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AUTHOR Trevana, Thomas M.
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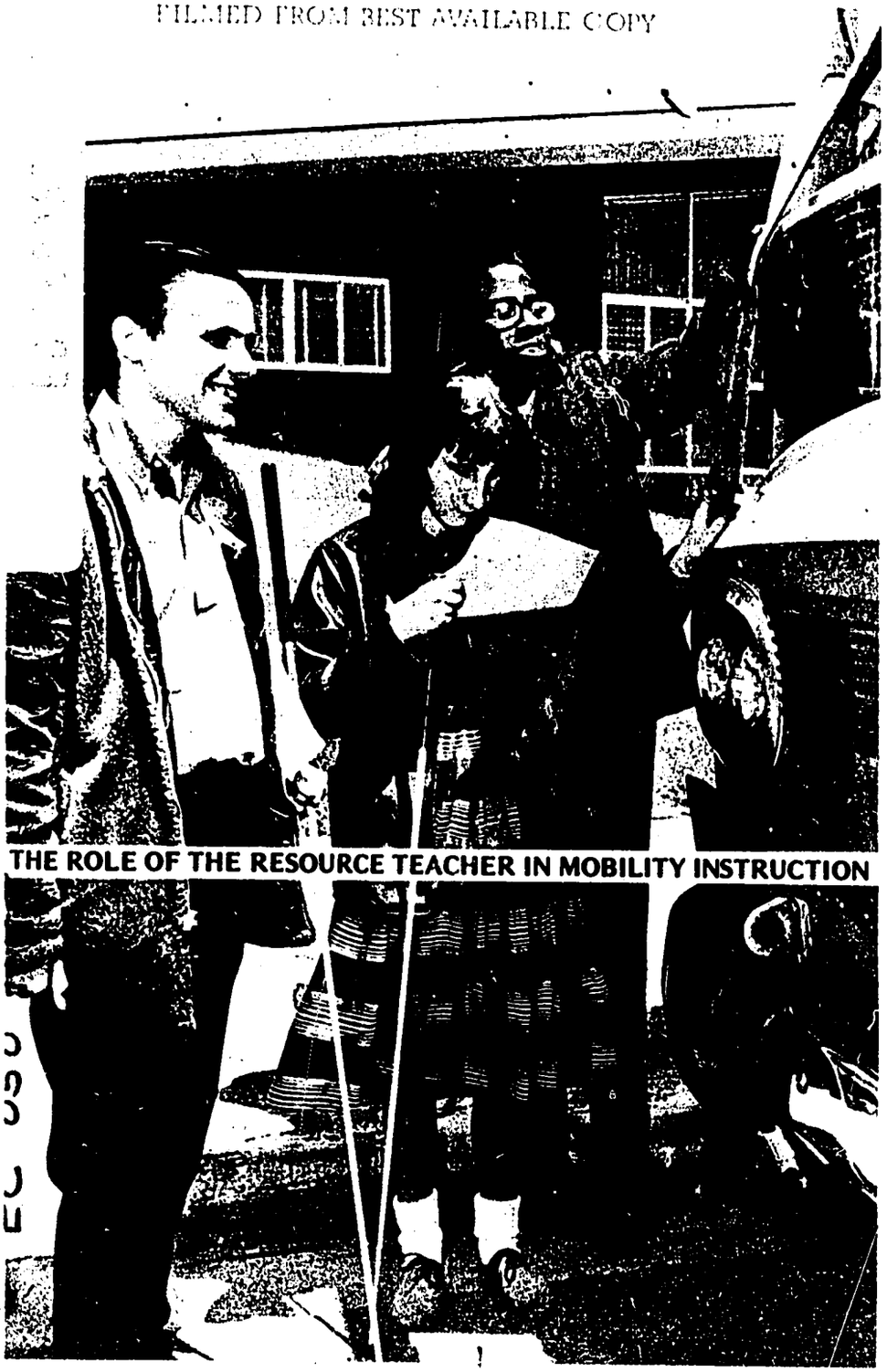
ABSTRACT

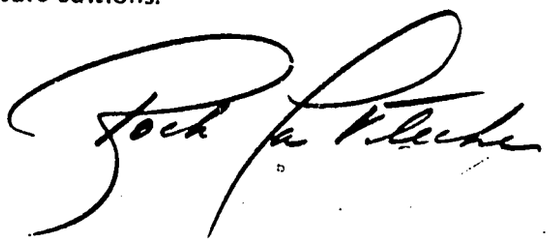
The booklet suggests activities that a resource teacher for the visually impaired can incorporate into the curriculum to ready students for instruction by an orientation and mobility specialist. Activities such as the following are recommended: introductions to sighted guides, direction taking, protective procedures, and squaring off; body awareness activities; learning of descriptive and cardinal directions; lessons in estimating and measuring distance; identification games for distinguishing objects and surfaces; reading of tactual maps; identification of sounds; and physical education activities that contribute to balance, coordination, awareness of spatial relations, free movement, strength, agility, reaction time, and orientation. (GW)



THE ROLE OF THE RESOURCE TEACHER IN MOBILITY INSTRUCTION

FOREWORD

The Alameda County School Department has prepared this resource guide especially for teachers working with the visually impaired. However, it should also be of interest to others involved with the visually handicapped such as parents, school administrators, orientation-mobility specialists and consultants. We hope this guide will prove useful and invite suggestions as to how it might be improved in future editions.



THE ROLE OF THE RESOURCE TEACHER IN MOBILITY INSTRUCTION

Thomas M. Trevena
Orientation-Mobility Specialist

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Many visually impaired resource teachers have divorced themselves from teaching orientation and mobility skills. Mobility instructors are in part to blame for this retreat because in the past untrained personnel have taught orientation and mobility to children with disastrous results. As a consequence professionals have discouraged orientation and mobility instruction by untrained personnel or personnel with limited amounts of training.

However, the resource teacher, because of her knowledge of the visually impaired and close association with her pupils and perhaps a beginning course in orientation and mobility, can and should teach *some* orientation and mobility skills. If the visually impaired child gets this early start and learns many basic skills he will have a solid foundation for learning the formal skills later.

The resource teacher can easily create many learning experiences that will directly and indirectly teach the many skills needed for blind children to become well-oriented and mobile.

Frequently, months are spent with high school students learning simple travel concepts such as a square block, or *un*learning poor mobility habits and attitudes. There would be better utilization of time and professional skill if the child learns skills and concepts at a younger age. Certain skills and concepts have an appropriate age level at which they are learned best—young adults sometimes feel embarrassed learning the structure of a bus by going around and tactually exploring it but younger children are delighted by this experience.

It is hoped that the following outline will stimulate the resource teacher to create experiences of her own (the experienced resource teacher will recognize many activities that she is already doing). It is also hoped that the orientation-mobility specialist will use the following for a systematic approach to remedial and beginning orientation-mobility.

Experiences should center around a framework of three simple rules: get out of the classroom (mobility is not learned in a static environment); make the experience active (mobility is not passive); and make the experience relative (mobility needs motivation according to the child's needs).

There are two distinct phases of orientation and mobility instruction: *direct* and *indirect*.

DIRECT

With direct mobility preparation the following items should be covered:

1. Basic techniques. This would involve teaching pre-cane techniques such as sighted guide, direction taking, protective procedures, squaring off, etc.

   A resource teacher should be familiar with these techniques. Many colleges offer a course for resource teachers on the principles of orientation and mobility. Care should be taken in the selection of the course as many are outmoded occlusion exercises for the teacher. Observe the class to see if teaching techniques and curriculum are stressed above acquisition of physical skills.

2. Teach the student body awareness, self-image, body parts, laterality, and position in space. An excellent teaching aid to illustrate this is the record "Listening and Moving," LP 605-07, which can be obtained from Educational Activities, Inc., Freeport, NY 11520. Another helpful aid is Thomas G. Tallman's *Orientation and Mobility Curriculum Guide* which has checklists for body awareness, comparative size, relationships, etc., and is available from the Texas School for the Blind, 1100 W. 45th St., Austin, TX 78756. The important point is that one knows little about his body unless he moves it and little about the outside world unless he moves in it.*

3. Teach the student to understand descriptive directions; e.g., up, down, front, behind, above, under, parallel, etc. Teach the youngster to execute a right and a left turn. Games can be played with toys; e.g., "Place the teddy bear in *front* of the tiger." Later this can be applied to the location of objects in the physical environment.

   The student should also learn relative positions. Science Curriculum Improvement Study, Lawrence Hall, Berkeley, CA 94720 has modified their regular classroom unit *Relativity* for the use of the visually impaired and it is an excellent teaching aid that is available upon request. The unit stresses depth perception and relative position which has never been systematically taught to the visually handicapped child.

4. A very important aspect of orientation is cardinal directions (north, east, south, west). Ask such questions as, "If you are walking north and make a 90° right turn, in which direction would you then be walking?" A related concept would be the direction and movement of the sun. Again a simple question will best illustrate the point, "Johnny lives on East 8th St. and you are to meet him at 9 in the morning. When you get to 8th St. you don't know which way is east. How can the sun help? Where will the sun be in relation to you?"

5. There should be a unit taught in understanding distance. Start by estimating and measuring small objects increasing the length to the size of the room, the school, a block (keep in mind the framework of item 2). This lesson can be varied by estimating distance from sounds.

**The Image and Appearance of the Human Body*, Schilder, Paul. International Universities Press, Inc., 239 Park Ave., S. New York, NY 10003.

The importance of teaching understanding of distance to blind students might be illustrated by one unscientific experiment by the author in which students were placed against a wall and asked to walk forward a distance which they estimated would equal their height. The average response was just under 20 feet!

6. Social skills have a great deal to do with orientation-mobility. If a student doesn't know how to relate to others how can he ask directions or discourage a well-meaning observer from helping? He should learn to use gestures; e.g., frequently a driver will sit waiting for the blind traveler to cross the street while the traveler is waiting for the car to move so that he can hear other traffic. Hours are sometimes spent on such matters as waving a car forward which could have been spent learning street crossings.

   Other social skills that could facilitate mobility are manners, shaking hands, dialing a phone, identifying money, interaction gestures, non-verbal communication, eating skills, etiquette, etc. (this will include the control of such behavior as rocking and eye-gouging commonly called "blindisms.") A mobility student needs to know how to move about with other people and act in the accepted manner or learning to travel will not be a pleasurable experience for him.

7. A pre-mobility student should be able to tell time. It can be expanded into a method of familiarizing a student with an area by using the clock method; e.g., the table is at 1 o'clock and the door to the room is at 3 o'clock.

8. A blind student needs geometric understanding which is important in achieving mathematical comprehension. For mobility, the figures can be expanded to the environment, "Is this room a triangle, a rectangle, or a square?" "What is the shape of this block?"

   An understanding of angles is essential in executing geometric problems and indispensable in mobility. When approaching an intersection if the student makes an 80° turn rather than a 90° turn it may lead to difficulties. Make sure the student can execute turns at various angles being especially accurate on 45°, 90°, and 180°.

9. A thorough knowledge of the activities of daily living is needed to create independence of which mobility is an ingredient. Much time has been spent teaching a student the location of a public telephone only to discover that he could not operate a pay phone. This is just one example of how the activities of daily living are interrelated. The list of activities of daily living runs from A (appearance) to Z (zipping), and is extremely important. Parents should be encouraged to have their child perform all activities that he possibly can for himself and it might surprise them to know his capabilities if given a little guidance. The difference between learning social skills and activities of daily living is that social skills involve relations with others and the daily living activities are those which the student should be able to do for himself.

10. The knowledge of traffic patterns will be very helpful when it is time to start formal travel skills. This knowledge can be slowly built up just like any other academic area so that the student has a good foundation for his orientation-mobility training. It could start with the simple concept that traffic usually stays to the right and usually stops for a red light.

11. The tactual 'sense' has many facets but the simple identification of surfaces may distinguish a landmark. Many guessing games can be played to identify objects and surfaces such as granite, glass, wood, etc. Don't forget the feet--the student should have the ability to identify tactually by the feel on the soles of his feet such items as rough, smooth, inclines, declines, concrete, blacktop, gravel, tile, etc. He can verify his knowledge auditorily and/or visually; e.g., footsteps sound louder and higher in pitch when walking on concrete as compared to blacktop. It goes without saying that the blacktop looks darker.

12. If the student has residual vision every effort should be made to increase its efficient use. Children with low vision vary in the visual experiences they have had; they also differ in near and distance vision. The child that reads large print may require extensive orientation and mobility training. He can be taught to use building outlines and contrast areas as landmarks. He may not be able to see the traffic signal across the street, but if he is taught to view the one on his side of the street he may be able to see it.

    Some children will have more problems at night (retinitis pigmentosa, diabetic retinopathy, etc.); others will have more problems on bright, sunny days (albinism, aphakia, etc.). The resource teacher should see that each student receives a thorough low-vision examination. In the area, such examinations are given at the University of California, Berkeley, School of Optometry, under the direction of Dr. Edwin B. Mehr. Sometimes a distance monocular telescope will enable the student to read house numbers, street signs, bus numbers, or to see the blackboard. At other times reading aids can be prescribed or such simple devices as sunglasses may help students where dim light is preferred. The teacher should go with the student to alleviate fears, but mainly to see how the aid (if prescribed) is used so he can reinforce its use. Dr. Natalie Barraga, University of Texas, has published *Teacher's Guide for Development of Visual Learning Abilities and Utilization of Low Vision*, available from American Printing House for the Blind, Inc., P.O. Box 6085, Louisville, KY 40206. While most of the material is paper and pencil material the philosophy and spirit comes to the reader and stimulates other practical applications.

13. A student should understand thermal differences such as warm, hot, cold. He can start by touching metal containers of varying temperatures. To practice localization an electric heater can be placed at various distances and angles from the student to help increase his thermal-tactual sense. This is useful in determining the direction of the sun, locating open doorways and cross corridors, or approaching an open intersection after passing a business block.

14. A mobility student needs to be able to read a tactual map or diagram. *The amount of information a person receives from a map depends upon his ability to read it.* A simple way to start teaching a child about maps and diagrams is to begin by getting the concept of a map across to him. The top of a desk can represent a map as the child grasps the idea. An empty room can be represented by an empty box. Next add the doors and windows to the box. Then one piece at a time, add doll furniture to represent the real furniture. After the student has the basic concept of a map, abstract symbols can be used to represent the furniture. As the student progresses, the scale can decrease and the abstractions can increase. Treasure maps are always fun as are maps of the school, the neighborhood, etc.

    The Chang Interchangeable Tactual Map is an excellent device for teaching mobility and mobility concepts; e.g., types of intersections, traffic patterns, square blocks, and how to diagram a specific area. This kit is available from the American Printing House for the Blind, P.O. Box 6085, Louisville, KY 40206, or for information contact the inventor, Mrs. Carolyn Chang Yuen, Orientation-Mobility Specialist, Alameda County School Department, 224 W. Winton Ave., Hayward, CA 94544. The kit contains various-sized pieces of Velcro that can be fitted together to build almost any type of situation from a cul-de-sac to an intersection with five intersecting streets. A detailed article about the map appeared in *The New Outlook for the Blind*, April 1968.

    This knowledge leads into the learning of numbering systems—first the child's block, later the general plan for the city. Young children can play "mailman" delivering Brailled name tags to children in their block; see if the mailman can accurately deliver the letters.

15. The identification of sounds is one important aspect of auditory training. Walks to different areas such as residential, business, shopping, etc. and identifying the corresponding sounds can be fun. Learning can be enhanced if the tactual map is also used to explain mobility concepts; e.g., traffic sounds on a one-way street compared to two-way traffic.

    On rainy days, recordings are an excellent source of sounds for identification. Some sound effect records can be secured from Electra Corp., 116 W. 14th St., New York, NY 10011.

    The location of sounds is another skill that is used extensively for orientation and mobility and can be taught by the resource teacher. A good way to start is to drop an object and have the student recover it. The student listens for the sound and faces toward the object. He then crouches down, being careful not to bend at the waist (by bending at the waist the student could hit an object with his head), and places his hand flat on the floor. If he does not place his hand directly on the object he moves the palm of the hand in ever-widening circles until the object is located.

    Hide-and-go-seek played with a clock is also fun. To be able to follow moving sounds or to walk parallel to sounds will later prove helpful in

preventing veering, as will walking parallel between two stationary sounds. The estimation of distance and depth through sounds is another important skill and fun to learn.

Object perception and awareness through sound or lack of sound can be sharpened by training. The student can learn to walk as close to an object as possible without touching it. It is best to start by walking toward a wall; as skill increases, smaller objects can be used. Listening for such things as doors, windows, stairs, corridors, trees, etc. is a more advanced skill which the student will rely heavily upon.

70% of our waking hours are spent communicating, 45% of which is listening. Little has been done to teach listening and there are few listening programs available. One of the best was developed under an ESEA, Title III project, Programs in Oral Communication, by the Alameda County School Department, Len L. Lasnik, director. This tape-recorded, sequential program has two sections: listening comprehension and auditory perception. Although the project has been phased out, the sequences devoted to listening comprehension are available through the Alameda County School Department, 224 W. Winton Ave., Hayward, CA 94544. The materials on auditory perception are being revised and expanded under a new Title III project, Reading Improvement through Auditory Perceptual Training directed by Dr. Belle Ruth Witkin.

Musical training with all its auditory functions should also have a positive effect on most students.

16. Of all our senses the least is known about our olfactory sense. However, for the blind student the identification of various odors is very helpful. All of the following have characteristic smells and the student should be able to identify them: shoe shop, cleaners, candy store, gas station, and sections within a department store such as paints, cosmetics, stationery. Many areas in the school have a distinct odor; e.g., the gym, shop class, home economics class, etc. The student can practice identifying odors as well as localizing them in a game played similar to hide-and-go-seek with the clock, substituting something with a strong odor.

    Two books, *The Sweet Smell of Christmas* and *Little Bunny Follows His Nose*, are available from Golden Press, Inc., 1220 Mound Ave., Racine, WI 53404. These books have fragrance strips in them which can be used over and over. The fragrance strips are made by the 3M Company and, unfortunately, sold only in lots of 50,000; however, upon writing, the author was able to secure samples.

17. Physical education and mobility are complementary and there is a high correlation between the two. Most activities in PE will contribute to good mobility—balance, coordination, spatial relations, free movement, strength, agility, reaction time, and orientation are vital parts of both activities.

    The resource teacher should supplement the PE program just as she does the academic areas. This may include preteaching of specific skills and

working on individual weaknesses such as gait, posture, coordination, balance, etc. Blind children are notoriously weak in the pectoral girdle and rank very low in physical fitness. The consultation of a physical therapist, corrective therapist, occupational therapist, or a *good* adaptive physical educator can help the resource teacher. A simple exercise routine can be planned for each student. The new areas of movement exploration, creative and developmental movement, and perceptual motor activities described by Kephart, Hockett and Jensen, Mullin, Barsch, Cratty, and Frostig are excellent and easily used with the visually impaired. Movement exploration is not highly structured—it presents the child with challenges to perform with his body; e.g., "How tall can you be?" "How small can you be?" A guide is available from Peek Publications, 4067 Transport St., Palo Alto, CA 94303, $1.95 per copy.

Consultation between the resource teacher and the PE instructor is extremely important and can contribute to a solid foundation for a program that meets the student's needs. A lack of communication between these two teachers can result in an exceedingly poor PE program for the blind child. The PE teacher needs to be aware of the child's abilities and which areas he is capable of joining in group PE activities. If he thinks there are some areas in PE in which the blind child should not participate he should discuss this with the resource teacher who may be able to give some supplementary instruction to the child or suggestions to the PE teacher.
For detailed articles dealing with physical education and the visually impaired see the *Journal of Health, Physical Education, and Recreation*, June 1970.

One area that the regular PE class will never cover is veering. The resource teacher can help here by simply making the student aware of which way he veers and how much. Other activities that are helpful include walking on a rope or walking along a sidewalk counting one point against him for touching the grass. This can be made into a game and the student with the lowest number of points wins the game. A balance beam on the floor is also excellent practice.

For competive games, the child should have a Braille diagram of a football field, baseball diamond, etc. Additional modifications can be added such as a goal tender which emits a clicking sound so the child can always locate the position of the goal. The resource teacher can provide these aids to understanding the concept of the game. The goal tender and sports fields kits are available from the American Printing House for the Blind, P.O. Box 6085, Louisville, KY 40206.

The resource teacher can also supply modified materials such as balls painted with bright yellow wet suit paint, bell balls, etc. Materials and supplies can be made available for practice and they can be checked out during recess. Sensory Aids Center, M.I.T., has developed an excellent auditory ball but cannot get it manufactured commercially.

A supplemental physical education program in the resource room is

advantageous. Of all the areas in which blind children participate the one area in which they consistently fall below average is physical education. Ironically, many resource teachers divorce themselves from this area (Cratty, *New Outlook for the Blind*; Hatlen, *A.E.V.H. Journal*, November 1970).

Formal education is not the only relevant education. Field trips and direct experiences should be part of the curriculum especially for visually impaired children. A field trip usually supplements an area of study. What better way to learn about sailboats than to be on one actively working the winches and crewing the ship? An airplane? The teacher can prepare the children with introductory materials and knowledge (models, etc.). The increased understanding, enthusiasm, and desire to learn on the part of the student is beyond description. The teacher that has a well-planned, interesting field trip will expound the values of concrete learning and will have repeated trips as often as possible.

Field trips seem to work best when the students know about a month ahead of time where they are going and when. Trips should be voluntary so that a student who has considerable knowledge in one area or an important math test can stay at school.

A trip can easily be ruined by rushing so that the student doesn't really experience the activity but merely sees bits and pieces. This is also true if too many children are included. The student-teacher ratio should be about 3:1 to 5:1 or less depending upon the occasion. Public transportation should be used wherever possible and it adds zest if the children help plan the route and figure out how to get to the destination. Keep a single objective in mind--it is easy to get side-tracked. Some areas will require more than one trip or experience to get a solid concept across.

Trips need not be elaborate or extensive--a most successful trip can be a flower identification hike. Alameda County School Department publishes the *Alameda County Educational Resource Guide* which contains listings of possible tours in the Bay Area.

18. The effort of remembering landmarks, directions, bus numbers, street names, business locations, etc., taxes the memory and has a positive or negative effect on mobility depending on what is remembered and what is forgotten. There are basically three rules that the teacher should keep in mind: memory increases with motivation, memory increases with repetition, and memory increases with use. The author has Brailled the book *10 Days to a Successful Memory* by Joyce D. Brothers, Ph.D. and Edward P. F. Eagan, Prentice-Hall, Inc., Englewood Cliffs, NJ 07632. Its abridged form can be purchased from Dell Publishing Co., 750 Third Ave., New York, NY 10017 for $.25. Practice lessons can be made using the book as a guide. The book is down-to-earth, easy reading, and incorporates many memory "tricks" to retention; e.g., a shopping list: PLATE = pears, lettuce, apples, tea, eggs; a phone number: CIrcle 3-6912 = a clock is a *cir*cle marked at quarter hours 3, 6, 9, 12.

13

INDIRECT

Among the many people with whom the child comes in close contact, obviously the parents are the most crucial because of their vast influence upon the child. While the following is directed to the parent, it is hoped that the philosophy will be the same for the other adults and agencies with whom the child comes in contact. While the resource teacher can't be responsible for everything, he can at least see that the professional philosophy is a part of his school system. This may entail some inservice instruction to other teachers and administrators.

1. Perhaps the most important aspect of indirect service that the resource teacher can do is to affect parental attitudes and encourage a positive attitude toward mobility systems. The resource teacher can ignite a chain reaction of enthusiasm. Explain to the parent what is involved in various mobility systems (cane, dog, electronic) and how mobility is acquired with each system.

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