on a "design development" phase, detailing the concepts represented in the schematics. Following that, the designer will hold a design review with the client. The final step is for the designer to do "working drawings," the final documents which are given to the contractor who will then build what has been designed. The

working drawings are a contract between the client and the contractor, and are used to formulate a binding legal agreement between client and contractor as to what is going to be built and how the costs will be set. This agreement usually includes formulas for the cost of design changes made during construction.

In this traditional process, the designer must elicit the information needed from the client, and has complete responsibility for preparing a solution to the problem. "Design a playground for this school for $1,000.00." "Design a year-round camp for up to 50 children using appropriate technologies." "Make this park accessible without disrupting its historical accuracy." These are typical problems with which a designer might work.

Participatory

In a participatory design process, the designer involves clients and/or users in defining the problem, developing the design program, and finding a solution. A designer might hold a series of meetings, or a "charrette"--a marathon design session where a group of people consider the building's needs and possible solutions. These charrettes may last for days, with a great deal of discussion and sketching until the designer has developed a schematic from which s/he can begin design development.

Clients and users have much more input in the participatory process. Although the designer ultimately makes the design decision, s/he does so with more information from the participants about the programs and activities which the facility will have. In planning outdoor recreational facilities, a participatory process includes parents, consumers, and educational and park personnel. Their input may yield a better result if the final design reflects the perspective and expertise of each group. In addition, those

involved in the design process can appreciate the many concerns which must be addressed in planning facilities for outdoor education, while solving conflicts which arise due to different groups' needs. Educators may advocate more loose parts in a playground, while park personnel may resist due to the storage, supervision, and maintenance problems. In the participatory design process, this programmatic problem can be resolved between the park and educational personnel, and the designer can then present a design solution based on their decision.

Facilitative

Design facilitation is a combination of education and design (18). It works best on small scale projects such as playgrounds and community parks. In the design facilitation process the clients and users are the designers, working under the guidance of a design facilitator. The clients and users define the problem, prepare a design program, make schematics, and do design development. For large scale and public settings, they will contract with a licensed designer to prepare the actual working drawings. The design facilitator provides the technical assistance needed to create a workable design. This assistance can range from moral support, to specific instruction in some environmental assessment and design techniques, to providing examples and resources showing what has been and can be done. The major difference between design facilitation and participatory design is that in the latter, the designer makes the final design decisions, whereas in the former, the clients and users are the designers. Design facilitation is based on the premise that the users know best what their needs are. In addition, they will be using the facility after the designer has completed her/his work. No matter how good a new facility is, there are finishing touches, furnishings, and modifications that need to be made. If

the users have been involved in the design decision-making from the start, they are able to make informed choices about furnishings, adaptations, and use that are in accord both with the activities' and the facility's purposes. Parents and educational and park personnel can make the significant design decisions for their facilities under the guidance of a design facilitator. They know best their needs and their clients' needs, and cannot only advocate, but actually design with them in mind.

USER-NEEDS DESIGN

User-needs design can be done in traditional, participatory, and facilitative design. It is an approach to a design problem. It begins with a definition of who the users of a facility will be, and what they will be doing in that particular environment (18,22). The final design decisions will be based on this information. The user-needs design process has five steps:

observation

use assessment

build design

An easy entry point into this design cycle is observation. One can observe the prospective users of the facility, the activities which will go on there, and the environment itself. Observation entails addressing questions such as: who are the users, what does the space "feel" like, what are the problems, what are the assets of the environment?

Assessment techniques examine the information gathered during observation in light of objectives for programs and activities to be accommodated in the new facility. They compare what is with what could be.

The design phase is the translation of the observation and assessment information into physical form. It happens through brainstorming, sketch-

ing, and model-making.

Construction follows design, and can be implemented by the users, designers, and/or professional builders. Upon completion, the facility is used, and the design cycle begins again. Its utilization is observed, assessed, and modifications are made--hopefully on a small scale--to ensure a complete harmony of environment and users. Furnishings may be ordered and rearranged. Lighting may be modified.

The design process can be entered into at any point on the circle. It never truly ends, since user-needs design implies an ongoing review of the fit between the physical environment and the users' needs.

Pluses and Minuses

A simple first step in assessing an environment is to make two lists. The first, and often the more difficult, is a list of the positive aspects of the environment. These are the attributes which, if taken away, would be sorely missed. They might include the light, the supplies, the size, the ambiance. The second list includes all the problems and complaints that the users have about the environment (Table 3). These are the problems which the design solution should solve without affecting the positive aspects of the environment.

Behavioral Mapping

Behavioral mapping is an observation technique which tells the extent to which a space is being used. It can determine what areas are used a great deal, and which are underutilized. It can also identify which groups of people use which areas. Further, it can show how one individual uses space.

There are three different types of behavioral mapping. The first is fixed interval mapping (Figure 11). In this type, observations are made at a fixed interval, such as every 10 or 15 minutes. Marks are made on a

Table 3

Plusses	Minuses
a lot of trees	few facilities
lake	bugs
plenty of shade	all trails impassible for wheelchairs
nice trails	steps into all buildings
rustic	outhouses inaccessible
stream for fishing	can't get from meeting area to beach, or beach to water
meeting area hard - easy access	no drinking fountains - water only at building one
	one entrance/egress
	no private changing areas
	little storage
	no signage
	fire pits all ground level
	garden is ground level

K. Abera McGuinness

Plusses and minuses for making one-day camp facility accessible to children in wheelchairs

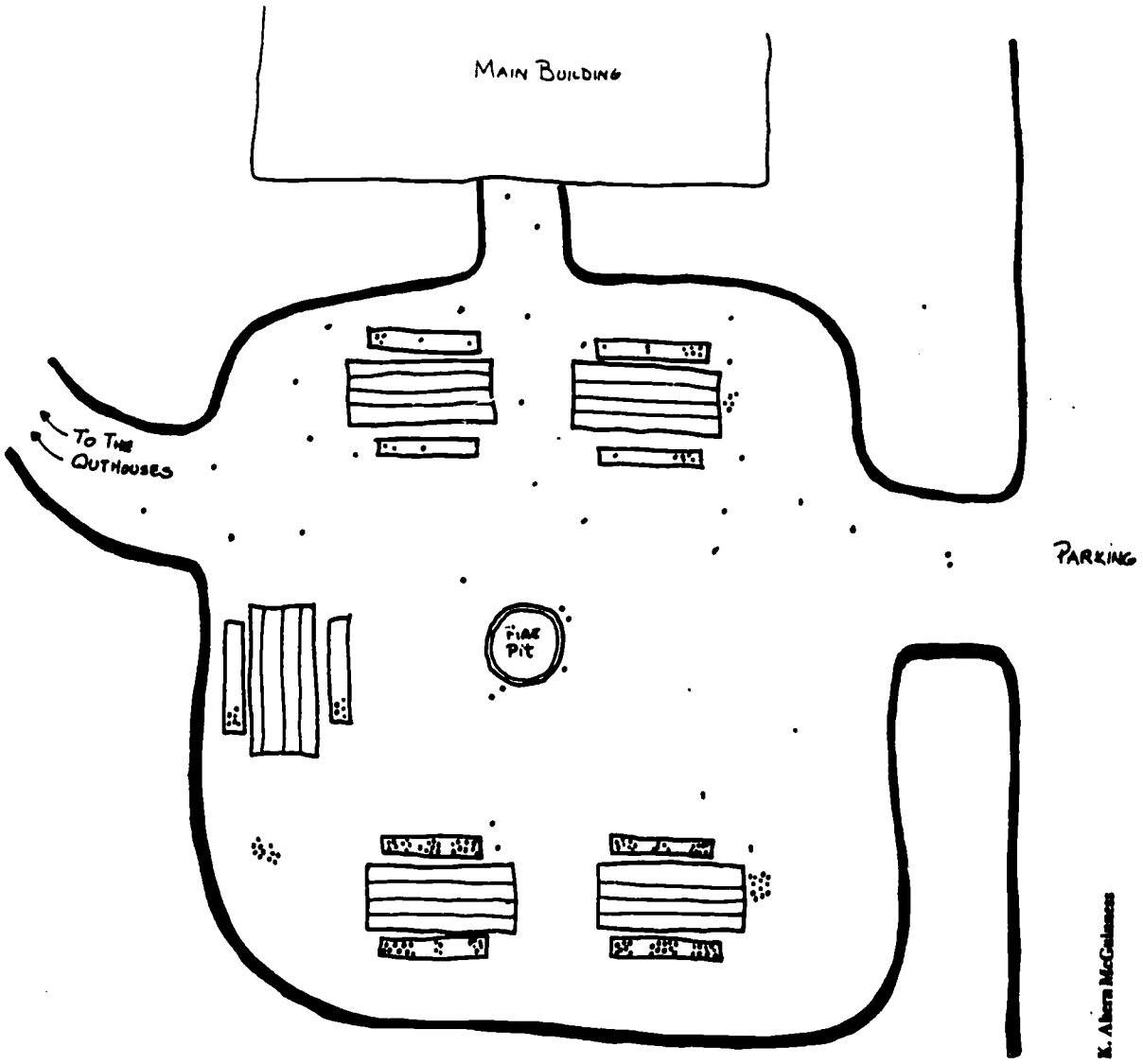
floor or site plan every ten minutes showing where everyone is at that moment. The result of a day's observations is a site plan covered with dots, each dot representing a person. The areas on the site plan with a high concentration of dots are those that are well used. The empty areas designate those that are not used.

The second method employed to illustrate how one person uses a certain space is tracking (Figure 12). On a floor or site plan, move a pen continuously for 10 to 15 minute intervals, showing where one person moves. Keep the pen moving constantly, so that a "blob" of ink will represent where s/he lingered for awhile, and a line represents where s/he moved. Take a rest after the first observation interval, and then begin again. It is important to make observations at different intervals throughout the day, since people's behaviors vary with the time of day. A day's observations using tracking will yield a site plan with lines and blobs, representing one person's use of space. Conclusions can be drawn regarding the person's environmental preferences and dislikes.

Activity mapping points out where specific behaviors occur (Figure 13). On a site plan, mark where a particular type of behavior takes place, no matter when it happens. For example, one might choose to map "conflict." Whenever a conflict appears in the area, make an "x" on the site plan to designate where it happened. At the end of the day, the site plan will have clusters of "x's" indicating where the conflicts occurred. By examining the map, one may be able to determine environmental influences that predispose people toward conflict in certain areas.

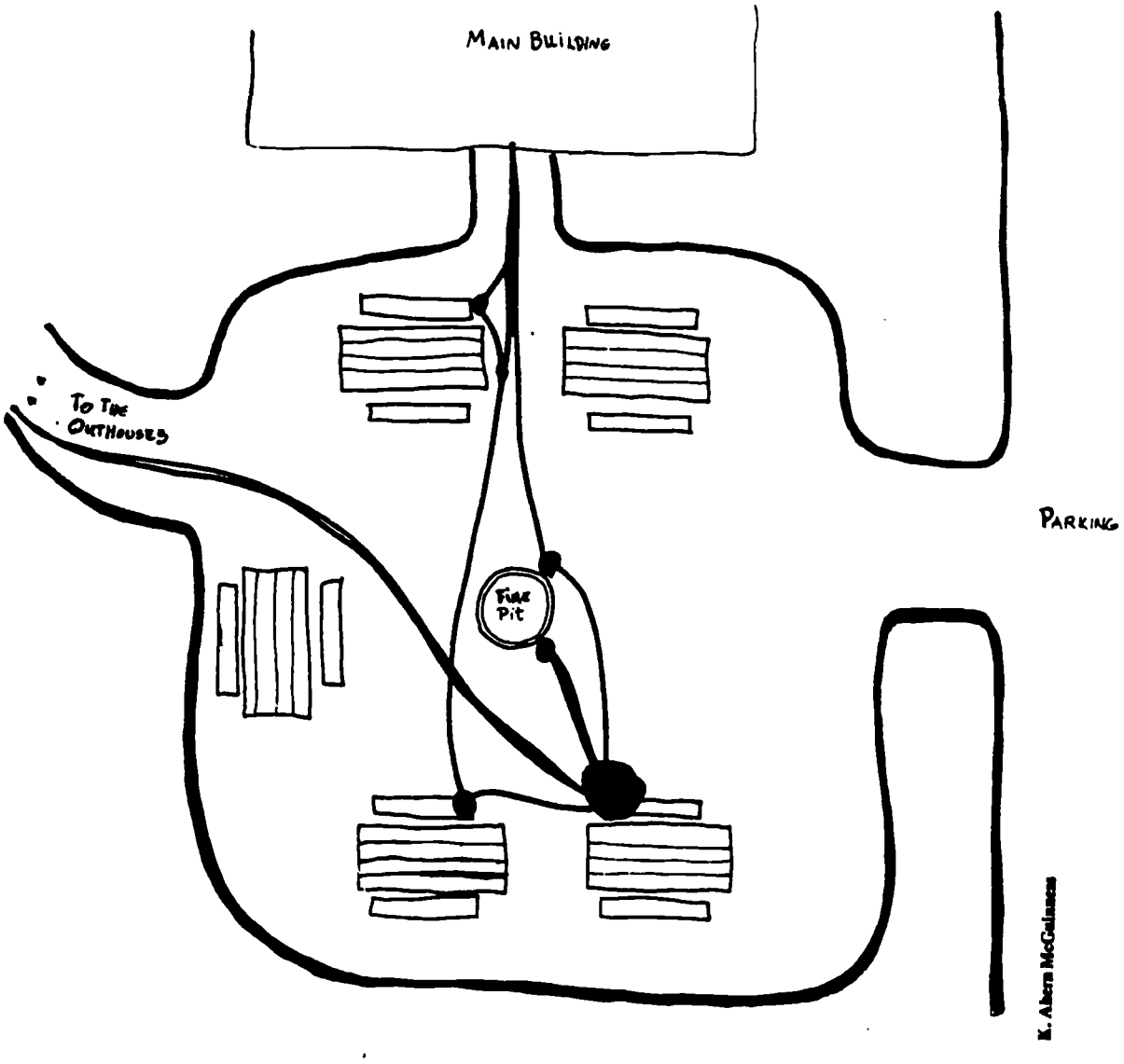
Cognitive mapping shows how people experience an environment (Figures 14, 15). In a classroom, for example, a teacher might ask students to draw a picture of how they remember the playground. The drawings are not a test of how well the students remember the exact details of the playground. Rather, they illustrate the important aspects of the playground. What is included, and what is large in the drawings are probably the significant elements of the playground. What is left out is probably not very important to the students. A cognitive map will demonstrate how differently people perceive and experience the same environment.

Figure 11



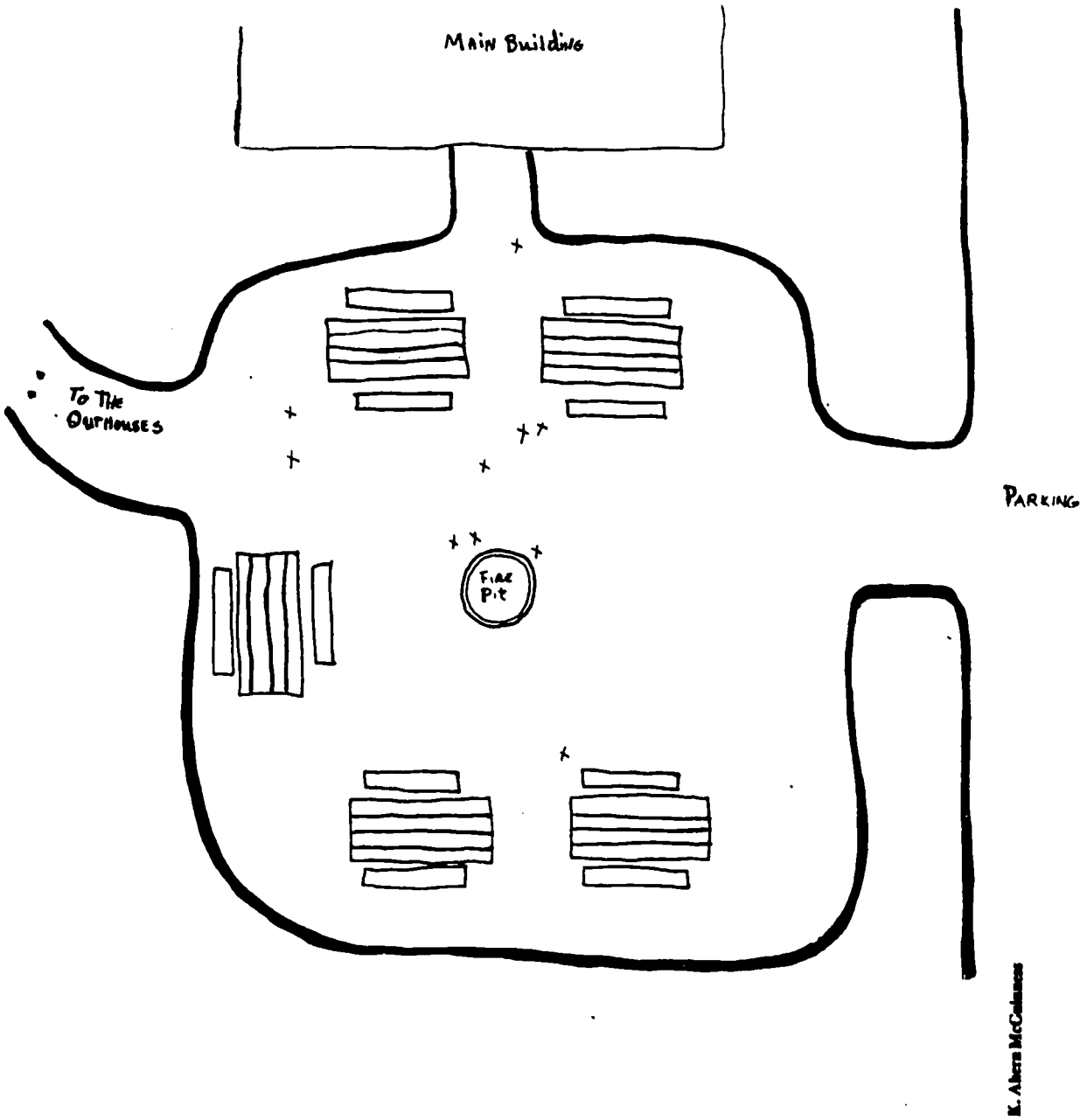
A fixed interval map shows where everyone is at a particular moment.

Figure 12



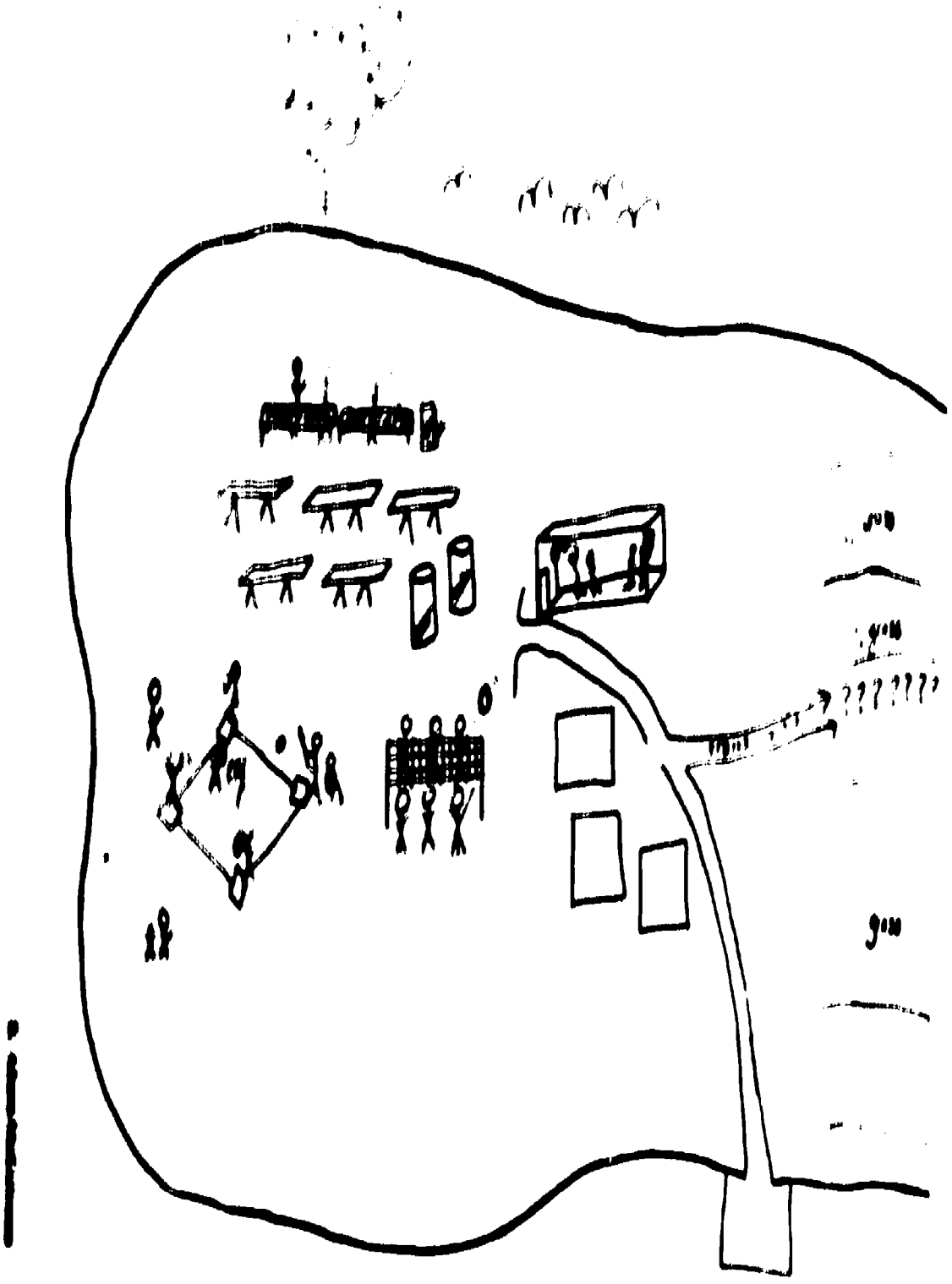
This map shows one person's use of space. This method of behavioral mapping is known as "tracking."

Figure 13



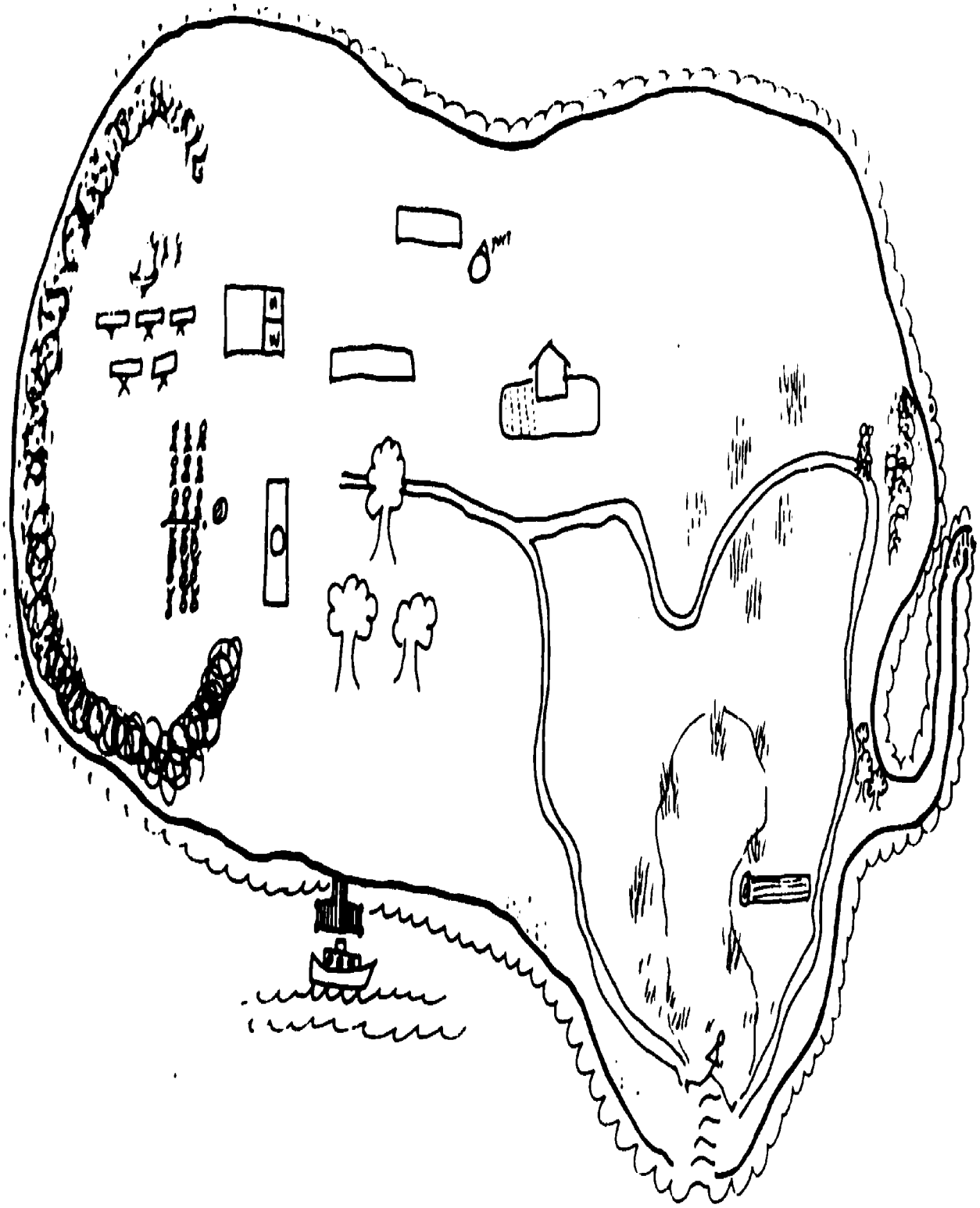
This activity map shows where conflicts occur most frequently.

Figure 14



This cognitive map of Thompson's Island, Boston, was obviously made by a sport's enthusiast who focused primarily on the sports facilities and activities.

Figure 15



This cognitive map of Thompson's Island, Boston, seems to have been made by an "explorer", who traversed the whole island.

"Space Speaks"

The "space speaks" exercise tells the messages what an environment is giving its users at all times. Since these messages become subliminal to those who use the space frequently, "space speaks" is an effective exercise for taking a fresh look at a familiar place. Ask yourself what you would be saying if you were that environment. "Welcome, come over here." "Danger." "Keep out." "I'm tired and dirty, please clean me up." Used as an assessment tool, "space speaks" expresses what the space says now. This same practice can be used as a design tool. In considering a particular space as a designer, list the messages that you would like it to be giving. What alterations would have to be made for the space to change its message? By jotting down notes and sketches about these changes, the first step towards a design decision can be made.

Photography

Like "space speaks," photographs can provide a fresh look at an environment with which one is already quite familiar. They can also provide ample documentation of the problems and assets that exist. This documentation can later be used to help raise funds for improvements and capital construction, as well as to show "before's and after's" contrasting the old and new environment. Taking photographs to assess the existing environment can be done with almost any type of camera--instamatic, Polaroid, or 35mm.

The photographs should show the existing conditions, an informal inventory of areas and equipment, and some typical uses of the facilities. In the developed photographs "messages" may appear that are otherwise overlooked in the daily movement of the place. A building's need of paint may suddenly seem very obvious; or a beach's clutter overwhelming.

Role-Playing

When designing an environment for people different from oneself, it is helpful to take on their roles for awhile. An adult designing an environment for children might "walk" around on his or her knees for awhile to see how a child perceives that space. An able-bodied designer planning a camp for children with cerebral palsy might try being in a wheelchair or using a walker for a day. Such role-playing will, of course, only approximate another person's real situation. After all, the designer always could get out and walk around if need be. It is, nonetheless, a good exercise for understanding another user's point of view.

Bubble Diagrams

A bubble diagram displays the approximate size and the relationship that different activities and areas have to each other (Figure 16). After listing all the activities that will go on in your site or facility, assign a small, medium, or large circle of paper to each of them. These circles can then be arranged on a floor plan to show what area is next to what other areas. Bubble diagrams can illustrate areas as they exist now and can be used to evaluate arrangements in planning new facilities or modifications to existing ones.

Sense Scales

Sense scales are a means of deciding where to place the bubbles on the bubble diagram. They provide a rationale for decision making based on how people perceive space through the five senses. Some sense scales might be: movement, noise, texture (soft or hard), privacy, visual stimulation, light, or supervision. Choose (or make up) three sense scales which represent qualities important to your program and environment. Place each of the bubbles from

Role playing is an effective environmental design technique. Here the author emulates a preschooler to understand how he perceives his environment.

Photo Credit: Courtesy of Mary K. O'Shaughnessy

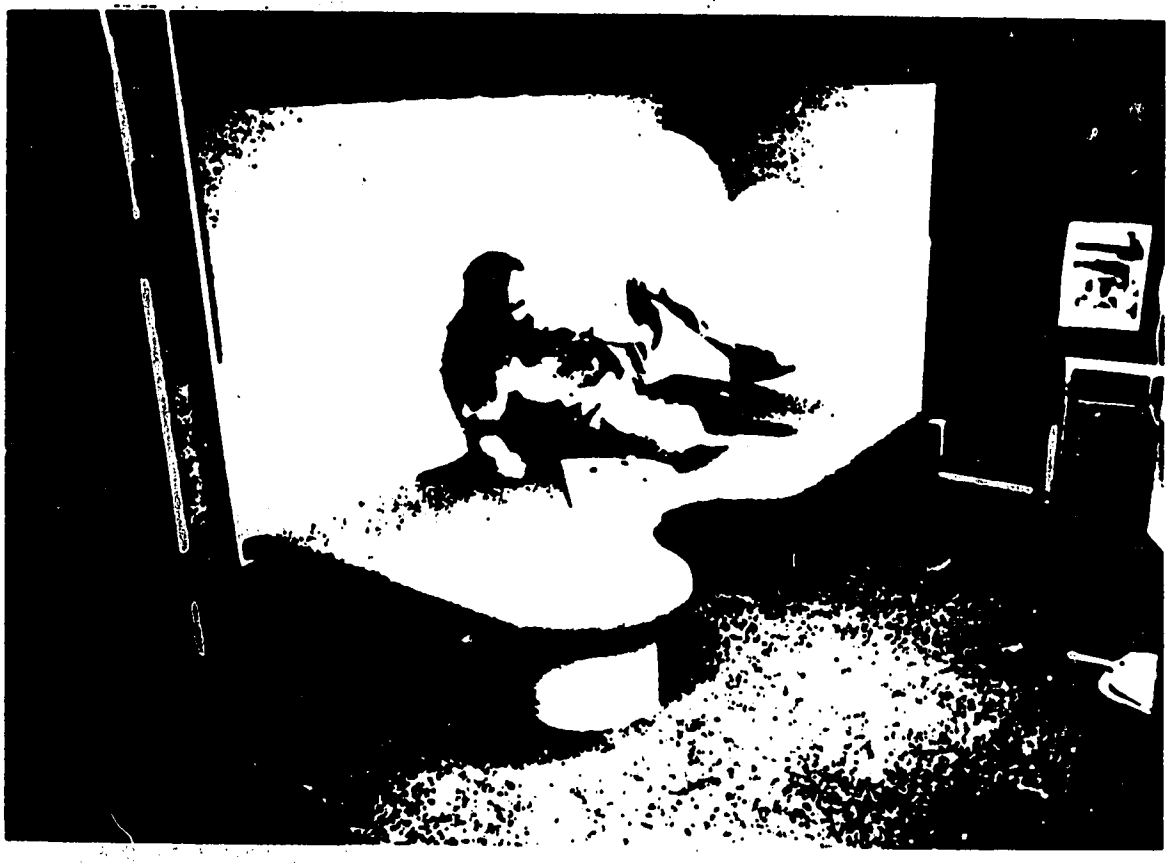
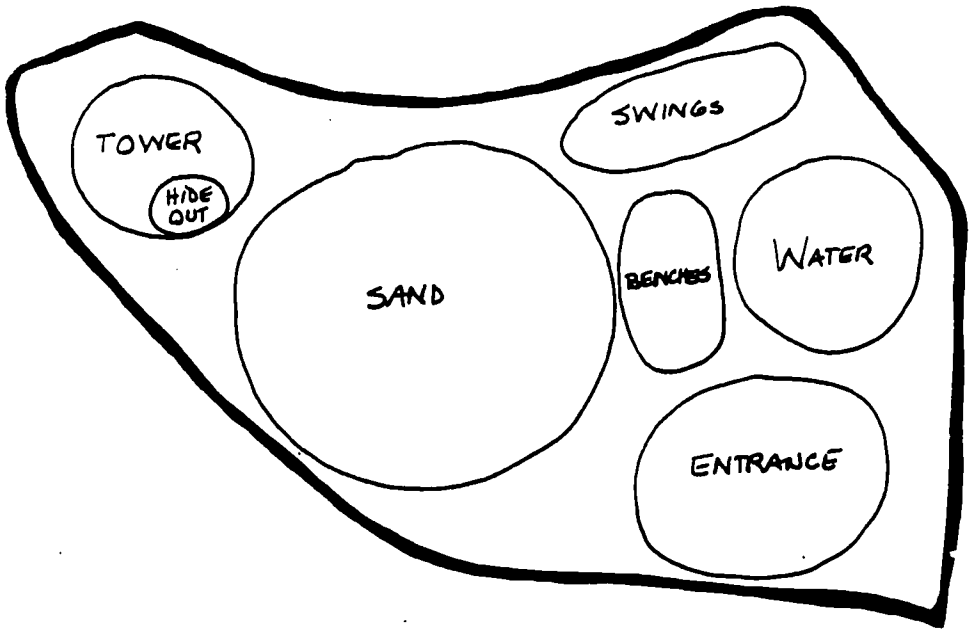


Figure 16



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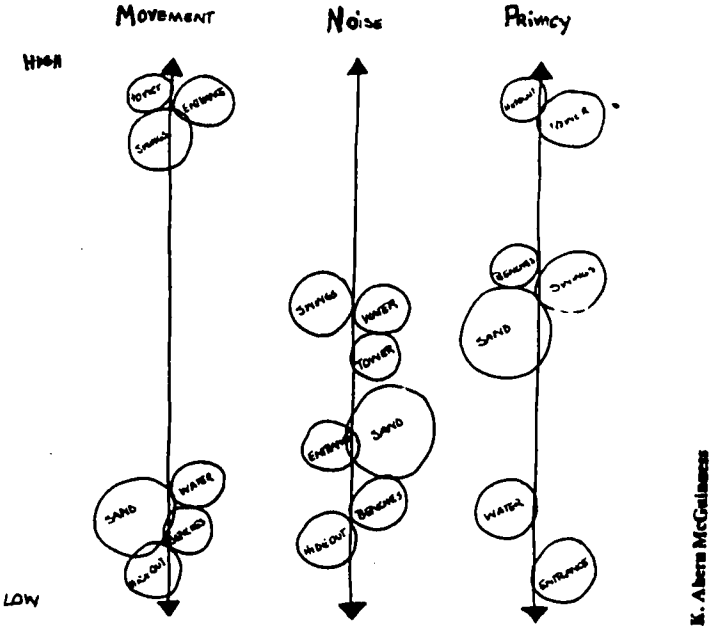
Bubble diagram of a small playground.

Figure 17



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Sense scales were used to make the bubble diagram shown in Figure 16.

design that captures the essence of the idea? Keep a list of all the feasible and the "essence" ideas. Next to each one, try sketching what it would look like. At this point, the designer has a good deal of information about what would be great for this design. If the users are the designers in this process, they can use the fantasy brainstorm as the transition from planning and analyzing in words to actually drawing and designing the solution.

Modelmaking

A three-dimensional model can be a powerful design, assessment, and presentation tool. Many people cannot interpret blueprints, floor plans, and site plans. However, a model, built to scale, will clearly represent what

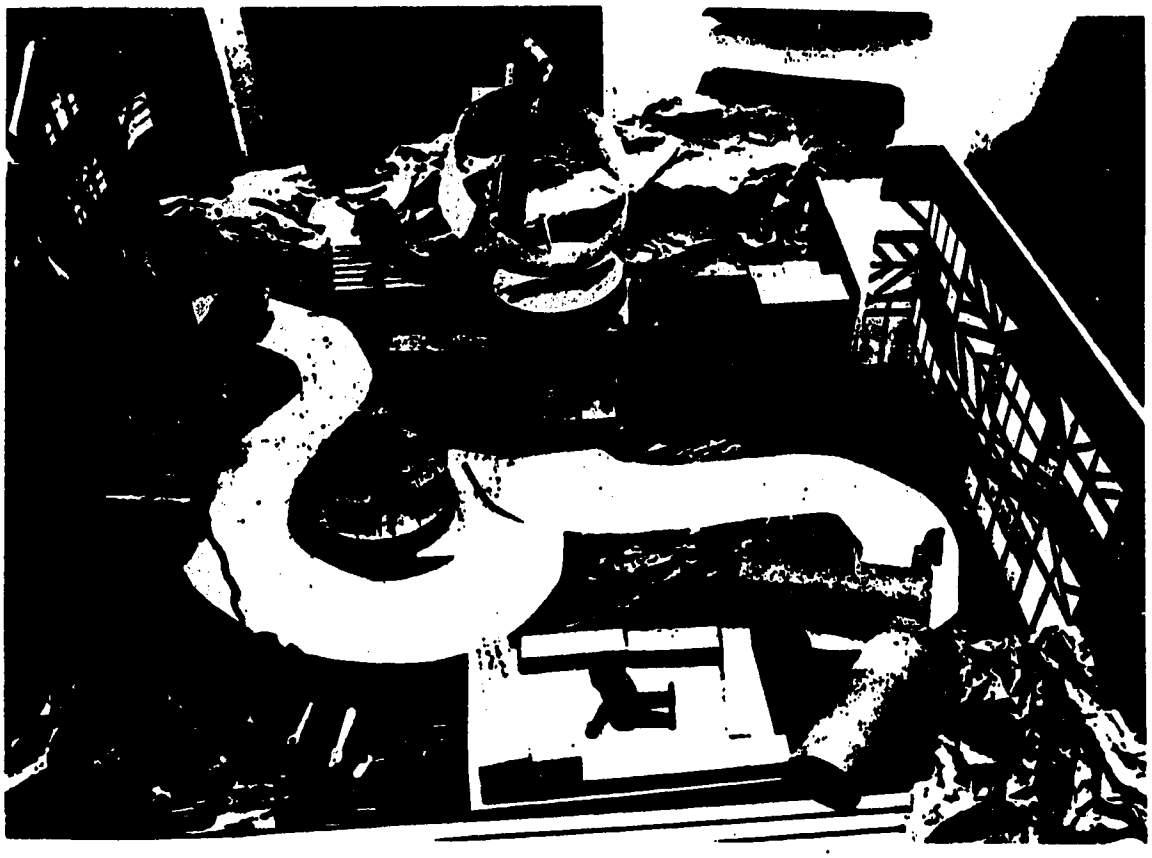

Photo Credit: Courtesy of Mary K. O'Shaughnessy

Teachers used this model to design and elicit support for a playground for the Boston College Campus School, a school which integrates able-bodied and handicapped children of all ages. Construction paper shows a bike path; wood blocks indicate sand play, a merry-go-round and a wheelchair accessible climbing structure. The tissue paper represents shrubbery surrounding the playground.

designs are proposed. Models can be made simply from cardboard boxes, straws, scrap fabric, push pins, clay, and other household materials. They can also be elegant constructions fabricated by professional model makers. With a model base, showing the site's topography and/or the buildings, designs can be developed, tried out, and altered. Once a design has been completed, the model can be shown to others for review and feedback. It can also be used for fund-raising and for gaining the support and approvals necessary for most construction projects.

The Adaptive Environments Center has published a book that gives detailed information on why, when, and how to use each of the design tools described above. Designers, park personnel, program staff, advocates, and parents can use these design tools in the traditional, participatory, or facilitative design process.

Whether planning a parent-build playground, an accessible nature trail, a summer camp, or a fishing pier, user-needs design can help ensure an environment that works for everyone, regardless of handicap.

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Katie Ahern McGuinness presently serves as Research and Design Facilitator for Adaptive Environments, a design, research, training, and information center in Boston. She was co-founder and is president of Able Adaptations, Inc., a non-profit design facilitation and consulting firm.

Terry D'Eugenio is Workshop Director for Adaptive Environments, providing technical consultation and assistance through courses and workshops. He also acts as an independent consultant to public schools and community based organizations interested in planning and executing plans for environmental change in classrooms and outdoor space.

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CHAPTER 7 EVALUATION

- STRATEGIES
- DESIGNING THE EVALUATION PLAN
- COMPLETING THE PLAN

CHAPTER 7

EVALUATION

Evaluation is perhaps one of the least appreciated and most important aspects of any outdoor education program. A sound evaluation design will not only let the planning team know whether their program is on target and meeting the needs of the students it serves, but will also provide a justification for any monies spent on implementing the program and a basis for expanding it in the future.

Evaluation should be a continuous, on-going process throughout all phases of program planning and implementation as well as serving as a final step for determining the overall effectiveness of the program. Members of the planning team should pay particular attention to the entire process, especially with an outdoor education program that is being developed and implemented for the first time.

The evaluation facet of the program must be carefully considered and ultimately determined by broad-base participation in the primary planning stages of the program. Staff members who have had no direct involvement in evaluation planning and who do not understand the process are not likely to be fully cooperative nor will the results be beneficial to them. Therefore, before an evaluation procedure or strategy is decided upon, it is first necessary that a complete understanding of the various techniques and methods of application be reached. The following guidelines should be helpful when designing an evaluation process (1):

- Be cognizant of and knowledgeable about the terminology used in evaluation;

- Know the place of evaluation in your program and its relationship to the planning process;
- Know the areas that need to be evaluated in terms of the total program;
- Be able to select and implement the proper approach to the evaluation;
- Be able to analyze and interpret the results.

STRATEGIES

Designing the Evaluation Plan

It is helpful to consider evaluation throughout the planning of the outdoor education program to avoid the possibility of its becoming an afterthought. A well designed, written plan will be an important working tool, specifying the type of instrumentation to be used, who is responsible for implementing each evaluation component, how the results will be analyzed, and when each evaluation activity will take place.

In designing the evaluative facet of an outdoor education program, the following considerations should be addressed:

1. What is the purpose of the evaluation? Evaluations may be conducted as a requirement for continued funding, to assure parents or community, to determine equipment or personnel needs or for a number of other reasons.

2. For whom is the evaluation being prepared? Evaluations may be required by an outside agency (extrinsic) or conducted for the benefit of the staff (intrinsic).

3. What resources are available? A number of the evaluation considerations will be influenced by the availability of resources.

4. What areas are to be evaluated? In most instances all phases of a

program should be included in an evaluation as the weaknesses in one area may reduce the overall effectiveness of the others. The areas should, nevertheless be specified.

5. What method and tools will be utilized in collecting data? Rating scales surveys, outside evaluations and the like must be selected or developed to be consistent with the goals of the program.

6. How will the data be analyzed and interpreted? Data can be analyzed by hand or by a computer. Specific statistical procedures must be outlined prior to the evaluation phase.

7. How will the evaluation results be reported? Evaluation findings can be disseminated through journal articles, community presentations, parent-teacher meetings and a variety of other delivery models that will be determined by the characteristics of the program.

There are two major types of evaluation procedures that will help members of the planning team facilitate the process of documenting and determining both the positive aspects of the program and the areas of requiring additional attention or focus: formative and summative. Formative evaluation (process) is an on-going process conducted throughout the developmental and implementation stages of a program to obtain necessary information for improving the products or processes. Summative evaluation (product) is a process that is conducted after the program has been completed to determine the extent to which the goals and objectives have been met and to assess the outcomes or results of a given activity or program.

It is important to emphasize that one process should not be implemented without the other, as both processes are equally important to determine the success and effectiveness of an outdoor education program.

Completing the Plan

Actual completion of an Evaluation Worksheet (see following examples) may simplify the evaluation design process. Since every program is different, specific areas to be evaluated and ways to conduct the evaluation will differ also. The general process, however, will be basically the same whether the outdoor education experience lasts an hour a day or is a week-long resident program.

Step 1: Determine the program area to be evaluated. These could include:

- Personnel preparation/training
- Transportation
- Medical care
- Diet/food service
- Health and safety
- Effects on students
- Effectiveness of cooperative planning

Step 2: For each area, determine the questions to be answered. Possible questions might be:

- Was the training conducted effective? Were all areas covered thoroughly? What questions were left unanswered?
- Were transportation/medical care/diet/health practices sufficient? Were there problems that should be corrected before the program is repeated? Was anything important not covered in these areas?
- What was the impact of the program on the students? How many students participated? What gains were made in the areas of physical skills, intellectual skills, social skills, self-concept, leisure awareness/functioning?
- Was the cooperative planning approach useful? Should participation from other groups have been solicited? Did one group have to take more responsibility than others? What changes should be made in the planning process?

Step 3: Determine strategies used to evaluate area. A variety of evaluation strategies should be used. These could be:

- Completion of evaluation forms (by teachers, leaders, students, parents)
- Documentation from IEPs or other educational records

EVALUATION WORKSHEET

PROGRAM AREA TO BE EVALUATED	QUESTIONS TO BE ANSWERED	STRATEGIES USED TO EVALUATE AREA	PERSON RESPONSIBLE	TIMELINE	HOW WILL RESULTS BE ANALYZED?	HOW WILL RESULTS BE USED?

- Interviews/discussion with persons connected with the outdoor education program.

Note: Sample evaluation instruments are included in the Appendix of Sample Forms.

Step 4: Determine who will be responsible for carrying through the evaluation strategy. Depending on the activity involved, educators, park and resource management personnel, parents or others such as students, volunteers, administrators, etc. should be responsible for collecting specific evaluation data.

Step 5: Determine when the data should be collected. Remember that some evaluation strategies will be on-going throughout the program, some will be completed after the outdoor education experience has taken place. Some follow-up evaluation may also be desirable.

Step 6: Determine how the results will be analyzed.

Step 7: Determine how the results will be used. Remember that evaluation results justify the program and can be used in proposals and presentations to repeat or expand the program. Formative evaluation results can be used throughout the planning and implementation process to make needed changes as the program progresses.

GUIDELINES TO FORMING EFFECTIVE PROGRAM EVALUATION (2)

- Evaluate all phases of an outdoor education program. The weaknesses in one area may reduce the overall effectiveness of the others.
- Select evaluation tools that are consistent with the objectives of the program. Rating scales, surveys, observational records, etc. are only effective if the evaluator has a clear understanding of what information is desired and how it is to be used.
- Use outside sources to strengthen the evaluation process. If funds are available, hiring a consultant to aid in the evaluation process may be very beneficial.
- Evaluate the program informally by being alert to cues that indicate successful (or unsuccessful) programming. For example, attendance, expressed enjoyment, social climate, skill acquisition, etc. may all serve as indicators of program effectiveness.

LITERATURE CITED

(1) Farrell, Patricia and Herberta Lundegren, The Process of Recreation Programming. New York, NY: John Wiley and Sons, 1978.

(2) Smith, R., Programming for Handicapped Individuals on Public Park and Recreation Settings, Washington, D.C.: Hawkins and Associates, 1980.

CHAPTER 8 RESOURCES AND BIBLIOGRAPHY

- OUTDOOR EDUCATION PROGRAM PLANNING RESOURCES
- AUDIO-VISUAL RESOURCES
- OVERCOMING ATTITUDINAL BARRIERS
- BARRIER-FREE ENVIRONMENTS

RESOURCES AND BIBLIOGRAPHY

The Outdoor Education for the Handicapped Project has compiled a resource guide (Guide to OE Resources and Programs for the Handicapped) which includes an extensive bibliography of books, journals, guides, films, documents, etc. on outdoor education programming for the handicapped. In addition to the bibliography, the resource guide also includes a listing of selected national outdoor education programs that are currently serving individuals with disabilities. Other helpful information on outdoor education programs is contained in the Project's Innovative Approaches to Providing OE for Handicapped Students.

On the following pages selected planning resources and a list of audio-visual resources have been provided to assist the planning team in their endeavor for locating additional readings, references, and outdoor education curriculum guides/materials.

Outdoor Education Program Planning Resources

Administrator's Environmental Education Evaluation Manual. U.S., Educational Resources Information Center, ERIC Document ED 067 231, 1971.

This manual includes instruments for assessing the interests/attitudes/knowledge of administrators, teachers, parents, students, community members.

A Guide to Planning and Conducting Environmental Study Area Workshops. Washington, DC: National Education Association, 1972.

This guide provides information on the NESA (National Environmental Study Area) Program, the objective of which is to offer a method through which educators may act in concert with nearby resource managers to establish a sound environmental education program. The guide provides a design approach to plan a successful workshop. Chapters discuss such topics as: guidelines and assumptions for designing workshops; pre-workshop activities; the workshop design process; conducting the workshop; and workshop follow-up. Also included are four appendices: start-up activities; instructional activities;

model workshop designs; and NESA workshop scenario.

Ah-Nei. The Special Classroom. Washington, DC: Bureau of Land Management, U.S. Department of Interior, 1975.

Though designed specifically for use with the Ah-Nei Environmental Education Study Area, this teacher's guide is full of practical activities which are particularly designed to involve the student. Emphasis is on the use of all the senses, thus most activities are adaptable in some form for the handicapped. This would serve as an excellent model for developing teacher resource guides for other regional centers.

An Outdoor Education Guide for Urban Teachers of the Emotionally Handicapped. Albany, NY: State University of New York and State Education Department 1974.

This comprehensive outdoor education resource is designed for infusion into the total school curriculum. Included in the book are chapters ranging from arts and crafts, language arts, and mathematics to physical education, science and social studies, with an added section on sound movement. The book emphasizes the use of community resources to meet the curriculum needs of emotionally handicapped children. Each chapter is filled with a variety of activities incorporating the uses of all five senses. Following each chapter is a very complete bibliography listing books recommended for the classroom.

Bachert, Russel E., and Emerson L. Snooks. Outdoor Education Equipment. Danville, IL: Interstate Printers and Publishers, Inc., 1974.

This book describes the construction of many pieces of equipment appropriate for use in outdoor education programs. The book is divided into subject areas (animal life, water, soil, etc.).

Bott, K., and D. Bannasch. Discovery. Mount Clemens, MI: Macomb Intermediate School District, 1975.

Discovery is a comprehensive manual with accompanying filmstrip and casettes that provide guidelines for establishing an outdoor education program in special education. This publication is the result of three-year funding through the Elementary and Secondary Education Act of 1975, Title III. The manual, in particular, is an outstanding resource for professionals interested in outdoor education for handicapped students and contains a wealth of practical information dealing with the planning, implementation, and evaluation of outdoor programs for the handicapped.

Brannan, Steve A., EXPLORE Program. Portland, OR: EXPLORE Education, 1981.

A comprehensive curriculum which combines outdoor recreation and outdoor education concepts, Project Explore materials were designed for and field-tested with handicapped children. The format of the task cards and manual are simple to use and provide immediate information needed by professional or paraprofessional leaders to make quick decisions about appropriateness of activities for a particular child. Content areas are Nature Study and Development, Camping and Self-Maintenance, Safety and Survival, and Physical Development. An annotated bibliography is included.

Bringing the Great Outdoors to Your Classroom. Frankfort, KY: Kentucky Department of Education.

This short handbook is intended to guide the elementary teacher in studying environmental education in the classroom. Emphasis is on the establishment of an environmental learning center in the classroom, its design, and activities appropriate for use at that site.

Byers, E. Sandra: "Wilderness Camping As a Therapy for Emotionally Disturbed Children: A Critical Review." Exceptional Children, 48: 8: 628-635, 1979.

Summarizes current literature on therapeutic camping for emotionally disturbed children; includes nature of existing programs, rationales for the superiority of camping as therapeutic program, and evaluation of existing programs. Results of program-evaluation research reported in the literature provide only minimal support for any particular effectiveness ascribed to therapeutic camping in terms of either short or long-term therapeutic outcome - regarded as primarily due to inadequate investigation of the process and/or outcome of therapeutic camping.

Carlson, Reynold E., Julian Smith, George Donaldson, and Hugh Masters. Outdoor Education. Englewood Cliffs, NJ: Prentice Hall, 1972.

Study of the history of outdoor education within American educational system; includes specific proposals.

Chase, Craig Co. and Irwin Rosenstein. Outdoor Education for Elementary Schools. U.S. Educational Resources Information Center, ERIC Document ED 044-203, 1970.

This is a planning guide for elementary school personnel that includes an introduction, objectives, and 32 pages of specific activities related to curriculum areas (art, drama, health education, language, arts, math, science, social studies, physical education and recreation) for Primary and Intermediate students. Also included is a list of suggested materials and teacher resources (books, journals, periodicals, newsletters). It is basic-

ally a "how to" guide.

Cormany, Robert B. "Outdoor Education for the Retarded Child." Education and Training of the Mentally Retarded, 9:2:66-69, 1974.

Describes outdoor education experience designed for special education classes in given district: Student exposure to philosophies in a three-day camping trip. Includes pre-activity and post-activity evaluation and related discussion.

Cornell, Joseph B. Sharing Nature with Children. Nevada City, CA: Ananda Publications, 1979.

This guidebook provides parents and teachers with a variety of nature-awareness activities to use with children. The seven categories of games are: Close-up with Nature, How Much Can You See?, Nature's Balance, Learning is Fun, Play and Discovery, Spotting and Attracting Animals, and Adventures. Also included are some suggestions on being a good nature guide.

Donaldson, George W., and Malcolm D. Swan. Administration of Eco-Education. Washington, DC: Council on Outdoor Education, 1979.

Deals with organization and administration of out-of-classroom materials and their use in meeting educational objectives. Identifies problems in this process, as well as directions in which solutions may lie. Sample topics: historical perspective, identity and roles of administrators, benchmarks of good eco-education program, evaluation, law of eco-education, staff development program interpretation, sites and facilities, use of resources and materials, guidelines for administrative behavior, and program implementation.

Dustin, Daniel L., and David A. Daly. "A Therapeutic Camp for Communicatively Handicapped Youths." Therapeutic Recreation Journal, 12:24-29, 1978.

Supports role of therapeutic recreation in preventing or reducing the effects of secondary disabilities (e.g., poor physical development or limited social skills attributable to communicatively disabled youtns' avoidance of speaking situations). Includes program description of University of Michigan's Shady Trails Camp that not only vindicates therapeutic recreation services for youths with speech and language disorders but substantiates its importance.

Dykstra, Ralph R. Outdoor Education for the Handicapped. U.S., Educational Resources Information Center, ERIC Document ED 105 672, 1973

These 175 pages are the proceedings from a special study institute in 1973 to provide teachers of handicapped children with information on outdoor education for the handicapped. It includes some general activities for human relations, arts and crafts, science and nature, social studies and outdoor

games. A major portion describes a computer-based resource guide that, given such information as desired objective, mental age, reading level, handicapping condition and interests of the child, will provide suggested activities, materials and measuring devices.

Eblen, William R. TETE (Total Education in the Total Environment). Norwalk, CT: SPRED (School Progress Reaches Each District), 1971.

This booklet is an introduction to TETE (Total Education in the Total Environment), a multidisciplinary approach to education which can be applied to any curriculum anywhere, at any time. It seeks to make man aware of the physical, biotic, and cultural interactions which make and remake his environment and calls for multidisciplinary sharing, community involvement, relevance, and a teaching process that fosters a willingness to examine and appreciate divergent viewpoints.

Environmental Education In-Service Training Packet for the Intermediate Level. U.S. Educational Resources Information Center, ERIC Document ED 165 970, 1979.

This workshop module for use with upper elementary teachers includes definition, philosophy, objectives, activities for use in the classroom, at the school site and in the field. It also includes a guide for developing programs and supplemental materials.

Ford, Phyllis M. Principles and Practices of Outdoor/Environmental Education. New York: John Wiley and Sons, Inc., 1981.

This book presents a holistic approach to teaching and learning in the outdoors and is intended to be used as a text by those who are preparing to be classroom teachers or for careers in recreation or leisure-service programs. It provides a single fused program that teaches about the outdoors, and that is based in its wise use and perpetuation. Major topics include: Introduction to Outdoor Environmental Education; A History of Outdoor/Environmental Education; Objectives and Issues; A Teaching Progression; Basic Principles of Outdoor Pursuits; Sites for Outdoor Education; Field Trips; Resident Outdoor Schools - Administration; Resident Outdoor Schools - Program Considerations; and Examples of Outdoor Education Programs.

Goff, Paul E. Nature, Children and You. Hicksville, NY: Exposition Press. 1974.

This informally written book contains practical information particularly useful for parents, teachers and children who are not well acquainted with possibilities for learning in the out-of-doors. About half of the book is activities which are adaptable for use with the handicapped.

Hammerman, Donald R., and William M. Hammerman. Teaching in the Outdoors. Minneapolis: Burgess Publishing Company, 1973.

This book will assist in the learning of how to adapt classroom presentations that can be taught in the out-of-doors for all subject matter in a school curriculum at any grade level. As a guide for teaching in the out-of-doors, the reader can obtain suggestions for activities, possible teaching techniques locations for outdoor laboratories and available outdoor school programs. Recommendations for teacher training and evaluation procedures are also given.

Hammerman, William M., ed. Fifty Years of Resident Outdoor Education: 1930-1980. Martinsville, IN: American Camping Association, 1980.

This volume commemorates the 50th anniversary of resident outdoor education in the United States. Tracing its evolution from the early beginnings to the present, the authors analyze the impact that resident education has had on educational philosophy and practice. Two aspects of outdoor education are prominent. The first and central theme of the book is that there is a need for direct contact with the environment, that some learning makes a deeper impact and is retained longer when a concept or object is discovered, observed sensed, and interpreted in the natural setting. The second aspect relates to living with our fellow creatures. Often students return from a resident outdoor education experience with a stronger sense of purpose and a greater respect for one another.

Howell, Jerry F., and Jeanne S. Osborne. A Selected and Annotated Environmental Education Bibliography for Elementary, Secondary and Post-Secondary Schools. Morehead, KY: Morehead State University, 1975.

This bibliography is primarily concerned with available, inexpensive environmental education materials for elementary and secondary students and teachers, although some materials for college students and teachers are included. Materials listed are weighted towards pamphlets, brochures, teaching aids and articles, but several books are included. There are 18 environmental categories and each is divided into broad grade level designations. Each citation lists the title, cost, date of publication, and publisher.

Hubner, June B. It's In To Be Out - A Teacher's Manual. Buffalo: State University College at Buffalo, 1973.

This is an outdoor education manual for teachers with children who have learning disabilities. It is part of an outdoor education kit which includes: a slide/tape presentation introducing basic concepts of outdoor education, a slide/tape presentation introducing the Computer Based Resource Unit (CBRU), and a Computer Based Resource Unit containing learning activities, resources and evaluation techniques. The contents include philosophy, finance, insurance and safety, teacher preparation, planning and prevention, food, clothing and transportation, experiences, evaluations, follow-up activities in the

classroom, testing suggestions, comparison studies, and program modifications.

Krause, Debbie. Designing Barrier-Free Areas. Ithaca, NY: Cornell University.

This guide provides information designing gardens and nature areas for the blind and the physically handicapped. This is done in an easily understandable manner. Areas covered include site accessibility, walkways, rest areas, communication, stimulating the senses, and selecting plant materials. Also provided is a brief list of suggested references on the topic with ordering information.

Lanaghan, David M. Handicapped Children Nature Study Center: A Cooperative Project in Outdoor Education, End of Project Report. Davenport, IA: Muscatine-Scott County School System, 1973. (Also available from ERIC - ED 065 349)

Discusses Iowa's cooperative science-special education project serving one thousand children in the Muscatine-Scott County School System. Provides information on half-day winter Olympics, a litter collecting contest, and the preparation of bird feeders and nesting materials (by multihandicapped preschoolers); also includes examples of curriculum extension activities, a list of class and outside-group visitation, and an evaluation of program effectiveness.

Larson, R.J., and Barry, B.A. A Teacher's TMR Guide to the Natural Study Area as the Outdoor Education Center of Laramie County School District #1. Cheyenne, WY: Laramie County School District #1, 1980.

This looseleaf mimeographed manual is designed for teachers of TMR students. It includes information for plant study, hiking, cooking, stream organisms and general identification activities. Directions for carrying out the activities are left largely to the teacher. The booklet also includes first aid information, permission forms, schedules and clothing lists. It serves as a general guide for the Laramie County Outdoor Education Center, but is general enough to be based in almost any area.

Lewis, Charles A. The Administration of Outdoor Education Programs. Dubuque IA: Kendall/Hunt Publisning Company, 1975.

This text is designed for teachers, administrators, college students in training, and others who require an insight into the how and wherefores for establishing outdoor education programs as an integral part of their curriculums and administrative operations. Topics covered include: An Overview of the Contemporary Education Scene; The Basic Concepts of Outdoor Education; Integrating Outdoor Education into the Curriculum; Planning for the Use of

Outdoor Education; Integrating Outdoor Education into the Curriculum; Planning for the Use of Outdoor Education Settings; Establishing an Orientation Program for Teachers Involved in Outdoor Education Programs; Organizing Camps for Comparative Environmental and Ecologic Education; The Logistics of Outdoor Education; Outdoor Education: Funding through Cooperative Ventures; Planning the Development of a National Facility Concept for Outdoor Education; The Outdoor Education Project: A Source for Assistance.

Lewis, Charles A., Jr., and Marcia K. Carlson, eds. Contemporary Perspectives in Outdoor Education. New York: Simon and Schuster, 1974.

This book contains selected readings in the area of outdoor education and is designed to provide the student with a sampling of current writings in the area of outdoor education. The various articles deal with administrative as well as practical applications of outdoor education theory and philosophy. Used as a source for stimulating classroom discussion by synthesizing current literature in the field, this text attempts to provide a departure point from which the student can develop an awareness of outdoor education and its implications for change in an education context.

Locate, Plan, Develop, Use and Outdoor Classroom. U.S., Educational Resources Information Center, ERIC Document ED 129 531, 1975.

This guide could well serve to involve school personnel, students, and the community in establishing an outdoor classroom. It includes such topics as learning by discovery, educational objectives, elementary-secondary education, facilities, language arts, mathematics, natural resources, needs assessment, resource guides and sciences.

Matthews, Bruce, et al. A Guide for Conducting Outdoor Field Experiences. U.S., Educational Resources Information Center, ERIC Document ED 160 285, 1978.

This is intended to be used as a workshop module for teachers wishing to implement outdoor field experiences into the curriculum. Research has indicated that teachers feel less than confident in this area so the guide's purpose is to build confidence. It includes background; philosophical rationale, strand, discovery, and sensory approaches, and exemplary activities for each; planning guides and trips.

Me and My Environment. Northbrook, IL: Hubbard Scientific Company, 1975-76.

This is science curriculum based (especially biology) series for EMH students aged 13-16. It is intended to be used up to three years (longer if needed). Each of the five units has a different theme and is separately bound. Within each unit are three to five core areas, each containing many detailed student activities and teacher suggestions. This curriculum guide includes the optional use of charts, posters, filmstrips, worksheets, games and the like,

all produced by the company and available at an extra cost.

Moore, Gary T., et al. Designing Environments for the Handicapped. A Design Guide and Case Study. New York: Educational Facilities Laboratory, 1979.

This book describes the wide range of developmental disabilities that affect children and the role of the physical environment in alleviating them. It presents the background design steps for developing the kinds of environments-indoor and outdoor-that all handicapped children need. A section on research-based design guidelines is organized around 14 major design principles and related user requirements. This section enables readers to evaluate and solve their own facility problems, and points out areas of needed research. Photographs and drawings are used throughout. In the last section, the authors apply the design guidelines to a design case study of an outdoor play/learning environment for the St. Francis Children's Center in Milwaukee.

Morris, Sharee. Directory of Environmental Education Resources. Washington, DC: Center for Environmental Education, 1980.

This directory is a guide to the many organizations that are involved in one way or another with environmental education. It is divided into three sections. Information At A Glance lists 279 information sources alphabetically and by name only. Bullets following the names indicated help available in any of 11 different areas from audiovisuals to workshops. The Subject Guide groups the 279 information sources under 20 different environmental interest categories. The Directory provides the most detailed information about each source: name, address, contact person, chief interests, kinds of help available, and the names of publications and films. The Directory concludes with a listing of "Additional Sources of Information" and a Bibliography of Career Information".

Outdoor Education Series. Rockville, MD: Montgomery County Public Schools, 1979.

This series provides curriculum materials to assist teachers who wish to move the teaching/learning experience beyond the school walls. The activities follow a format of: performance objective, procedures, materials, and evaluation and are designed to be integrated with science, social studies, and mathematics.

Peters, Richard. How to Take the Classroom Out Into the Environment. A Resources Guide. U.S., Educational Resources Information Center, ERIC Document ED 125 856, 1975.

This resource guide has six sections. The first two deal with increasing the student's awareness of the outdoors and relating the classroom to the envir-

onment. The remainder of the publication deals with an extensive list of resources for use with outdoor education programs.

Peterson, Carol A., Project Director. Outdoor Recreation for the Mentally Ill, Mentally Retarded, Physically Disabled, and the Aging in Illinois: A Five-Year Plan. Champaign, IL: University of Illinois, 1977.

This report presents a comprehensive analysis of current problems in outdoor recreation for special populations. The model action plan has the goal of creating outdoor recreation programs and facilities usable by all. The model includes staff training, program development, and evaluation. Major areas of the report include: introduction and overview, special populations description, current status of outdoor recreation for special populations, recommended goals and policy guidelines, and the recommended action plan.

Project EASE. Inservice Manual. Murray, KY: Murray State University.

Project Ease was initiated to acquaint teachers with environmental teaching techniques especially for students with physical and mental handicaps. It provides teacher training through institutes and workshops and assistance with the development, implementation, and evaluation of individual programs in the schools. The inservice manual includes activities to familiarize the teachers with specific handicapping conditions, P.L. 94-142, assessment, instructional and behavioral management strategies, IEP's and evaluation.

Robb, Gary M., Mark D. Havens, and Bonnie J. Ku. Special Education in the Natural Environment. Resource Guide. Bloomington, IN: Indiana University, 1981.

This guide provides information on task analysis, description of activities, and techniques to be used in activities. There is also an annotated bibliography and an equipment section which provides a cost-effective approach for use by implementors of the described programs.

Robb, Gary M., Mark D. Havens, and Jeffrey P. Witman. Special Education in the Natural Environment. Training Manual. Bloomington, IN: Indiana University, 1981.

This manual is intended to provide basic training for persons providing educational rehabilitative services for children who are disabled. It consists of five Learning Units which are entitled as follows: Defining, Introducing, Individualizing, Implementing, and Evaluating. Also included is a bibliography of additional resources, films, and records.

Rosenstein, Irwin, and George W. Donaldson. Outdoor Education: A Guide for Planning Resident Programs. U.S., Educational Resources Information Center, ERIC Document ED 151 123, 1977.

This guide is intended for use with school personnel to aid in planning and conducting resident programs. The guide presents basic policies and procedures essential to the success of resident outdoor education experiences, including methods for planning and financing the program, selection of site and facilities, personnel, the role of the classroom teacher, resources and materials, suggested activities and evaluation.

Shea, Thomas, et al. "Outdoor Living and Learning Compliment Each Other." Teaching Exceptional Children, 4:3:108-118, 1972.

This article describes a three phase (pre-lab, lab, post-lab) outdoor education program use with mentally retarded elementary and junior high students. One of ten units (animal life, conservation, language development, self-care, working together, etc.) is selected and focused upon during the three phases.

Swan, Malcolm D., ed. Tips and Tricks in Outdoor Education. Danville, IL: The Interstate Printers and Publishers, Inc., 1970.

This is a compilation of ideas, suggestions, plans and guides - helpful to those interested in providing children with educational experiences outside the four walls of the classroom. It includes sections on Conducting Field Experiences, Animal Studies, Awareness and Creative Expression, Community Resources, Ecological Studies, Geology and Soil, Crafts, Outdoor Recreation, Weather and more.

Swope, Martha. "Nature Study and the Handicapped." Journal of Environmental Education and Interpretation, 2:3-6, 1977.

This article describes a successful recycling effort made by a class of mildly handicapped children. They prepared recycling boxes, worked on collection and distribution of the materials and organized materials for pick-up. The children earned money for their endeavor and as a group decided to purchase a sugar maple tree for their school. There was a tree planting ceremoney held to show other classes their dedication to environmental improvement.

Teacher's Activity Guide. Environmental Education K-5. Mobile, AL: Mobile County Public Schools, 1977.

This teacher's guide contains environmental education activities for grades K-5. It consists of concept statements which are grouped into two major realms: the socio-cultural and the bio-physical, under which specific subject areas are identified. Following each concept statement are notations concerning the grade level and subject area for which the activity has been designed, and the page number on which the activity is found. The letter at the end of the concept statement indicates its source, as outlined in the bibliography at the conclusion of the concept list.

Try These--We Have! Environmental Education Activities for the Trainable Mentally Retarded. Indianapolis, IN: Marian College.

A highly practical set of cards of activities for TMR's and the profoundly retarded developed and field-tested by TMR teachers. Topics of activities are air, animals, games, light, plants, seasons, soil, and water. Materials needed for the activities are ordinary household items. Most activities are for the out-of-doors, but many are appropriate indoors as well. Activities are both short-term and on-going observations.

Tully, Randolph, R., Jr., ed. Project KARE. A Curriculum Activities Guide to Environmental Studies for Students with Special Education Needs. Blue Bell, PA: Montgomery County Intermediate Unit, 1975.

This guide is a compilation of activities designed by teachers to implement environmental studies in their classroom and are for handicapped students. There are three main categories of activities: awareness level, transitional level, and operational level. For each activity, there is an introduction, motivating, questions, list of necessary equipment, and the procedure to follow.

U.S. Department of the Interior, U.S. Fish and Wildlife Service. We Can Help! Environmental Education Program Guides. Minneapolis, Jenny Publishing Company, Inc., 1975.

This packet contains four program guides: (1) Notes on Coordinating a Community Program in Environmental Education - This handbook of notes is organized from experience gained in creating and coordinating a community-based environmental education program forthe U.S. Fish and Wildlife Service; (2) Environmental Education Methods for Teachers - This guide provides a design for setting up a college course for teachers to allow them to develop and practice the skills of environmental education; (3) Face to Face - This booklet presents short and pointed interviews from educators and land managers who have become active in environmental programs; (4) Educational Use of Public Lands- This guide suggests a course content to prepare resource managers for the role of being host to teachers and students, and an expediter of environmental education.

Van der Smissen, Betty, "Minimizing Legal Liability Risks." Journal of Experiential Education, 2:1:35-41, 1979.

The purpose of this article is to assist those providing risk sports and adventure activities with a beginning point for better understanding the legal liabilities involved. Discussed are basic principles, applicable to public and private schools, private nonprofit organizations, commercial enterprises and public agencies, that will help to minimize the likelihood of law suits. In the first section of this article some guidelines for the supervision, conduct of activity and environmental conditions are also discussed, followed by a commentary on the participants' responsibilities, and then a statement on

the differences in perception of risk.

Van Matre, Steve. Acclimatizing. A Personal and Reflective Approach to a Natural Relationship. Martinsville, IN: American Camping Association, 1974.

Acclimatizing is the second book in Van Matre's acclimatization series and begins with his personal statement which reflects his Gestalt approach to outdoor and environmental education. Many of the activities are adaptable for use with the handicapped - learning through all senses is encouraged at every level. Activities are described along an environmental study, on an island, on a mountain trail, on a quiet walk through the woods, and in a "Walden Solo" expedition. The spirit of these descriptions inspires the reader to further creative planning.

Van Matre, Steve. Acclimatization. A Sensory and Conceptual Approach to Ecological Involvement. Martinsville, IN: American Camping Association, 1972.

Describing six special sessions of environmental learning in a camp setting, this book illustrates the importance of preparation for discovery learning and gives clear and concrete how-to information. All sensory experiences included are ideal for adapting for use with the handicapped. Talking about the environment is minimized - activities allow for maximum involvement which leads to inferencing and formation of personal values.

Vinton, Dennis, Donald Hawkins, Barbara Pantzer, and Elizabeth Farley. Camping and Environmental Education for Handicapped Children and Youth. Washington, DC: Hawkins and Associates, Inc. 1978.

An annotated bibliography of writings on all phases of camping for the handicapped. It includes a subject index, background material and useful resource suggestions for those planning camping opportunities for the handicapped.

Watson, Kathryn J. The Going Places Classroom: A Community Involvement Program of Action Learning for Elementary Students. Gainesville, FL: Florida University, 1977

Describes a project that took nine and ten year old students out to the community for learning activities. Students were given the opportunity to participate in activities that required the skills taught in the classroom. Goals included: student development of positive perception of self, establishment of student as a lifelong learner, acceptance of responsibility for behavior and learning, development of group living skills, adaptation to change, discovery of the real meaning of life.

Wishart, Paul A. and Ronald Childress, comps. A Directory of Public Elementary and Secondary School Environmental Education Programs and Projects

In the United States. University of Tennessee, ERIC Document ED 118 362.

A directory of public elementary and secondary school environmental programs listed by state, including director's name and the address. Also included is a list of state coordinators for environmental education.

AUDIO-VISUAL RESOURCES

Adventure Bound

Available from: St. Louis Association for Retarded Citizens, St. Louis, MO, or University of Missouri Academic Support Center, Film Library Scheduling, 505 East Stewart Road, Columbia, MO 65211

Camping and Recreation Programs for the Handicapped by David Austin

Using the discovery approach, Camp Riley allows individuals to explore their full potential. Color, 15 minutes, 16 mm. Cost is $7.00 (Rental) Available from: American Camping Association, Martinsville, IN 46151

Inexpensive Outdoor Education Techniques by John Carter No. 04-0965

Available from: Academic Support Film Center, Film Library Scheduling, 505 East Stewart Road, Columbia, MO 65211

Miracle in the Woods by Riley Memorial Association, Indianapolis, IN

Available from: Bradford Woods Outdoor Education Center, Martinsville, IN 46151 Cost: Free, except for mailing cost

Outdoor Recreation Facilities for the Handicapped by David Austin

A presentation of a summer camp for disabled children. Shows the adaptation of facilities necessary to make all activities accessible. Color, 10 minutes slide, cassette. Cost is $7.00 (rental) Available from: Academic Support Film Center, Film Library Scheduling, 505 East Stewart Road, Columbia, MO 65211

Project Torch Slide Tape

Available from: Bradford Woods, 5040 State Road 67 North, Martinsville, IN 46151 Cost: Free, except mailing costs

To Climb a Mountain

Available from: University of California Extention Media Center, 2223 Fulton Street, Berkley, CA 94720, (415) 642-0460, Rental Price $22.00.

Overcoming Attitudinal Barriers

Barrier Awareness-Attitudes Toward People with Disabilities, Washington, D.C. Regional Rehabilitation Research Institute on Attitudinal, Legal and Leisure Barriers, 1981.

Bowe, F., Handicapping America: Barriers to Disabled People, New York: Harper & Row, 1978.

Connolly, Peg, and Carol A. Peterson. Characteristics of Special Populations: Implications for Recreation Participation and Planning. Washington: Hawkins & Associates, Inc., 1978.

Donaldson, Joy. "Changing Attitudes Toward Handicapped Persons: A Review and Analysis of Research." Exceptional Children, 46:7: 504-515, 1980.

Easter Seal Society for Crippled Children and Adults of New Jersey. Barrier-Free Design: An Aid to the Handicapped. Trenton, NJ: New Jersey Department of Community Affairs, n.d.

Fair Play. Washington, D.C. Regional Rehabilitation Research Institute on Attitudinal, Legal and Leisure Barriers, 1981.

Higgs, K.W., "Attitude Formation--Contact or Information?". Exceptional Children, 1975, 41(4), 496-497.

Mandell, Collen, J., and Edward D. Fiscus. Understanding Exceptional Children. St. Paul: West Publishing Company, 1981.

Mistler, S., D. Cornelius, and S.M. Daniels. The Invisible Battle: Attitudes Toward Disability. Regional Rehabilitation Research Institute on Attitudinal, Legal and Leisure Barriers, Washington, D.C., DHEW/RSA Grant #15-P-57882-3-03.

Nelson, R. Creating Community Acceptance for Handicapped People. Springfield, IL: Charles C. Thomas, 1978.

Park, Leslie D., "50 Barriers to Normality for the Handicapped Adult in the United States." Paper presented to the Ninth Annual Seminar of the International Cerebral Palsy Society, Oxford, England, April 1974.

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APPENDICES

- SAMPLE FORMS
- SPECIAL POPULATIONS CHARACTERISTICS AND IMPLICATIONS FOR PROGRAM PLANNING

SAMPLE PARENT INTEREST SURVEY

Dear Parents:

Our school/agency is considering the initiation of an outdoor education program for special education students (see attached description). It is our desire to design programs to meet the individual needs and interests of each participant, and we ask you to assist us by answering the following questions.

1. What does your child do during his/her leisure time (e.g., after-school hours, weekends, etc.)? _____

_____

_____

2. What activities do you do as a family? _____

_____

3. Please list other recreation or educational programs, activities and/or clubs (school, church, agency, etc.) in which your child presently participates. _____

_____

_____

4. Would you be interested in having your child participate in this outdoor education program? ____Yes ____No

If no, please explain your reasons why. _____

_____

_____

5. What concerns do you have (if any) about yor child participating in this outdoor education program? _____

_____

_____

6. Would you be willing to assist us in planning and implementing the outdoor education program? ____Yes ____No

If yes, please check the following areas you would be most interested in.

_____ Serve as member of planning team

_____ Work with community resource persons, administrators and other parents to help promote and "sell" the program

_____ Serve as program staff

_____ Provide transportation services to and from the site

_____ Testify at school board, PTA or other similar meetings

_____ Conduct activities in the home environment that will help prepare the child for the outdoor experience

_____ Other _____

CHILD' NAME: _____ AGE: _____

PARENT'S NAME: _____ PHONE: _____

ADDRESS: _____

Thank you for completing this questionnaire. Please return in the enclosed, self-address stamped envelope by September 1,

SAMPLE ASSESSMENT INVENTORY

Name of Agency/school_____

Contact Person_____Title_____

Address_____

City_____State_____Zip_____

Phone_____

1. Does your agency/school serve handicapped persons?

   Yes___ No___

   If so, what is the age range?_____

2. Please provide approximate numbers of persons served by your school/ agency and ages

Group	Approximate numbers	Ages
Physically Handicapped		
Non-ambulatory	_____	___
Semi-ambulatory	_____	___
Visually Impaired	_____	___
Hearing Impaired	_____	___
Disabilities of Incoordination	_____	___
Mentally Handicapped		
Educable	_____	___
Trainable	_____	___
Profound/Severe	_____	___
Learning Disabled	_____	___
Emotionally Handicapped	_____	___

3. Are you currently or have you previously offered outdoor education programs for the handicapped? yes___ no___

   If yes please describe_____

   _____

   _____

   Are/were these programs: ____mainstreamed ____segregated

   ____not applicable

4. Would you be interested in developing an outdoor education program for your students/clients? yes____ no____

   uncertain - would need more information_____

5. Would your agency/school have available any of the following resources to help support an outdoor education program for handicapped students/ clients?

___ personnel to provide pre-planning and on-site technical assistance

___ equipment, supplies or educational materials that will support the planned outdoor education activities

___ outdoor facilities or sites on which outdoor education programs can be conducted

___ transportation services to and from the outdoor facility

___ funding or financial support to help off-set expenses

___ outdoor education workshops and training programs for educators, parents and other interested persons

___ other _____

_____

6. Please list other agencies, groups or persons that may be interested in supporting an outdoor education program

_____

_____

_____

7. Would you be willing to serve as a member of a team to help plan this program? yes___ no___

8. Comments

Please complete and return this survey by October 1 using the enclosed self-addressed stamped envelope provided.

For further information please contact:

John Jones
Coordinator, Outdoor Education Program
Westside Elementary School
City State Zip
telephone #

Thank you for your cooperation and assistance!

SAMPLE INDIVIDUALIZED EDUCATION PROGRAM (IEP)

Name of Student Linda Smith

Program Multi-Handicapped

Entry Date 9-4

Projected IEP Annual Review Date 5-20

RELATED SERVICES PROVIDED AS DEFINED IN THE IEP ANNUAL GOAL(S) SKILL AREA	Proj. Date Init.	Actual Start Data	Antic. Dura. Svcs.	EXTENT OF PARTICIPATION IN REG. ED. PROGRAM (incl. Non-Acad. Areas)	Hrs.Wk Hrs/Wk	Date Start	Date End
Physical Therapy	9-8	9-8	9 mon.	Physical Education-Art	10	9-8	5-29
				Outdoor School	1 week	9-5	4-10

Goal #	SKILL AREA	PRESENT LEVEL OF EDUCATIONAL PERFORMANCE	How Level was Determined	ANNUAL GOAL STATEMENT
1.	Natural Science	Has difficulty with understanding concepts of conservation of natural environment.	Parent/Teacher Observation	Develop knowledge & skills relating to conservation of soil, water, plants & animals.
2.	Physical Therapy	Walks independently, but has difficulty on varied terrain.	DT/PT Screening Observation	Improve mobility skill on rough and varied terrain in the outdoors.
3.	Reading	Limited skills in reading sight words	WRAT SPR	Increase skills in blending and apply them in oral reading setting.

PARTICIPANTS IN IEP MEETING

Signature	Title	Date
	Student (optional)	
	Teacher	
	District Rep.	
	Parent(s)	

QUARTERLY REVIEW OF IEP

Quarterly Review Schedule	9/81	12/81	3/82	6/82
Actual Date of Pupil Progress Rept.				

247

IMPLEMENTATION PLAN

FULL NAME: Linda Smith SCHOOL YEAR: 1982-1983

ANNUAL GOAL # 1

SHORT TERM OBJECTIVES	Proj. Date Init.	Actual Date Start	Antic. Durat.	Date Met	Quarterly Review Schedul Date	Comments
1. While participating in mainstreamed Outdoor Education classroom program, Linda will demonstrate knowledge of reptiles by making a lizard terrarium to study its environment.	9-16-81	9-16-81	9 mos.	10-6-81	12-1-81	Objective met and activity is to continu throughout year. Documentation on prescriptive program taken from Explore card # 1.7.2. Steve Jones
2. While participating in mainstreamed Outdoor Ecucation classroom program, Linda will demonstrate knowledge of plant growth and chart the day planted and day sprouted.	1-10-82	1-20-82	1 week	1-30-82	3-4-82	Had difficulty with chart due to reading skills. Other steps of task analysis were successfully met Refer to prescriptive program taken from Project Explore card # 1.18.7 for documentation. Steve Jones
While participating in a one week outdoor school residential experience, Linda will demonstrate knowledge of water movement by floating a stick down a stream, observing the water movement and discussing results with teacher.	4-5-82	4-5-82	1 week	4-7-82	6-82	Refer to prescriptive program taken from Project Explore card # 1.1.1 for documentation of success of objective. Steve Jones
4. While participating in a one week Outdoor School residential experience, Linda will demonstrate knowledge of erosion by making a mud city to study effects of water and human land formation.	4-5-82	4-5-82	1 week	4-10-82	6-8-82	Refer to prescriptive program to document success. Project Explore card # 1.13.2. Steve Jones

SUGGESTED CLOTHING LIST

Name_____

No. of Items	Suggested Clothing	Suggested Toiletries	No. of Items
	long pants/jeans	brush/comb	
	shirts/jerseys	soap	
	underwear	toothbrush	
	tee shirts/bras	toothpaste	
	socks	powder	
	sweatshirt	deodorant	
	warm jacket	laundry bag	
	sweater		
	pajamas	shampoo	
	bathrobe	handcream	
	shoes	towel	
	boots	knapsack	
	slippers/thongs		
	rain gear		
	sleeping bag		
Optional Items:	(please check if sent)		
Camera/film			
knapsack			
Other_____			

PLEASE LABEL ALL CLOTHING AND TOILETRIES.

INFORMATION SHEET FOR PARENTS/GUARDIANS

Student's Name_____

Address:_____

Emergency Contact:_____

Relationship:_____Phone_____

Alternate Person:_____

Relationship:_____Phone_____

Does your child usually sleep through the night? Yes___ No___

Any night time problems or habits we should be aware of? (e.g. needs light on, needs toileting, sleep walks, etc.). Please explain.

_____

_____

_____

If any of the following will effect the student while at camp, please provide and/or give details and instructions:

1. dietary restrictions:_____
2. allergies:_____
3. seizures/behavior problems:_____
4. activity restrictions:_____
5. medications (specify type):_____

   dosage and time of day:_____

IMPORTANT: Please sign below as an indication that the medical staff may administer above listed medication and/or may transport the student to local hospital in case of an emergency.

_____ _____

(Parents Signature) (Date)

If additional comments, please write them on reverse side. Thank you.

SAMPLE PHOTOGRAPHIC RELEASE FORM

I hereby affirm that I, the undersigned, am the parent (or the legal guardian) of _____
(Name)
and I hereby consent that photographs taken of the above named student by _____
(name of organization)
or their representatives, including negatives, prints, motion pictures or any reproduction of same, may be used by the camp/program staff for educational purposes.

_____ _____
Signature of Parent (Guardian) Date

SAMPLE PERMISSION FORM

Date_____

Dear Parents,

I am requesting your permission to take_____ (name of student)
to_____ located at_____
on_____ (dates) for the purpose of an outdoor education/recreation experience.

This trip will be made by center students only, to be directed by the complete staff. Transportation arrangements will be provided by the school, at no cost to you.

Please indicate below your consent for the participation of your child in the above mentioned activities. Thank you.

____Yes, I will give my consent for my child to attend camp.

____No, I do not give my consent for my child to attend camp.

_____ _____
Signature of parent or Guardian date

SAMPLE LETTER TO PARENTS

Dear Parents/Guardians

As your child's outdoor education program draws near, there are some last minute details that come to mind. Attached to this notice is a brief questionnaire asking for information that would be helpful to the staff during our outdoor experience. Kindly fill it out and return it to me at school within the next few days. Please be sure to include a telephone number where you may be reached that week in case of an emergency. Please be sure you list an alternate number to call in case you cannot be reached. Also, it is important that you be specific about any medications to be given to your child and be sure to sign the permission slip giving us authority to administer them.

Attached is a list of suggested clothing and personal items that your child should take with him/her. There are also some optional items that may be brought but are not considered necessary. As you and your child pack, kindly mark the number of each item packed and tape the list inside the suitcase. This will be helpful to us in making sure we have everything when we are packing to return home. Please be sure to mark your child's name on belongings and clothes to prevent their loss.

There will be t-shirts available for anyone wishing to purchase one. There will also be items like postcards available at the trading post and students may purchase an occasional soda from the soda machine. (Free snacks will be provided by the camp in the afternoon and evening). If you desire to do so, you may send some spending money (no more than $5.00 please) in an envelope with the student's name and the amount of money enclosed on the front. The money will be kept safely in the office and will be made available to students when needed.

The staff and students are very much looking forward to the outdoor education trip. We're sure it will be a most memorable experience for all concerned. Again, we would like to invite parents and families to come and visit us during our visitation day. Please feel free to contact me if you have any questions or concerns.

Sincerely,

(signature of child's teacher/principal)

PARENTS REQUEST FOR GIVING MEDICATION

AT

_____school

We request the school to see that my child_____
(name)
in grade____receives the medication prescribed by Dr._____

address_____beginning_____ to _____
date date (if known)

We, the parents agree by signing this statement that we will not hold liable any member of the school staff who is directed by us (the parents) and the school administration to assist our child in taking medication.

_____
parent(s) signature

_____
address

_____ _____
date phone

The medication should be delivered directly to the school nurse, principal, or teacher by the parent or guardian. It should be a container properly labeled with the student's name, the physicians name and his signature, the date or original prescription, name and strength of medication and directions for taking by the student.

CAUTION: PLEASE READ CAREFULLY BEFORE SIGNING

MEDICATION WILL NOT BE GIVEN UNTIL THIS FORM HAS BEEN DELIVERED TO THE SCHOOL.

The Superintendent of Schools

SAMPLE PARENT EVALUATION FOR PROGRAM WITH OVERNIGHT EXPERIENCE

1. Did your child appear to have enjoyed the overnight experience?

very much			somewhat				not at all		
1	2	3	4	5	6	7	8	9	10

What seems to have been the most enjoyable (most talked about) part?

2. Was the length of the overnight experience

too short			about right				too long		
1	2	3	4	5	6	7	8	9	10

3. Did you feel that there was sufficient preparation for the trip?

not enough			about right				too much		
1	2	3	4	5	6	7	8	9	10

How could preparations for the trip have been improved?

4. Do you feel that the overnight experience was an appropriate part of your child's education?

yes			not sure				no		
1	2	3	4	5	6	7	8	9	10

5. What was your attitude toward the outdoor education program <u>before</u> your child participated in it?

positive			neutral				negative		
1	2	3	4	5	6	7	8	9	10

6. What is your attitude toward the program now that your child has participated in it?

positive			neutral				negative		
1	2	3	4	5	6	7	8	9	10

7. Since involvement in the outdoor education program, have you noticed any changes in your child: (describe changes)

   a. physical skills

   b. intellectual skills

   c. social skills

   d. self concept development

   e. leisure awareness/functioning

8. Do you think the outdoor education program should be continued?

yes			not sure				no		
1	2	3	4	5	6	7	8	9	10

What changes should be made?

9. Should the overnight experience be repeated?

yes				not sure				no	
1	2	3		4	5	6	7	8	9	10

What changes should be made?

10. Please make any additional comments or suggestions regarding the outdoor education program or overnight experience

PLEASE COMPLETE AND RETURN BY (deadline)

Thank You!

SAMPLE EVALUATION FORM FOR STUDENTS

The following questions can be asked by parents; program leaders or teachers.

1. What was your favorite activity? Why did you like it best?

2. Was there an activity that you did not like at all? Why?

3. Can you name three things that you learned in the program?

4. Would you like to be in the program again? Why or why not?

Additional questions can be included to reflect the specific objectives of various programs: Cooking, chores, academic areas, etc. It also may be helpful and enlightening to students to illustrate the answers to the above questions.

SAMPLE EVALUATION FORM FOR STAFF

1. What would you identify as the program's strengths?

2. What would you identify as the program's weaknesses? How do you suggest the weaknesses be overcome?

3. What were the major problems encountered with implementing the outdoor education program? How can these problems be solved?

4. Please rate the following issues relative to the program site:

   a. Potential for instruction — Very good — Adequate — Poor

   b. Accessibility — Very good — Adequate — Poor

   c. Cooperation between educators and other personnel — Very good — Adequate — Poor

5. What gains were made by the students in attaining:

   a. Physical skills

   b. Intellectual skills

   c. Social skills

   d. Self-concept development

   e. Leisure awareness/functionings

6. Please add additional comments or suggestions:

(Additional questions can be included to reflect the specific objectives of the various programs)

Special Populations Characteristics and Implications for Program Planning

The information on the following pages has been included to help those with limited experience in working with individuals with disabilities to gain a broader understanding of the major handicapping conditions and the implications for program design and development in terms of individual learning styles and/or behavior characteristics. Please keep in mind, however, that this information should be interpreted and used to design and implement outdoor education programs that will focus on an individual's abilities rather than their disabilities.

Members of the cooperative planning team will want to share their areas of expertise regarding the implications of various disabilities for outdoor education programming. It is important to note that all individuals are different and no two will be affected by a physical limitation in the same way. Those providing outdoor education experiences will want to tailor them to individual abilities as much as possible and, in general, should challenge (rather than overprotect) those involved.

Characteristics of Special Populations: A Key to Disability Chart Descriptors (6*)

The same format is utilized consistently throughout this chart in discussing each disability. Four aspects of each individual disability are described on the chart. These include:

1. Description
2. Implications
3. Precautions
4. Facility Modifications

1. Descriptions - a brief description of the actual illness or disability appears in this section. Unique aspects or characteristics of the condition are identified.

2. Implications - this section identifies specific effects on the individual's functioning due to the condition. These can be physical, mental, or emotional, and often are a combination of all three. Implications are identified as they relate to outdoor participation.

3. Precautions - this section identifies the general precautions for staff members working with individuals with the specific condition under consideration.

4. Facility Modifications - this section involves the severity of the condition related to the facility and the modification needed. A given disability can be identified as "mild", "moderate" or "severe". Modifications may include such items as hard surface walks, steps augmented by paths and ramps for wheelchairs, doorways made wider and and easier to open, grab-bars placed in restrooms and with space to allow traffic, drinking fountains, public telephone and control switches lowered, step-down curbs modified, braille signs, non-skid flooring and accessible and usable elevators. Three categories are used in rating the amount of modification needed. They are as follows:

   None: Non-facility modification required, e.g., emotionally impaired or hearing impaired individuals may not need changes to the physical environment.

   Minimal: Facility modification that is necessary for adequate usability, such as accessible and usable restrooms, and accessible primary entrance with wider doorways and doors that are easier to open.

   Barrier-free: Facility modification, including complete elimination of architectural barriers, inaccessible, or unusable buildings and facilities.

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*The information in this section is adapted from Characteristics of Special Populations by Carol Ann Peterson and Peg Connally, Washington, D.C.: Hawkins and Associates, 1978.

PHYSICALLY HANDICAPPED

A. Conditions Affecting Mobility

1. ● Paraplegia

Description - paralysis and loss of use of both lower limbs, often as a result of spinal cord or brain injury.

Implications:

a. physical - lack of mobility of legs, muscles in legs and trunk may atrophy. May use wheelchair.

b. mental - spinal cord injury will not affect mental ability. Brain injury may limit mental ability as well as motor ability.

c. social - generally interacts very well.

Precautions - Extreme cases may have respiratory problems. Bowel and bladder habits may be affected. Need regular diet and excess fluids.

Facility Modifications

Barrier-free

2. ● Quadriplegia

Description - paralysis and loss of use of all four extremities and the trunk, often as a result of spinal cord or brain injury.

Implications:

a. Physical - restricted to wheelchair, may be limited to bending neck, shrugging shoulders, raising arms, and some use of hands. Most physical activities are impossible.

b. mental - mentality could be affected by brain damage, but if injury is due to spinal cord, there should not be any mentality loss.

c. social - communication is usually still possible through speech. Brain damage may however, result in a loss of ability to speak and a bowel and bladder loss.

Precautions - more severe patients may have respiratory problems. Due to the degree of loss of senses from some parts may develop "pressure sores" and should keep thick pads and cushions in the wheelchair.

Facility Modification

Barrier-free

3. ● Muscular Dystrophy

Description - a hereditary disease characterized by degeneration of the muscles. Individuals may be born with the disease or it may not occur until later life.

Implications:

a. physical - individual has difficulty in walking, may tire easily, may be restricted to wheelchair.

b. mental - does not affect I.Q.

c. social - social interaction and development of physical interaction skills are impaired due to weakness and lack of mobility.

Precautions - activity is important to avoid obesity.

Facility Modification

Barrier-free

4. ● Spina Bifida

Description - a congenital malformation of the spinal cord and vertebra, allowing the spinal cord to pierce through causing paralysis below this point.

Implications:

a. physical - spasticity, stiffness to paralysis of the limbs. May use leg brace or wheelchair depending on level of impairment.

b. mental - neurological and mental damage may occur.

c. social - interaction depends on level of disability, may not be affected at all.

Precautions - nerves of bowel and bladder may be affected.

Facility Modification

Barrier-free

5. ● Cerebral Palsy

Description - neuromuscular dysfunction due to brain damage before or during birth. This damage may result in muscular incoordination, spastic paralysis and/or speech disturbances.

Implications:

a. physical - may have limited motor performance. May have difficulty with fine motor skills, balancing and walking. May use wheelchair.

b. mental - some individuals may not be affected, others are slower to learn. Some mental retardation may exist.

c. social - good communication is often difficult. Some socially unacceptable behavior may be exhibited, e.g., drooling and jerking.

Precautions - overall rate of progress will generally be determined by the individual's motivation and degree of disability. Frustrating situations and tension inducing situations should be avoided.

Facility Modification

For mild forms, minimal modification is required. In moderate-severe forms, barrier free modification is necessary.

6. ● Monoplegia

Description - total or partial paralysis of one extremity.

Implications:

a. physical - muscular weakness, loss of coordination, spasticity.

b. mental - none

c. social - interaction is limited due to the degree of mobility.

Precautions - exercise of the affected limb is important to maintain normal range of motion in the joints.

Facility Modification

For mild impairments, minimal modification is required. For severe situations, a barrier-free environment is necessitated.

7. ● Hemiplegia

Description - paralysis and loss of functional ability of one side of the body. Paralysis may be partial or complete. Usually results from a stroke, brain damage, tumor, or lesion of the spinal cord.

Implications:

a. physical - loss of coordination, muscular weakness, spasticity, and perceptual disturbances affecting balance, posture, and gait may be present. Individual may be confined to wheelchair.

b. mental - the paralysis itself does not generally cause mental impairment; however, the condition causing the physical impairment, e.g., tumor, stroke, etc. May affect mental ability.

c. social - social interaction may be limited due to speech and loss of bowel and bladder control.

Precautions - exercise is necessary for rebuilding muscle strength and coordination. Pressure sores may also occur.

Facility Modification

Minimal to barrier-free depending upon severity of condition.

8. ● Poliomyelitis (Polio)

Description - an acute infectious virus disease, characterized by fever, paralysis, often with permanent motor disability, marked by inflammation of nerves in the spinal cord. Young children are the most effective virus spreaders.

Implications:

a. physical - may range from the involvement of one arm or leg to the involvement of all extremities. Respiratory failure may occur.

b. mental - little or none other than emotional adjustment.

c. social - limited mobility due to crippling effects or use of an iron lung. May affect social interaction.

Precautions - Poliomyelitis is a contagious disease and is now preventable. Immunization is recommended for all young infants and children.

Facility Modification

Minimal to barrier-free depending upon severity of condition.

9. ● Amputation - Traumatic

Description - the loss of a limb due to trauma, e.g., an accident, assault, war, or some other similar incident.

Implications:

a. physical - a new adaptation by client to his/her environment is necessary following amputation and recovery. Individuals may become wheelchair dependent.

b. mental - psychological or emotional problems may result.

c. social - socialization may become limited due to individual's degree of shyness as well as limitations. Confidence should, in time, return.

Precautions - caution should be taken to protect the area of amputation from pressure, cold, heat, or bumping.

Facility Modifications

Minimal to barrier-free depending upon severity of condition.

10. ● Arthritis

Description - inflammation of a joint. Term is used to cover close to 100 different conditions which cause aching and pain in joints and connective tissues throughout the body, not all of them necessarily involving inflammation.

Implications:

a. physical - may cause loss of mobility, muscular weakness, distortion of joint alignment with resultant deformity.

b. mental - possible depression due to not being able to use affected area.

c. social - immobility may lead to isolation.

Precautions - try to maintain normal activity to continue strength in the supporting muscles. Apply heat (moist is better than dry) to the joints involved.

Facility Modification

Minimal to barrier-free depending on severity of condition.

11. ● Cystic Fibrosis

Description - an inherited disease of the exocrine glands affecting mainly the respiratory system and sweat glands. The illness usually begins in infancy and is typified by chronic respiratory infection and susceptibility to heat prostration

Implications:

a. physical - breathing difficulties, fatigue, mucous in lungs, poor digestion.

b. mental - none

c. social - sounds made while breathing may cause some people to avoid individual.

Precautions - needs good physical therapy, watch closely for infections in the lungs, exercise is important to avoid wasting of muscle.

Facility Modification

None necessary for mild to moderate cases, barrier-free needed for severe cases.

B. VISUALLY IMPAIRED

Description - a person with visual handicap who is unable to use print as their reading material is considered to be functionally blind. Visual activity is 20/200 or less in the better eye with the best possible correction.

Implications:

a. physical - choice of activities is impaired, balance is impaired to some degree, poor eye-hand coordination may restrict activities that require coordination.

b. mental - none.

c. social - interaction lacks only eye contact.

Precautions - orient the client to his/her surroundings, assure adequate guidance and supervision.

Facility Modification

Very little necessary for mild to moderate impairments; however, a barrier-free environment needed for severe impairments. Have raised/revolved lettering on public interpretive signs, braille if possible.

C. HEARING IMPAIRED

Description:

a. deaf - no hearing, non-functional

b. hard of hearing - defective hearing, trouble interpreting sounds, sound distortion.

Implications:

a. physical - may have balance problems depending on area of damage in ear. The exact amount of limitation depends upon the degree of the hearing loss.

b. mental - attempts and failures at communication produce frustration.

c. social - limited communication both sending and receiving messages.

Precautions - necessary to maintain face-to-face contact while communicating. Proper handling of hearing aids is important.

Facility Modification

None

D. DISABILITIES OF INCOORDINATION

1. Multiple Sclerosis

Description - a progressive disease of the central nervous system which generally does not affect a person until he is twenty years of age or older. The disease causes the insulating layer of tissue over the brain and spinal cord to break down. Because of damage to the nervous system, coordination, strength, speech, eyesight - one or all may be affected.

Implications:

a. physical - upper and lower abdominal reflexes are diminished. tremoring is common, and difficulties with coordination occur.

b. mental - milder changes are lack of judgment, inattention and apathy or euphoria. More severe changes from deep depression to mania and outbursts of laughter.

c. social - vision limits interactional abilities, general social involvement becomes markedly changed.

Precautions - overwork and fatigue should be avoided, muscle training should be enforced, encouragement and reassurance are essential and the dim outlook for the future should be minimized.

Facility Modification

Minimal modification necessary for mild impairments; however, for moderate to severe, a barrier-free environment should exist.

2. ● Epilepsy

Description - a condition in which the person has seizures which may be congenital or may be developed after an illness or injury. May be motor or sensory in nature and are sometimes accompanied by a loss of consciousness. Symptoms may vary from jerking movements in one extremity to momentary lapses of consciousness, to convulsions with a loss of consciousness.

Implications:

a. physical - medication may cause drowsiness and loss of coordination and orientation.

b. mental - may create temporary loss of memory. Mild, undetected forms may inhibit learning processes.

c. social - rehabilitation and interaction depend on the degree to which seizures can be controlled. If seizures are controlled, complete interaction is possible.

Precautions - be aware of procedures to be followed for seizures.

Facility Modification

None

MENTALLY HANDICAPPED

A. EDUCABLE MENTALLY HANDICAPPED

Description - a range of retardation including those persons who are able to learn elementary school skills such as reading, writing and arithmetic to about the fourth grade level. The I.Q. range of this group is roughly between 50 and 75.

Implications:

a. physical - may have lack of motor coordination, possibility of defects in speech and hearing.

b. mental - generalized slowness of maturation, short attention span, and poor memory. Capable of achieving academic subjects at a minimum.

c. social - may become an independent member of society. Social contacts may be limited.

Precautions - brief directions, tasks should be designed for a high probability of success. Much encouragement and reinforcement is necessary. Limit the number of concepts presented as too many will appear confusing.

Facility Modification

None

B. TRAINABLE MENTALLY HANDICAPPED

Description - a range of retardation including those persons who are not able to learn elementary school subjects, but are able to learn how to take care of daily life activities such as feeding, clothing him/herself and a few of the more practical social conventions. The I.Q. range of this group is roughly between 30 and 50.

Implications:

a. physical - problems with agility, coordination, directions, strength, and motor development.

b. mental - mental development is retarded considerably more than motor development. Individuals have short attention spans and poor memories. Most lack emotional stability.

c. social - poor social awareness. Some may have speech and auditory impairments.

Precautions - must be supervised and accompanied while involved in activities.

Facility Modification

Minimal

C. PROFOUND/SEVERE MENTALLY HANDICAPPED

Description - due to the degree of mental retardation the individual is unable to be educated in total self-care, socialization, or economic usefulness and needs continued help in taking care of their own personal needs. I.Q. falls below 30.

Implications:

a. physical - very poor coordination and motor development. Problems with balance, agility, directionality; strength and body awareness generally are lacking.

b. mental - mental ability is extremely retarded. Inability to reason or learn concepts. Unlikely to progress past second grade in academic subjects.

c. social - the level of retardation makes social interaction in the traditional sense impossible.

Precautions - individual must be under complete supervision.

Facility Modification

Barrier-free

LEARNING DISABILITIES

Description - has average or above average mental ability but is probably performing academically below his mental ability. He may have secondary emotional, social, or cultural kinds of problems that may be quite disruptive to the classroom and at home.

Implications:

a. physical - right-left disorientation, impaired motor control, perseveration, time disorientation, perceptual-motor and visual-motor problems, hyperactivity and short-or-no attention span

are characteristics of the learning disabled child.

b. mental - one or more significant defects in the essential learning processes usually exist. In some areas this child is unable to acquire at a normal rate academically.

c. social - extreme hyperactivity may create adjustmental problems in society. Low self-concept may often cause individual to want to avoid socialization.

Precautions - use concrete kinds of demands, not large or inconsistent ones. Avoid frustrating tasks; be aware of individual's tensions.

Facility Modification

None

EMOTIONALLY HANDICAPPED

Description - characterized by deeply ingrained maladaptive patterns of behavior, often recognized by the time of early adolescence or earlier.

Implications:

a. physical - in some cases the individuals are underdeveloped in areas of motor skills and coordination due to lack of interest in group activities.

b. mental - immature emotional behavior; mental activity would probably be unaffected were it not for the over-riding emotional problems.

c. social - generally withdrawn, selfish, self-centered, insecure, and socially unstable. Social interaction is extremely limited due to emotional problems.

Precautions - provide calm, relaxing environment if possible, set reasonable goals for achieving tasks. Anticipate possibility of extreme mood or behavior changes.

Facility Modification

None