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ABSTRACT

Intended for driver education instructors in Ohio, the guide is designed to acquaint teachers with special characteristics, capacities, and needs of the handicapped student population and to provide resources, information, and ideas for meeting those special needs. An introductory section discusses the purpose and use of the curriculum. Section 2 offers code excerpts and explanations of pertinent legislation including Ohio's Revised Code (ORC) 3301.17, Rule 3301-81-01, P.L. 93-513 (Section 504), P.L. 94-142 (the Education for All Handicapped Children Act), ORC 4503.103, ORC 4511.69, ORC 4507.08, ORC 4507.14, and ORC 4507.161. Section 3, titled "Assessment," deals with measures for determining readiness for driver education (sample forms are included). Discussed in Section 4 are the characteristics of mildly mentally handicapped learners, and what to do about them, additional classroom strategies, and scheduling approaches (including advantages and disadvantages of each). Section 5 suggests approaches to teaching the visually and hearing impaired, while Section 6 addresses physical handicaps. Section 7 briefly describes the procedures necessary for handicapped students to obtain a driver's license. A final section of appendixes contains a bibliography, a list of audiovisual materials for the instructor, and a list of manufacturers of adaptive controls. (SBH)

DRIVER EDUCATION CURRICULUM GUIDE

Ohio Department of Education
Division of School Finance
Driver Education Section

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FOREWORD

Highway traffic safety education has been a vital concern of the American people since the development of powered vehicles to transport persons and materials. The Traffic and Motor Vehicle Act and the Highway Safety Act of 1966 were landmarks in establishing the role of government in instituting education programs designed to reduce the number of injuries and deaths on our highways.

The State Board of Education has long recognized the importance of responsible, cogent education for those individuals entering our highly complex transportation system. The Ohio Department of Education, Division of School Finance, Driver Education Section, has the primary responsibility of administering a state subsidy for all approved driver education programs meeting state minimum standards and, through the use of funds provided by the National Highway Traffic Safety Administration, intensifying the effectiveness of the traffic safety education effort.

Among those for whom quality driver education is extremely important are the handicapped —those who have mental, visual, hearing, or physical disabilities which can cause them to have special education needs. Administrators and teaching staffs must be adequately prepared to meet these needs.

The purpose of this guide is to help the driver education instructor prepare to teach handicapped students who enter the driver education program. On the assumption that driver education goals and outcomes for the handicapped are essentially the same as for nonhandicapped students, this guide focuses on (1) acquainting the instructor with special characteristics, capacities, and needs of the handicapped student population and (2) providing resources, information, and ideas for meeting those special needs. The ultimate goal is to help handicapped students, like their nonhandicapped counterparts, to become safe, responsible drivers.

Franklin B. Walter

Franklin B. Walter
Superintendent of Public Instruction

PREFACE

The Ohio Traffic Safety Education Center (OTSEC), a project of the National Center for Research in Vocational Education at The Ohio State University, is funded by the Ohio Department of Education, Division of School Finance, Driver Education Section. OTSEC was organized to provide assistance to the citizens and state departments of Ohio in five basic functional areas: research, development, services, education, and dissemination. These areas to a large extent parallel the functional areas of the National Center.

Within the five areas, driver and traffic safety education projects at OTSEC have been broad in scope. They have included such activities as developing driver education curricula for use in public schools, publishing a traffic safety newsletter for distribution throughout the state, developing a driver education information booklet for local school boards, compiling technical research papers, organizing and operating a driver and traffic safety information center, conducting workshops in motorcycle safety and driver education for the handicapped, and many others.

The outcome of OTSEC's research, development, and education programs has been heightened awareness of driver and traffic safety practices on the part of Ohio's citizens. By furthering this awareness, OTSEC has made and will continue to make a positive impact on traffic safety in Ohio.

Robert E. Taylor
Executive Director
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ACKNOWLEDGMENTS

The staff of the Division of School Finance, Driver Education Section, express genuine appreciation to the participants in the Advanced Driver Education Workshop at Miami University.

This advanced workshop in special education instruction, sponsored by the Ohio Department of Education with funds made available by the National Highway Traffic Safety Administration, studied the design and selection of performance objectives, human factors (learning, perception, risk acceptance, information processing, vision, motivation), current adaptive driving procedures research, existing instruction units in the United States and Europe, and cost effective traffic safety countermeasures.

At the culmination of this workshop, the following Ohio school teachers and supervisors wrote the first draft of this guide under the direction of Dr. Robert Shrader.

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The Driver Education Section and the Ohio Traffic Safety Education Center acknowledge the expertise and assistance of Ohio educators in the following contributions to this guide:

Field-testing: Mario Piastrelli and Ron Tvorik, Parma City Schools; Robert Sheehan, Northridge Local Schools, Dayton.

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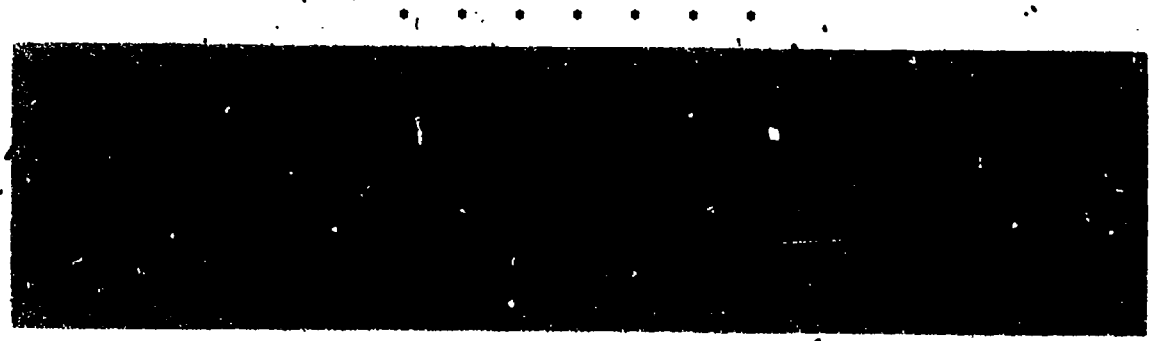
In addition, appreciation is expressed to those students who took part in the field-test programs.



CONTENTS

1 INTRODUCTION

developing careful young drivers through education

Ohio Department of Education

PURPOSE

Broadly speaking, the purpose of this curriculum guide is to help the instructor provide driver education to handicapped students. It may be used with one or more handicapped students included in a class of nonhandicapped students, with a small, specialized class composed of only handicapped students, or with handicapped students taught on an individual basis.

This guide differs from other driver education guides in that no course sequence or learning objectives are included. Essentially, the knowledge and skills necessary for a person to drive do not vary with respect to handicaps. Ultimately the nonhandicapped student and the handicapped student will have to pass the same tests in order to obtain a driver's license and will have to operate the same vehicles on the same roads with equal competence. Therefore, a curriculum for use with the handicapped should contain the same objectives as the regular driver education curriculum.

This guide, then, is designed to be used in conjunction with the existing driver education curriculum. In this respect, it might more properly be called a curriculum supplement. The objectives of this supplement are the following:

- to develop awareness of handicapped student populations — their needs, capacities, characteristics, and diversity;
- to develop awareness of education's responsibility with respect to driver education for handicapped students;
- to provide information about techniques for teaching handicapped students in the driver education class; and
- to provide resources for obtaining additional information.

The emphasis throughout this guide is on the effects of the various handicaps on learning to be a safe driver.

The Handicapped Student Population

The population of handicapped students that the driver education instructor is likely to encounter is quite diverse. They may have disabilities affecting any aspect of their physical functioning, learning ability, judgmental and decision-making skills, visual and hearing acuity, or other abilities and characteristics. Each disability will have different implications for learning safe driving skills. Furthermore, disabilities may occur in any combination and thus create an almost infinite variety of instructional needs. It is very difficult to make any general statements that will apply to all handicapping conditions.

To render the special education population subject somewhat more manageable for discussion, the handicapping conditions in this guide are divided into three major groups:

1. mild mental handicaps,
2. sensory handicaps (visual and hearing impairments), and
3. physical handicaps.

Sections 4, 5, and 6 of this guide are devoted to these groups. These sections include information about the handicapping conditions, characteristics that might accompany those conditions, special instructional needs, and recommended instructional strategies.

Even within these groups, however, there is a great deal of diversity. Although some general statements are made in this guide with regard to groups with handicapping conditions, the instructor is cautioned to avoid making generalizations or forming preconceptions about an individual based on the presence of a particular handicap. Handicapped individuals are constantly proving such preconceptions wrong. There is a tremendous capacity among handicapped individuals which, if understood and utilized by the student and the instructor, can enable them to succeed at many personal, educational, and professional endeavors — including driving a car. Robert W. Gutshall described the situation of the handicapped student in this manner:

> A student with a handicap is primarily a student. His [or her] particular difficulty, as with most other obstacles, can be overcome in the majority of cases by teaching aids, some extra effort on the teacher's part, and most of all, by giving him [or her] a "chance."[1]

[1] "The Handicapped Student and the Automobile," *Traffic Safety*, January 1962, pp. 15-16.

The Challenge

The Instructor's Attitude

It is true that not everyone may become a safe driver (Section 3 of this guide, "Assessment," deals with determining readiness for driver education); but many (if not most) handicapped individuals who will be referred to the driver education program can become effective drivers. A positive attitude on the part of the instructor is one of the most crucial factors in making success possible. The instructor must be positive, open, encouraging, and confident that success is possible. The instructor must also realize that his or her own involvement can be almost as enabling or as limiting for the student's potential success as the student's own characteristics.

The instructor's attitude shows most clearly, of course, in the way he or she acts in the company of a handicapped student. The following suggestions for interaction with handicapped students are provided for those instructors who have had little or no experience with handicapped students and who would welcome some guidance in this area. Adapted from the pamphlet "When You Meet a Handicapped Person" distributed by the Easter Seal Society for Crippled Children and Adults, these suggestions focus on the physically handicapped person; however, with a little common sense one can infer from them what might be appropriate for individuals with other handicaps. It should be remembered, however, that people with handicaps are not alike and do not necessarily want to be treated alike. As with any other group of students, what is comfortable for one person is not necessarily comfortable for another. So treat these simply as suggestions for interaction and take your cues from the individual you are with.

1. Remember that the person with a handicap is a person. He or she is not like anyone else, except for the special limitations of the handicap.

2. If possible, observe your students in other classes or activities before you meet with them. Simply knowing what to expect can help reduce anxiety or awkwardness on your part. Very often, this kind of observation will demonstrate that your interaction with them will be much the same as with other students.

3. Be yourself when you meet handicapped students; talk about the same things as you would with any other student. Show friendly interest in the student as an individual just as you would with any other student.

4. Don't be overprotective or oversolicitous. Don't shower the handicapped student with extraordinary kindness. Don't offer pity or charity. Handicapped students should be treated like other students and be given a chance to prove themselves.

5. Don't be afraid to laugh with handicapped students or to enjoy your relationship with them. A nonhandicapped person who has the opportunity to share the philosophy and good humor of a handicapped person can benefit greatly from this association.

6. To the extent that you need to discuss the student's disability in order to assess its potential impact upon the driving task, do so in an objective manner. Ask only questions that are pertinent. Don't ask embarrassing questions out of curiosity. If students want to tell you more about their disabilities, they will bring up the subject.

7. Be patient. Let the handicapped person set the pace in walking, talking, getting into and out of the car, and performing other tasks. Don't be too quick to help; see what the students can do on their own. If you think the student needs help, offer assistance; find out from the student how you can be most helpful.

8. Don't separate a physically disabled student from wheelchair or crutches unnecessarily. The individual may want them within reach. (In the training car with the instructor present, these aids will have to be placed in the back seat or trunk.)

9. Don't make up your mind ahead of time about the handicapped student. You may be surprised at how wrong you are in judging the person's interests and abilities.

Sections 4, 5, and 6 of this guide provide additional and more specific information about the handicapped student population.

Education's Responsibility

The legal mandates are clear regarding the rights of the handicapped to all forms of education, including driver education, and to equal access to employment (see Section 2 of this guide, "The Law"). There is still a great need, however, for each person in the educational field to recognize and accept an individual role in providing quality education to handicapped students.

Certainly, the need of handicapped persons for driver education is tremendous. In our mobile society, personal, social, and employment access depend to a great extent on physical mobility — the ability to get there from here. The ability to drive is one of the most crucial factors in a handicapped person's being able to develop an independent lifestyle. Instructors need only imagine the impact on their own lives of total dependence on others for mobility to realize the importance of driving for handicapped individuals.

Many handicapped people, in fact, may learn to drive and obtain driver's licenses whether or not they have had the benefit of driver education. It is up to the field of driver education to help handicapped students become safe, responsible drivers by providing them an opportunity to obtain quality instruction.

Meeting the Challenge

Techniques

Because of the diversity within the handicapped population, no universal teaching strategies exist that are equally effective with all handicapped students. As with nonhandicapped students, each handicapped individual is different; the instructor must regard each student as an individual who happens to have one or more handicapping conditions that have some impact upon instructional needs.

There are, however, many techniques the instructor can employ to help individuals with handicapping conditions learn to become responsible drivers. Sections 4, 5, and 6 of this guide outline many such techniques.

A general instructional approach that has merit with any student group — and especially with handicapped students — is described below. Most instructors naturally employ these elements in some form in their teaching. Simply giving more conscious attention to them can be of great benefit to the driver education program that includes handicapped students.

Assess — Assessment refers not only to the pre-driving assessment through which a determination is made of the student's readiness for driver education; it refers also to the assessment that should occur on a continuing basis during instruction. It is especially important for handicapped students that an assessment be made of where the students are in the development of a concept or skill before instruction in that concept or skill begins. This assessment might take such a simple form as asking students whether they have tried a particular maneuver before or asking students to demonstrate what they can do with a given task. In some cases, the assessment might be more elaborate. The outcome of the assessment will tell the instructor whether some pre-instruction is needed or whether some parts of the lesson might be covered more quickly.

Plan — Based on the assessment (both pre-instruction and during-instruction assessment), planning might range from a simple step of deciding how to approach a task to a sequence of learning objectives to be undertaken on the basis of identified disabilities. Task analysis is valuable here in determining what the tasks are that constitute some portion of the learning, what tasks have already been mastered, and what tasks remain to be mastered by the student.

Implement — The next step is to put into effect the instruction that was planned. This needs little explanation except perhaps a reminder that flexibility will be quite important when working with a handicapped student. Overestimates or underestimates of the student's capacity or need for instruction in a given skill might necessitate a reassessment of the situation.

Evaluate — Evaluation of the student's progress will take place both formally and informally. For example, when teaching a task the instructor will make a judgment about the student's mastery of the task before proceeding to the next task. This is a simple form of evaluation. With regard to more formalized evaluation, there are suggestions in Sections 4, 5, and 6 for adaptations that might be made for the various groups. Students should be informed of their progress at all times.

Using This Guide

The instructor is advised to become familiar with the entire guide before attempting to use the suggested strategies with students. A basic familiarity with the handicapped student population as a whole will be helpful in working comfortably with the student who has special needs. Furthermore, because of the diversity of handicaps and because of the frequent overlaps among groups, the instructor may find that suggestions given for working with one type of handicap will work equally well with another handicap.

Finally, it should be recognized that quite often strategies that are effective with handicapped students can be equally effective with nonhandicapped students. In most cases, the instructor who has only one or a few handicapped students within a nonhandicapped class need not teach the students in different ways. Rather, the challenge usually is to find a way to adapt the instructional technique so that everyone benefits from the adaptation.

2 THE LAW

developing careful young drivers through education

Ohio Department of Education

Introduction

Recent legislative developments have provided the field of education — including driver education — with the challenge of developing more adequate educational services for handicapped learners. The extent to which this challenge is met will depend in large measure on the instructor's knowledge and skill. In order to meet this challenge adequately, the instructor should be aware of how current legislation affects driver education programs.

The purpose of this section of the guide is to develop an awareness of the legal responsibility of driver education to handicapped students. The following are brief summaries of federal and state legislation which affect the education, examination, and licensure of handicapped drivers. For additional information on procedures for obtaining a driver's license, refer to Section 7 of this guide.

Summaries of Pertinent Legislation

Topic Areas and Code Sections	Code Excerpts and Explanations
Responsibility for Driver Education ORC 3301.17	In the state of Ohio the requirements for driver education are outlined in Section 3301.17 of the Ohio Revised Code. This section places responsibility for driver education on the Ohio Department of Education: "The department of education shall expend state funds to provide driver education courses to any child enrolled in a high school for which standards are prescribed by the state board of education. The department of education shall contract for the use of public school facilities to provide driver education courses where practicable, or such courses may be provided at facilities established and operated, under the supervision of transportation coordinators, by the department of education."
Exceptions to High School Driver Education Enrollment ORC 3301.17	Section 3301.17 also identifies the circumstances under which students might receive commercial training in place of regular driver education in the high school: "A commercial driver training school licensed under Chapter 4508. of the Revised Code shall receive a subsidy for each school age child who successfully completes the training school's course and who was unable to enroll in a driver education course conducted at high schools for which the state board of education prescribes minimum standards because such a course was not offered at the high school of attendance or because the pupil could not, due to scheduling difficulties, avail himself of such a course during the semester or term of the pupil's sixteenth birthday or the immediately succeeding semester or term."
ORC 3301.17	The legislation mentions "scheduling difficulties" thus: "For purposes of this section, a pupil shall be deemed to have scheduling difficulties if he is employed or engaged in traveling to or from

Topic Areas and Code Sections	Code Excerpts and Explanations
	his employment at the time the course is offered, or the principal of the pupil's high school of attendance determines that the pupil is involved in a hardship situation, or the principal of the pupil's high school of attendance determines that the driver education course conflicts with other courses which the pupil has scheduled at his high school." Clearly, availability of driver education must extend to all students and the exceptions permitted in enrollment do not identify a certain population of students; the exceptions are based primarily on lack of available or convenient services. The conditions and procedures for the use of the funds made available for driver education are explained in the remainder of Section 3301.17.
Availability of Driver Education to Handicapped Students	Rule 3301-81-01(E) of the Standards for Driver Education Programs states that availability of driver and traffic safety education must extend to handicapped students: Public boards of education are responsible for providing a course of driver education to all resident youth, through twenty-one years of age including, but not limited to, the following: 1. Those individuals twenty-one years of age who have graduated from high schools and who could not enroll in driver education while in high school. 2. Those individuals who have dropped out of high school and could not enroll in driver education while in high school. 3. Those individuals who moved into Ohio from another state and have not completed an approved driver education course in another state. 4. Those individuals who are handicapped.
Scope of the Student Population Served	In the history of education, students enrolled in high schools have consisted mainly of the nonhandicapped. Recent legislation has changed the scope of the student population.

Topic Areas and Code Sections	Code Excerpts and Explanations
P.L. 93-516, Sec. 504	In 1978, Section 504 of Public Law 93-516, the Rehabilitation Act Amendments of 1974[2], was put into effect. This section provided the impetus necessary to equalize education programming for the handicapped person.
Prohibition Against Discrimination Toward Handicapped	Section 504 prohibits discrimination against the handicapped in any public or private program or activity which receives federal assistance in excess of $2400 annually. Examples of such assistance include direct grants, loans, and indirect support. This requirement would by nature extend to public schools.
Responsibility of Schools Toward Handicapped P.L. 93-516, Sec. 504	Section 504 requires agencies within its scope to: 1. provide opportunities, benefits, aids, or services for the handicapped equal to those provided the nonhandicapped; 2. provide aids, benefits, and services for the handicapped in the same setting as for the nonhandicapped except in cases where their effectiveness would be jeopardized by doing so; 3. provide a barrier-free environment to insure program accessibility; and 4. recruit, train, promote, and compensate the handicapped on an equal basis.
Guaranteed Free Public Education for Handicapped P.L. 94-142	Compliance with this regulation is monitored by the Office of Civil Rights and the Secretary of Health, Education, and Welfare. P.L. 94-142, the Education of All Handicapped Children Act, guarantees a free, appropriate public education for all handicapped children ages 3 to 21. Provisions of this act which have impact on driver education are: 1. assurance that a written individualized educational plan (IEP) will be developed and maintained for each student; 2. guarantee of complete due process procedures;

[2]Amendments to P.L. 93-112, the Rehabilitation Act of 1973.

Topic Areas and Code Sections	Code Excerpts and Explanations
	3. assurance that the "least restrictive educational environment" will be provided; 4. assurance of nondiscriminatory testing and evaluation; and 5. assurance of protection of the confidentiality of student records. Noncompliance with these provisions can result in the withholding of federal money for the states in question. Funds may be withheld from: • P.L. 94-142, • Title I and II Elementary and Secondary School Act, and • Vocational Education Act. The consequences of noncompliance with P.L. 94-142 apply to school systems and the state.
Ohio Guarantee of Education in Least Restrictive Environment	To comply with P.L. 94-142, the Ohio legislature enacted House Bill 455. Section 3323.04 of that act states: "The state board of education, in consultation with the department of mental health and mental retardation, shall establish procedures and standards for the placement of handicapped children in appropriate educational programs. "The state board shall require the board of education of each school district to place each handicapped child of compulsory school age residing within the district in an appropriate education program in accordance with Section 3319.01 of the Revised Code, which may include instruction in regular classes, a special education program, or any combination thereof. "The state board shall establish procedures and standards to assure that to the maximum extent appropriate, handicapped children, including children in public or private institutions

Topic Areas and Code Sections	Code Excerpts and Explanations
	or other care facilities, shall be educated with children who are not handicapped." The enactment of H.B. 455 has therefore placed the responsibility of providing services to the handicapped directly on the local education agency. P.L. 94-142 and H.B. 455 have opened the door for handicapped students to be placed in a driver education course if this is deemed the "appropriate education program."
Rights to Licensure and Special Tags ORC 4503.105 (SB 162)	Senate Bill 162 added Sections 4503.105 and 4511.69 to the Ohio Revised Code, in which further description is provided regarding special concerns and regulations for the handicapped driver, including licensure, special tags, and parking: "Any person who has lost the use of one or both legs, or one or both arms, who is blind or deaf or who is so sevetely disabled as to be unable to move about without the aid of crutches or a wheelchair may apply to the registrar of motor vehicles for the registration of any motor vehicle he owns. When a motor vehicle has been altered for the purpose of providing it with special equipment for such a disabled person, but is owned by someone other than the disabled person, the owner may apply to the registrar of motor vehicles for registration under this section. The application for registration shall be accompanied by such documentary evidence of disability or vehicle alterations as the registrar may require by rule. "Upon receipt of an application for registration of a motor vehicle under this section, and presentation of satisfactory evidence of disability, or vehicle alterations, the registrar shall issue to the applicant appropriate vehicle registration including a set of license plates which shall, in addition to the letters and numbers ordinarily inscribed thereon, be imprinted with the international wheelchair symbol. The license plates shall be issued upon payment of the regular taxes, charges, and fees under section 4503.04 and 4503.10 of the Revised Code and without

Topic Areas and Code Sections	Code Excerpts and Explanations
	the payment of a fee for issuance under this section. "No person who is not handicapped or who does not own a vehicle specially equipped or altered for a person with a disability as described in this section shall willfully and falsely represent that he is handicapped or that he owns such a vehicle, for the purpose of obtaining a license under this section. "No person shall own a vehicle bearing a license plate issued under this section unless he is eligible to be issued such a license plate."
Right to Special Parking ORC 4511.69 (S.B. 162)	"Special parking locations and privileges for the handicapped shall be provided and designated by all political subdivisions and by the state and all agencies and instrumentalities thereof at all offices and facilities, where parking is provided, whether owned, rented, or leased, and at all publicly owned parking garages. Such locations shall be reasonably close to exits, entrances, elevators, and ramps. . . . "When a motor vehicle bearing the special handicapped license plate provided in Section 4503.105 of the Revised Code is being operated by or for the transport of a handicapped person, the motor vehicle shall be permitted to park for a period of two hours in excess of the legal parking period permitted by local authorities, except where local ordinances or police regulations provide otherwise or where the vehicle is parked in such a manner as to be clearly a traffic hazard."
Eligibility for Licensing	Section 4507.08 of the Ohio Revised Code sets out the following restrictions on eligibility of handicapped persons for a driver's license:

Topic Areas and Code Sections	Code Excerpts and Explanations
ORC 4507.08	"(B) Any applicant who has been adjudged insane or feeble-minded, or an idiot or imbecile, and who has not at the time of such application been declared restored to competency by judicial decree. "(C) Any person when in the opinion of the registrar such person is afflicted with or suffering from such physical or mental disability or disease that prevents him from exercising reasonable and ordinary control over a motor vehicle while operating the same upon the highways, provided that: "(1) A restricted license effective for six months may be issued to any person otherwise qualified who is or has been subject to any condition resulting in episodic impairment of consciousness or loss of muscular control and whose condition, in the opinion of the registrar, is dormant or is sufficiently under medical control that he is capable of exercising reasonable and ordinary control over a motor vehicle. A restricted license, effective for six months, shall be issued to any person who is otherwise qualified who is subject to any condition which causes episodic impairment of consciousness or a loss of muscular control if such person presents a statement from a licensed physician that his condition is under effective medical control and the period of time for which such control has been continuously maintained, unless, thereafter, a medical examination is ordered and, pursuant thereto, cause for denial is found. If cause for denial because of such condition is found and the period during which such condition was stated by a physician to have been under effective medical control was at least one year, the applicant has the right to a hearing before a review board constituted pursuant to division (C) (2) of this section and shall be notified thereof in accordance with the provisions of this section 119.07 of the Revised Code."

Topic Areas and Code Sections	Code Excerpts and Explanations
Restrictions on the License ORC 4507.14	Section 4507.14 of the Ohio Revised Code delineates the restrictions which may be imposed on an issued license, as necessitated by the applicant's disability: "The registrar of motor vehicles upon issuing an operator's or chauffeur's license, a motorcycle operator's endorsement, an operator's or chauffeur's license renewal, or the renewal of any other license issued under Chapter 4507 the Revised Code may, whenever good cause appears, impose restrictions suitable to the licensee's driving ability with respect to the type of or special mechanical control devices required on a motor vehicle which the licensee may operate, or such other restrictions applicable to the licensee as the registrar determines to be necessary. "When issuing licenses to a deaf person or to persons with impaired hearing, the registrar shall require that motor vehicles operated by such persons be equipped with two rear vision mirrors, one outside and one inside such motor vehicles. "The registrar may either issue a special restricted license or may set forth such restrictions upon the usual license form. "The registrar, upon receiving satisfactory evidence of any violation of the restrictions of such license, may suspend or revoke the same."
Suspension of License Due to Judgment of Mental Illness	Section 4507.161 provides that while a person is judged by the court to be mentally ill, that person's license will be suspended:

Topic Areas and Code Sections	Code Excerpts and Explanations
ORC 4507.161	"When any person having an operator's or chauffeur's license is adjudicated incompetent for the purpose of holding the license, as provided in section 5122.301 of the Revised Code, the probate judge shall order the license of such person delivered to the court. The court shall forward such license with notice of such adjudication to the registrar of motor vehicles. The registrar of motor vehicles shall suspend such license until receipt of written notice by the head of the hospital, or other agency which has or had custody of such person, that such person's mental illness is not an impairment to such person's ability to operate a motor vehicle, or upon receipt of notice from the adjudicating court that such person has been restored to competency by court decree."

3 ASSESSMENT

Introduction

Given the importance of mobility in our society, all handicapped individuals with the potential and desire to learn to drive should be given the opportunity to learn. Therefore, all handicapped students who wish to learn to drive should be enrolled in the classroom portion of driver education, and the pre-driving assessment process (prior to the behind-the-wheel phase of instruction) should be conducted in a way that ensures that no persons are unnecessarily excluded.

The following cautions cannot be stressed too strongly with regard to pre-driving assessment:

1. The pre-driving assessment should never be aimed at screening out. The intent is not to avoid accepting students whose needs demand more of the instructor's time; rather, it should be an assessment of the students' strengths, weaknesses, and instructional needs and of any special instructional strategies or devices the instructor will need to employ. Thorough assessment will enable the instructor to conduct suitable lesson planning, grouping of students, and pre-post evaluation.

2. In the average public school setting, the outcome of pre-driving assessment should be that fewer students will be rejected permanently than accepted. If the opposite is true, the instructor should reexamine his or her approach to reveal any attitudes which might be producing a negative outlook on students' potential.

3. The instructor should avoid making hasty prejudgments. Judging a student's driving potential on the basis of the nature of the disability is unfair to the student. Such prejudgments are often proven wrong. Take the time and make the effort to give a full, complete, and objective assessment.

4. Some students will be on the borderline: a decision about their driving potential might be difficult to make. In these cases, the first several lessons may be considered part of the assessment until a determination can be made. Behind-the-wheel instruction/assessment should be continued as long as the student profits from it. Some agencies that teach driving to handicapped individuals have a policy that as long as any progress is made by the student, instruction is continued. When the student reaches a plateau and can't rise above it, only then is he or she counseled to forego or postpone further education. The individual instructor and school will have to decide to what extent such a policy is feasible, given local staffing and scheduling.

5. The student should understand that having been admitted to the program does not necessarily mean that he or she will complete the course or obtain a license. The instructor reserves the right to discontinue or postpone further education at any time that insurmountable problems occur or progress ceases.

Overview of the Pre-Driving Assessment

At present, there seems to be no reliable medically based pre-driving assessment device for use in screening.[3] Therefore, this guide recommends that, in addition to any medical information available, the first several behind-the-wheel (BTW) sessions, conducted in a traffic-free area, be used for assessment. The number of sessions that are necessary will vary from one student to the next.

Exclusions

Very few students would be excluded from such an assessment — and for most of these, their exclusion would be determined by their ineligibility for a learner's permit (see Section 7 of this guide for Ohio driver's license examination procedures). Only these factors should be cause for exclusion from assessment:

- inadequate vision (less than 20/40, corrected, in more than one eye) to obtain a learner's permit,
- a physician's refusal to give the necessary permission for a student to participate in driver education,
- an uncontrolled physical condition which can result in sudden loss of consciousness (see discussion below under "When to Conduct the Assessment"), and
- the instructor's professional opinion that behind-the-wheel instruction jeopardizes the student's or the instructor's safety.

For all other students, assessment should consist of the medical and behind-the-wheel components described below. Sample forms for recording assessment information are provided at the end of this section.

When to Conduct the Assessment

The assessment should be conducted as early in the driver education course as possible, or before it. Obtaining the learner's permit can easily take several weeks or more, so the assessment should be completed early enough so that the permit can be obtained before behind-the-wheel instruction is scheduled to begin.

If the student has a condition which can result in a sudden loss of consciousness, it is necessary to have written approval from the student's physician stating that the condition is under effective medical control. Other conditions may require an individual decision by the Bureau of Motor Vehicles (BMV) as to whether the disability prevents the applicant from operating a vehicle in a reasonably safe manner. Section 2 of this guide explains in greater detail the various laws and regulations which pertain here. Section 7 outlines the procedures for obtaining a learner's permit and a driver's license.

[3]This position is discussed in *Driving for the Physically Handicapped*. Department of Occupational Therapy, Rancho Los Amigos Hospital, pp 37-38 (That document also contributed in a major way to the rest of this section.) However, the Kessler Institute for Rehabilitation has a battery of tests available which they feel can determine an individual's potential to become a safe and competent driver. Designed to be administered by a qualified physical or occupational therapist, these tests can be obtained from the Kessler Institute for Rehabilitation, Pleasant Valley Way, West Orange, New Jersey 07052. Additionally, "Driver Analysis Form Based on AAA Psychophysical Test Scores" is available from the AAA Traffic Engineering and Safety Department.

Medical Assessment

Sources of Information

Medical information will come primarily from three sources: health field specialists, the student, and the instructor's observation. Other possible sources are also listed below.

Specialists. In some cases, medical information will be available in the student's records. This might include physicians' statements, reports from therapy programs, information on learning disabilities, or other information. Some students will obtain physicians' statements as part of the application process for the learner's permit.

The instructor should try to obtain as much of this type of information as possible. In complex cases, a conference with a specialist to learn about the ramifications of a disability would be helpful.

The student. Many students with visual, hearing, or physical handicaps will be good sources of information about themselves. (Some students with mild mental handicaps might also be good sources.).

Often, students can tell you the name and nature of their disability, what they can do, and what they have had problems with. (Beware of extremes; however, frustrated, discouraged students may underestimate their potential; students who have not accepted a disability may overestimate their potential or assure you that the disability is gradually disappearing.)

The instructor. The instructor's observations, in combination with the information contained in Sections 4, 5, and 6 of this guide and the booklet which accompanies Section 6, should enable the instructor to formulate a general idea as to the nature of the student's disability and the kinds of compensating techniques and devices which might be needed. It is often helpful to observe the student in other classes and settings to get a better impression of the student's capacities, deportment, and maturity level.

Others. Other individuals can also be helpful:

- parents
- special education teachers
- speech and hearing therapists
- school nurses
- counselors
- school psychologists
- teachers in physical education and in other subject areas where psychomotor skills can be observed

Types of Information

The medical assessment should provide the information discussed below (as appropriate). For some students, not all these types of information will apply (for example, for a student with no physical complications, items 4, 5, and 7 might not apply).

1. Diagnosis. The diagnosis (provided by specialists) will identify the disability and, in some cases, describe its effects. After reading the appropriate section of this guide in which the diagnosed disability is discussed, the instructor should be able to understand generally the mental, sensorial, or physical aspects of the condition and whether the condition is progressive.

2. Seizures, loss of consciousness, and medication. It is important to find out whether these factors are a part of the student's condition because they may require special procedures or, in some cases, exclusion from behind-the-wheel instruction. These factors were discussed above, under "Exclusions." Section 6 describes disabilities which might be accompanied by these factors. Sections 2 and 7 describe the laws and the driver license examination procedures relating to these factors.

3. Date of onset of disability. Whether the disability is congenital or acquired after birth and, if acquired, how recently the disability occurred can be very valuable information. Date of onset may have impact not only on the extent of disability but also on the social and emotional maturity of the student, which is an important aspect of assessment. This is discussed in more detail in Section 5.

4. Endurance. Endurance is often measured in how many hours per day the student spends out of bed. Knowing the student's level of endurance and whether it is likely to improve or decline is of importance especially when conducting the behind-the-wheel phase of instruction. This is discussed in more detail in Section 6.

5. Student's functioning ability in upper and lower extremities. This data plus the information contained in Section 6 should enable the instructor to make tentative arrangements for adaptive controls and devices.

6. Cognitive abilities. This information should include any perceptual, judgmental, or learning problems the student might have. The behind-the-wheel evaluation will help the instructor to understand more easily the nature and impact of these conditions on the driving task. This is discussed further in Sections 4 and 6.

7. Transfer. The student's present and potential ability to get into and out of a car independently and to become positioned properly behind the steering wheel will influence the scheduling of in-car instruction, the time spent on learning and practicing transfer skills, and the necessity of transfer assist devices. Transfer is discussed further under "In-Car Orientation" and in Section 6.

The instructor cannot know too much about the student. It is suggested that some time be spent studying all available data before conducting other parts of the assessment and making any judgments regarding driving potential.

Behind-the-Wheel Assessment

There are three components of behind-the-wheel assessment, which are discussed below: initial interview, in-car orientation, and behind-the-wheel evaluation. Each of these components can require one or more sessions with the student, depending on the disability.

Initial Interview

This interview takes place in the classroom or office setting. The purposes of the initial interview are:

1. to establish rapport with the student,
2. to gather any information not already obtained,
3. to gain some insight into the social and emotional maturity and general attitude of the student, and
4. to make some preliminary estimations of assist devices and controls that might be needed.

If this interview takes place at the very beginning of the course or before it begins, it will naturally require longer to accomplish these objectives than if the instructor and student have established a relationship during the classroom phase. If rapport and understanding of the disability have been established before the interview, the interview itself may be quite brief and lead directly into the in-car orientation.

The following are guidelines for conducting the initial interview:

1. Review the medical assessment before the interview. Using the sample information forms provided at the end of this section, complete as much of the information on the forms before the interview as possible and supplement it during the interview.
2. If you expect the interview to lead right into the in-car orientation the same day, prepare a car with any driving aids judged to be necessary on the basis of the medical assessment before the interview. As the BTW assessment proceeds, the full equipment needs will become more evident.
3. Be supportive and tactful, as the student might be excessively anxious.
4. Do not, at this point, prejudge the student's potential for driving.

In-car Orientation

In-car orientation usually takes place in a parking lot, with the car stationary. The purposes of in-car orientation are:

1. to enable the student to become somewhat familiar with the basic controls and adaptive devices in the car,

2. to enable the instructor to gain further insight into the student's potential to drive, and

3. to enable the instructor and student to make further judgments about the need for adaptive controls (needs might be greater, less, or different from those originally estimated).

Use of in-car orientation should be flexible, tailored to the needs of the student. It might take one or more sessions to complete and might require time for readapting the car to meet individual needs. Or, it might take very little time (especially when there are no adaptive controls) and lead right into the behind-the-wheel evaluation.

The following are general guidelines for this phase of the behind-the-wheel assessment:

1. Let the student attempt to enter the car unassisted. This will give the instructor a better idea of the amount of time necessary for entry and exit when scheduling behind-the-wheel instruction and will indicate whether transfer training or assist devices are required.

2. Be patient. Assist the students physically only when they are clearly unable to enter after a concerted attempt.

3. Most drivers with wheelchairs will enter the car one of two ways: (a) enter on the passenger side, pull the chair in after transferring, and fasten it on the passenger side of the front seat or (b) enter on the driver side and pull the chair into the back seat directly behind the driver. The student need not attempt to put the chair in at this point in the assessment; the instructor should stow the chair in the back seat or trunk for the student. The ability to pull in and secure the chair should, however, be assessed — and, if necessary, taught — at some time during instruction.

4. Explain and demonstrate each control and device. Do not rush this part of the orientation. Some students might require that one device at a time be explained, demonstrated, tried, and practiced repeatedly before another is introduced. Others will profit more from a general overview of all controls before trying each one and practicing its use.

5. Observe carefully the student's manipulation of each control in order to assess the appropriateness of the control for the individual.

6. If necessary, change, remove, or add controls during orientation to suit the student's abilities and needs.

Behind-the-Wheel Evaluation

If there are any doubts as to the student's potential to drive, a BTW evaluation should be conducted in a traffic-free area such as a range or parking lot. The purpose of the BTW evaluation is to complete the assessment of the student's potential for learning to drive. It is important to remember that, in many cases, it will take more than just one or two sessions to accomplish this evaluation. There may be no clear difference between BTW evaluation sessions and BTW instructional sessions because for some students the only way to assess driving potential is to give them the opportunity to try.

However, for most students after five or six sessions it should be fairly clear to the instructor and the student whether it is appropriate to continue. (In the case of students with cerebral palsy, as many as ten or fifteen sessions might be required.) For those who do continue, the evaluation is actually the beginning of the BTW portion of the course. Those who do not possess adequate potential will eventually have to discontinue the BTW portion of the course either permanently or until a later time. Students who continue should understand that acceptance in the course does not guarantee that they will finish the course or get a license. Instruction may be discontinued at any time the instructor deems it necessary.

During the BTW evaluation, the instructor should assess potential in the following skill areas, which are discussed below:

1. transfer,
2. acceleration and braking,
3. right and left turns, and
4. serpentine or figure eight.

Transfer. In the case of a student with a physical handicap, assess the student's ability to get in and out of the car. Section 6 describes some transfer assist devices that can be used. If the student with lower extremity disabilities has not already had transfer training from a physical therapist, it might be appropriate to refer the student to such a program. The student must realize that if the ability to transfer without assistance is not developed at some point, some rather costly equipment might have to be acquired for the personal car.

NOTE: Ohio law does not require that driver's license applicants be capable of independent transfer; however, unassisted transfer greatly enhances the driver's independence and safety in case of emergency, and is therefore highly desirable.

Accelerating and braking. Assess the student's ability to accelerate and brake while moving in a straight line. This should be done both for students using regular accelerator and brake mechanisms and for those using hand controls. For some students it might be necessary at first for the instructor to steer while the student concentrates on acceleration and braking. Then, if the student is successful with this phase, have the student steer in a straight line while accelerating and braking. This assessment can be used to observe:

1. strength and reach of legs and flexion (range of motion) of hips if using regular controls,
2. strength, reach, and range of motion of arm and flexion of wrist if using hand controls,
3. ability to accelerate and brake with one arm and steer with the other if using hand controls, and
4. reaction time.

Right and left turns. A simple rectangular course can be used to assess the student's ability to turn left and right by driving the course in both directions. Use this assessment to judge:

1. range of motion and strength of arm and shoulders (if steering with one or both arms),
2. ability to use adaptive steering devices, such as knob, ring, post, or quad grip,
3. leg and hip flexion if using foot steering, and
4. ability to coordinate accelerating and braking with turning.

Serpentine or figure eight. Use one of these configurations to assess:

1. turning ability,
2. range of motion, reach, and strength of arm and shoulders, and
3. endurance.

Other. When there is question about the functional use of some part of the body, conduct specific assessments to evaluate abilities in this area. For example, if range of motion of the neck or shoulders is in question, ask the student to back up using rear and side view mirrors and looking over the shoulder. This might point out a need for supplemental mirrors.

Outcomes

Remember that you are assessing the student's potential to learn to drive, not the ability to drive. Gaining the ability to drive is, of course, a major goal of the student's participation in driver education.

The outcomes of the combined medical and behind-the-wheel assessments will vary greatly with each student — not only in terms of the decisions they lead to, but in terms of the relative certainty with which you are able to make the decisions and the time it takes to be able to make these decisions. In each case, all available information will have to be weighed together. Do not ignore such subjective (but important) influences as student interest, motivation, and maturity.

The following are a few general statements that can be made about assessment outcomes:

1. For many students the basic maneuvers will present no serious problems. These students should be encouraged to continue in the course.
2. Severe physical limitations may prevent some students from adequately controlling the car. If, after extensive experimentation with different kinds of adaptive devices, the student is unable to control the car, the student should be counseled to discontinue driver education. However, in some cases in which the onset of disability has

been fairly recent, the student might have some prospect of improvement. Additionally, the student might be encouraged to investigate the possibilities of more complex custom-designed equipment, such as a van.

3. If the student's level of endurance is such that he or she can drive for only five or ten minutes at a time, it is probable that this student is too weak to benefit from the BTW portion of driver education.

4. Some students with cognitive handicaps will exhibit difficulty in coordination perception, judgment, and/or planning. Perhaps they will misjudge the amount of available space or be unaware of the precise position of the car relative to other objects around them. In some cases, these students will progress with time. If not, these students probably do not possess adequate potential to drive and should be counseled to this effect. A decision in such a case may require many sessions, continuing until the student shows no progress at all.

5. Some students with learning disabilities, mild mental handicaps, or brain damage can be very difficult to assess. Many times they will show very little potential for driving; however, time and the student's motivation are often the deciding factors.

Student Biographical Data

Sample Form

Student

Name _____

Soc. Sec. No. _____

Date of Birth_____ Age_____

Sex____Height_____Weight_____

Parent or Guardian

Name _____

Home address _____

_____

Phone_____ Emerg. Phone_____

Physician or Other Specialists

1. Name _____

Address_____

_____

Phone _____

2. Name _____

Address_____

_____

Phone_____

Nature of Disability_____

_____

_____

_____

_____

_____

Onset of Disability: Congenital_____

Acquired (date)_____

History of . . .	Extent of Control
Seizures? ___	_____
Loss of Consciousness? ___	_____

Current Medications	Possible Effects on Driving
_____	_____
_____	_____
_____	_____

Endurance Limitations

Visual Limitations

Physical Limitations

Hearing Limitations

Cognitive Limitations

Maturity Limitations
(attitude, observed behaviors, etc.)

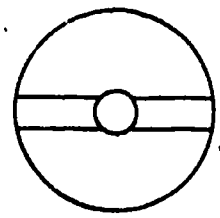
Additional Comments

Interviewer's Signature _____ Date _____

Equipment Adaptation Recommendations Sample Form

Student's Name_____ Date_____ Class Schedule_____

Controls and Devices	Notes
1. Brake and Accelerator	
☐ hand brake and accelerator	
☐ right hand	
☐ left hand	
☐ left foot accelerator	
☐ parking brake	
☐ all hand-operated	
☐ all foot-operated	
☐ extension	
2. Steering Controls	
☐ spinner knob	
☐ "V"	
☐ quad grip (tri-post or cuff)	
☐ amputee ring	



(Mark location on wheel.)

☐ extension of steering column	
☐ small diameter wheel	
☐ foot plate steering	

Controls and Devices	Notes

3. Transfer Devices

- ☐ self-assist handle
- ☐ self-assist strap
- ☐ transfer board

4. Dash Board Controls

- ☐ left hand
- ☐ right hand
- ☐ forward extensions
- ☐ rings

5. Other Devices

- ☐ turn signal
  - ☐ right hand extension
  - ☐ forward extension
  - ☐ floor mounted
- ☐ gear shift
  - ☐ left hand extension
  - ☐ forward extension
  - ☐ floor mounted
- ☐ dimmer switch, hand-operated
- ☐ horn
  - ☐ hand button
  - ☐ floor mounted
- ☐ ignition
  - ☐ key holder
  - ☐ extension

- ☐ safety belts
  - ☐ regular
  - ☐ chest type

- ☐ cushions
  - ☐ additional arm rests
  - ☐ bottom
  - ☐ back
  - ☐ contoured

- ☐ mirrors
  - ☐ side view
  - ☐ convex rear view
  - ☐ multiview interior rear view

6. Additional Adaptations

Interviewer's Signature_____ Date_____

Behind-the-Wheel Assessment Summary Sheet Sample Form

Student's Name_____ Date _____ Class Schedule _____

Adaptive Controls, Devices

Devices required:

Remarks (ability to operate, modifications needed, etc.):

Transfer

Devices required:

Remarks (ability to transfer, time required, education needed, etc.):

Communication

Problems:

Instructional strategies (sign language, simple conceptual constructs, vocabulary development, etc.):

Maneuvers

		Remarks (need for special instruction, additional car modifications, etc.):
acceleration	☐	
steering	☐	
acceleration and steering	☐	
braking	☐	
braking and steering	☐	
right turn	☐	
left turn	☐	
serpentine / figure 8	☐	
other _____	☐	

4 MILD MENTAL HANDICAPS

Introduction

The greatest proportion of handicapped students the driver education instructor will encounter are those with nonphysical handicaps. According to figures projected by the Bureau of Education for the Handicapped, the incidence of educable mental retardation among children ages 6 to 18 is 2%, as compared with .50% orthopedic, .575% hearing impaired, and .10% visually impaired.[4] More and more of these students are receiving at least some portion of their education in the regular classroom (see Section 2 of this guide, "The Law"). Clearly, the instructor needs to be prepared to work with students who have mild mental handicaps who, sooner or later, might take part in driver education classes.

Many people who have had little firsthand experience with mentally handicapped people are uncomfortable with the idea of mentally handicapped individuals driving automobiles. This attitude is generally based on lack of exposure to the population and on false assumptions. For example, it may be assumed that mentally handicapped people cannot become competent and safe drivers. It is also assumed that if mentally handicapped individuals are not provided driver education, they will not drive (and, therefore, they will not enter into the problem of traffic safety). Neither of these assumptions is true.

Recent research, in which driving records were examined, has shown that the mentally handicapped drivers as a group are not significantly different from nonhandicapped drivers of average intelligence. In fact, the handicapped drivers had better driving records than persons of above average intelligence. Furthermore, it has been shown that persons who have mental handicaps are indeed purchasing and operating automobiles on the highways, with or without the benefit of driver education. Mentally handicapped youth actually spend more time in their automobiles than others in the same age group, indicating, perhaps, that the automobile is an important element of their social lives.[5]

Therefore, it is vital that those with mild mental handicaps be given the same opportunity to learn safe driving skills in the public schools that nonhandicapped students receive and that this education be designed so that the students have a chance to succeed.

To meet the objectives of driver education for the mild mentally handicapped population, an interdisciplinary approach utilizing the talents and expertise of driver education and special education teachers has promise of giving the student the best opportunity to be successful in learning to drive. The Michigan Department of Education, in a guide designed to be used in conjunction with a driver education curriculum guide, points out the understandings that teachers in each of these specialties need to develop in order to participate effectively in this type of interdisciplinary approach:

The special education teacher needs to develop a greater understanding of:

1. objectives of driver education,

2. sequence of the objectives of driver education,

[4]Figures used by the Bureau of Education for the Handicapped in public hearings on P. L. 94-142.

[5]*Driver Education for the Handicapped: A Resource Curriculum in Driver Education Teacher Preparation*, James E. Aaron and David G Kraemer p 10

3. content of driver education,

4. scheduling difficulties in driver education,

5. evaluation in driver education and of the driver, and

6. appropriate instructional materials and time for providing supportive instruction.

The driver education teacher needs to develop a greater understanding of:

1. learning problems of the mentally handicapped,

2. methods for presenting instructional materials,

3. techniques for structuring learning experiences, and

4. means of evaluating driver education for mentally handicapped students.[6]

Interdisciplinary approaches are discussed further under "Scheduling Approaches" in this section. Whether or not the driver education instructor is in a school situation where an interdisciplinary approach can be effectively carried out, the driver education instructor who will be working with mentally handicapped students needs understanding of the concepts listed above. It is the purpose of this section of the guide to help the instructor begin to develop these types of understanding. Toward this end, the following topics are discussed in this section:

1. characteristics of mild mentally handicapped learners (and what to do about them)

2. additional classroom strategies, and

3. scheduling approaches (including advantages and disadvantages of each).

These discussions are not seen as being complete studies of any of the topics. Nor can they take the place of frequent consultation with, or participation of, a special education teacher. Rather, they are intended to provide some basic awareness and practical ideas for working with mild mentally handicapped learners.[7]

CAUTION: It cannot be stressed strongly enough that the instructor, in using this material, must keep in mind that MMH students are not alike, any more than nonhandicapped students are alike. Generalizations about MMH students should be avoided; prejudging what the student will be able to accomplish is both foolish and extremely detrimental to the student. MMH students are continually proving such preconceptions wrong. Furthermore, negative prejudgments on the part of a teacher can cause learning barriers which will make it difficult or impossible for the student to succeed.

[6] *Driver Education Programming for the Mentally Handicapped*, p. 2.

[7] Although this section of the guide deals specifically with mild mentally handicapped learners and is not intended to cover other non-physical disabilities (such as learning disabilities, behavioral disorders, and remedial and clinical reading problems), some of the suggested strategies might nonetheless be useful in working with students who have these disabilities. For brevity, mild mentally handicapped learners are referred to as MMH learners throughout the remainder of this section.

Characteristics of MMH Learners and What to Do

Some characteristics which might be observed of mentally handicapped individuals are listed on the following pages, with suggestions for dealing with them.* Again, it must be noted that it is dangerous to generalize about this group of people and that these characteristics are simply those the instructor should be ready to recognize, should they appear in individual students.

*For additional discussion of these characteristics, see Aaron and Kraemer, *Driver Education for the Handicapped*, pp. 44-49.

Characteristics Sometimes Found	Suggestions for Instruction
1. "Failure" Patterns Generally, one of the major difficulties in teaching the mentally handicapped to drive stems from their poor ability to understand their limitations. This may in turn cause them to have unrealistic expectations of themselves. They then attempt things beyond their present capability, expecting to succeed at the same rate or to the same degree as their nonhandicapped peers. Failure to perform up to their expectations causes them to feel inadequate. By the time the MMH student has reached adolescence, situations that produce feelings of inadequacy have occurred in such abundance that the student has built up some pattern of response to them. One such response is easily triggered frustration. A seemingly minor incident will create a frustration level out of proportion to the situation. Frustration may be demonstrated through anger — at the instructor, at him- or herself, or at the task. The student may cry over such an incident. Another response is to become extremely dependent on others. The student may depend on being led through each step, on being reinforced for each small achievement, and on being encouraged to keep trying. One student's response may be to give up easily, refusing to try again if unsuccessful the first time. Another student may refuse to try a new skill at all, avoiding the failure which he or she expects to be the outcome of such an attempt.	In dealing with failure patterns, manipulate the learning experience to minimize those frustrating situations which have no obvious benefit. Examples: • If the student is about to try a task for which he or she is likely to fail, break the task down into more steps and redirect the student to an intermediate task which is challenging but at which the student has a better chance of succeeding. • If posing a general question to the class for which a number of answers might apply, avoid calling on the MMH student first. Allowing the student to "get the drift" of the question by listening to other answers can help avoid a frustrating situation. • If the MMH student is with other students in the laboratory car, have the other students try a maneuver first, so the MMH student has an opportunity to hear the instructions and see the maneuver several times before attempting it. • Conduct preliminary practices (talk through the maneuver while the student practices at a desk in class) to help prepare the student for in-car instruction. Patience on the part of the instructor will be helpful both in avoiding acute frustration and in dealing with a frustrating or emotional situation when it occurs.

Characteristics Sometimes Found	Suggestions for Instruction
Some students may emanate a false bravado to camouflage feelings of inadequacy.	
2. Self-Devaluation Another characteristic deriving from the MMH student's inability to cope with personal limitations is self-devaluation. The fact that we live in a world which stresses competition and adequacy, coupled with frequent misjudgment of personal abilities and limitations by the handicapped student, causes the MMH student to lose in competitive situations frequently and to develop low self-esteem. Again, this pattern can lead the student to expect and fear failure, refuse to try, give up easily, and react in anger to challenges.	Structure the learning experience to emphasize the student's individual adequacy rather than competitive limitations. Examples: • Break learning objectives down into subobjectives to be mastered incrementally. Not only will the student have a better chance of succeeding on subobjectives, but each mastered subobjective will contribute to the student's ability to master the terminal objective. • Overly reinforce the student's successes. A compliment or acknowledgment of a task well done will help to balance the student's own self-devaluing focus on failures. • Avoid classroom gaming strategies that require quickness of response. Similarly, avoid open comparisons of performance among students. When failure does occur, use it in a way that makes it a positive learning experience and a bridge to future successes. In so doing, the instructor can help the student in shaping a self-concept more nearly consistent with reality. Example: • When the student activates the turn signal at the last minute before turning, the instructor might say something like, "I'm really pleased that you used the signal before you turned. Next time, try to turn it on earlier, so cars behind you will have plenty of warning before you slow down."

Characteristics Sometimes Found	Suggestions for Instruction
3. Sensitivity to Surroundings The MMH student is usually quite sensitive to the attitudes of others. Often, the student knows whether the instructor and other students are accepting and friendly or just tolerant. Acceptance of the student is extremely important if the student is going to maintain dignity and achieve as high a level of self-actualization as possible.	Use eye contact, smiles, a pleasant voice, and positive "body language" to relay a message of acceptance. Talk in your natural voice, without sing-song tones. Speak simply but never talk down to the student. Set an example for the other students by stressing the positive and treating the MMH student with dignity.

4. Slow Response to Sensory Stimuli
 	
Responding slowly to visual and auditory cues (for example, applying the brakes when a hazard is seen ahead) can be a problem for the MMH student driver. However, research has shown that MMH students not only can improve psychomotor skills, but have high retention for what they learn.
	Employ clear and patient explanation, demonstration, repetition, and plenty of practice to help the student build psychomotor skills.
	
	Avoid lengthy verbal explanations; the student tends to "get lost" in the language. When possible, use modeling — carefully structured step-by-step demonstration with the student imitating. Example:
	
	• To teach release of a right-hand parking brake, the instructor might demonstrate these steps, first as a whole operation, then one at a time with the student repeating each step:
	  • reach to parking brake with right hand
	  • put thumb on release button
	  • grasp handle with rest of hand
	  • press button in (with slight upward pull on handle) and feel for the release of the brake
	  • holding in button, push handle down as far as it will go
	  • let go of button and handle

Characteristics Sometimes Found	Suggestions for Instruction
	Place a great deal of emphasis on continual scanning and other defensive driving techniques. These are especially important for MMH drivers, to give them as much response time as possible.
5. Short Memory and Attention Span The MMH student may exhibit poor retention of learning and a short attention span. This is especially likely if: • too much material is given at one time • too little time is allowed for learning the material • too little practice is provided at the incremental stages • the material is very abstract It is important that the instructor keep this in mind while planning for the instruction and providing for supplementary learning materials.	Material that is carefully paced, exciting, and meaningful to the student will be retained longer than that which is overloaded with information or dull or which has little or no relevance. If the student comprehends the material and finds it interesting, this will often work to increase the student's attention span. Minimize the effects of poor retention and short attention span by developing or selecting classroom materials and teaching strategies according to these few important criteria: • Present concepts one at a time, in a step-by-step logical progression. • Provide time and practice at each step, before moving to the next concept. • Use active, participatory classroom strategies whenever possible. • Make explanations as concrete as possible, using direct language, real objects, demonstrations, pictures, simple visuals, and multimedia presentations. • Vary activities and materials from one lesson to the next. • Give examples that relate to adolescent interests and experiences. • Where written material is used, be sure the reading level is comprehensible, the text attractively displayed and illustrated, and the emotional appeal appropriate to the age level.

Characteristics Sometimes Found	Suggestions for Instruction
	Reduce distractors in the classroom. Examples: • Reduce visual distractors such as "busy" decoration or displays, too many bright colors, or unnecessary motion. • Reduce auditory distractors, such as unnecessary commotion, simultaneous small group activity or discussions, or outside noise coming in through open windows or doors. Have special education teachers or counselors provide supplemental instruction. This should be done in short sessions, reinforcing what was learned in class. When giving driving instructions in the laboratory car, give one direction at a time. Examples: • Say, "There at the next corner, turn right," rather than, "Turn right at the next corner, go a block, turn left at the stop sign, and pull over at the school." • For simplicity and brevity, use key words for frequently used concepts (for example, "corner," "light," or "right turn").
6. Difficulty in Dealing with Abstractions Usually, the MMH student has difficulty dealing with abstractions and generalities. For example, principles of motion might be more difficult to understand than the fact that pressure on the accelerator makes the car move.	Keep concepts as concrete and functional as possible. Put definitions of objects in terms of what the objects do. Example: • The accelerator can be described in terms of causing the car to move, rather than its relationship to various parts of the engine and fuel system. Relate abstract concepts to practical applications with which the student might be familiar or in which the student is likely to become interested.

Characteristics Sometimes Found	Suggestions for Instruction
	Try to organize content so that each activity or topic calls upon both conceptual and psychomotor skills. This helps maintain the student's interest (and therefore stimulates learning) and does not overload the student at any one time with conceptual demands.
7. Poor Transfer of Learning Many MMH students exhibit a deficiency in seeing commonalities among similar situations separated in time and space. The driving task, however, demands that the student recognize situations as being similar and therefore requiring similar responses. The instructor cannot count on the student's ability to transfer learning from one situation to another without explicit direction. Similar situations will often be perceived by the student as new and different.	Organize lessons and learning experiences by topic area to reinforce the relationships within the area. It is very helpful to actually teach categorical concepts. This can be done by presenting (on picture or film) two very similar situations and leading the student to recognize the similarities between them. (See example A, below.) As the student successfully recognizes the similarities, situations can be presented whose similarities are a little less obvious, until the student can draw comparisons among common driving situations. (See examples B through D.) Sample sequence of situations: Ex. A: Picture 1 - A green car hits a red car from behind at a stop light. Picture 2 - Another green car hits another red car from behind at a stop light. Ex. B: Picture 1 - A green car hits a red car from behind at a stop light. Picture 2 - A blue car hits a red car from behind at a stop light. Ex. C: Picture 1 - A yellow car hits a black car from behind at a stop light. Picture 2 - A white car hits a gray car from behind at a stop light.

Characteristics Sometimes Found	Suggestions for Instruction
	Ex. D: Picture 1 : A yellow car hits a green car from behind in an intersection. Picture 2 - A pink car hits a blue car from behind on a freeway ramp. Note that these pairs of situations have progressed from being almost identical to being similar only in that they are rear-end collisions. They therefore require increasing transfer ability on the student's part. When using a simulator, lead the student to recognize similarities between what is being done and what was done in another kind of activity (e.g., pushing chairs to simulate turns). When a student is in the laboratory car, point out similarities between present maneuvers, those practiced on the simulator, and those already accomplished behind the wheel. Repeat simulator or range experiences to reinforce learning.
8. Tendency Toward Habit Formation Generally, the MMH student is strongly bound by habits. This will play an important role in learning driving skills because so much of the driving routine is based on habit formation. This can be an advantage for the MMH student, as good driving habits quickly become habitual. However, if poor driving techniques are allowed to develop, they too will become habitual and difficult to change.	Take extreme care that each driving habit formed is correct the first time or that mistakes are quickly corrected.

Characteristics Sometimes Found	Suggestions for Instruction
9. Inability to Evaluate Own Efforts Just as MMH students are often unable to gauge their limitations and abilities properly, they also have difficulty determining how their efforts measure up to given standards.	Provide constructive feedback frequently to help the student gauge progress, build confidence, and avoid acquiring poor driving habits.
10. Deficient Verbal Abilities Generally, MMH learners have limited ability to understand long, complex verbal communications. The greatest problems are likely to be caused by: • speaking in long, complex sentences, • talking at length without giving the student a chance to question, repeat, practice, or give other feedback, • using new or difficult terms for which the student is not prepared, and • discussing a topic in a disorganized way.	When talking to the student or the class, make simplicity your goal: • Structure language as simply as possible. • When there is more than one way to say something, choose the simpler words. • Omit unnecessary language. • Introduce new words carefully (don't expect the student to "pick them up" from the context). • Don't "run on" unnecessarily; be sure one thought is understood before introducing another. It is important to keep in mind that it is possible to speak in clear, basic language without being condescending or sounding like you are talking to a child.
11. Need for Vocabulary Development MMH students are often less able to figure out the meaning of new terms from the context in which they are used than students with a higher degree of verbal skill. They are likely to require explicit vocabulary development for any new terms before the terms are used in context. This way, they aren't faced with the double task of figuring out the meaning of a word while trying to understand a sentence in which the new word is used.	Teach the vocabulary needed for each lesson. This can be done in several ways: • Write words and definitions on the chalkboard before class, then point to or circle each word when it is used in the lesson. • Prepare vocabulary handouts and give them out at the end of the preceding lesson. These should be at a basic reading level (third to fifth grade, depending on the student).

Characteristics Sometimes Found	Suggestions for Instruction
	• Prepare flash cards for each lesson and give them to the student at the end of the preceding class session (to be returned to the instructor) so the student can practice with the vocabulary at home. Assistance from another student during a free period can be very helpful in practicing with flash cards; this might be especially important in learning vocabulary for the learner's permit examination. • Spend a few minutes at the beginning of each lesson teaching vocabulary for that day's lesson. Don't let vocabulary become a barrier to successful performance evaluations. Avoid introducing unfamiliar vocabulary on tests. Define any difficult new words that can't be avoided. Encourage students to ask for clarification of any words they don't know. If necessary, give verbal tests. Many multisyllable words are currently used in the Ohio driver preexamination. It is vital that the MMH student receive vocabulary instruction for any of these that are unfamiliar. Pretests will help determine how much vocabulary development is needed.

Additional Classroom Strategies

The following are a few general classroom strategies which can be helpful not only for teaching handicapped students, but for teaching nonhandicapped students as well.

1. Alternative Strategies

   In some cases, having MMH students read driver education materials — while possibly helping to develop their reading abilities — does very little to develop their understanding of the concepts of traffic safety. Try other strategies, such as explanation, discussion, demonstration, role play, use of audiovisuals, simulation, and other participatory techniques. Consult with the special education teachers to learn about strategies that have been particularly effective with the individual students.

2. Audiovisuals

   Use audiovisual materials (films, filmstrips, slide/tape presentations, transparencies, and others) whenever possible. A partial listing of films is provided in Appendix B. Potential sources for audiovisual materials include:

   - Ohio Special Education Regional Resource Centers
     There are currently sixteen such centers located around Ohio. They offer a wide variety of services, materials, and information for working with handicapped students. For a current directory of SERRC centers, contact: Ohio Department of Education, Division of Special Education, 933 High Street, Worthington, Ohio 43085 (614-466-2650).

   - American Red Cross
     To locate county chapters of the American Red Cross, look in the white pages of the telephone directory.

   - American Automobile Asspciation
     To locate local offices, look up "AAA Auto Club" in the white pages of the telephone directory.

   - Ohio Department of Education, Educational Media Center, 65 South Front Street, Columbus, Ohio 43215.

   - Ohio Department of Highway Safety, 240 Parsons Avenue, Columbus, Ohio 43205.

   - Ohio Department of Transportation, 25 South Front Street, Columbus, Ohio 43215.

   - Ohio Traffic Safety Education Center, The National Center for Research in Vocational Education, The Ohio State University, 1960 Kenny Road, Columbus, Ohio 43210 (614-486-3655).

Contact each of these sources for listings of materials currently available.

Use drawings, chalkboard diagrams, and situation boards with magnetic or friction-bond cars that can be moved around to depict situations and maneuvers.

3. Simulators

Simulators are ideal for providing ample opportunity for practice. When using simulators, stop them frequently so that the action does not occur too fast. Reinforce and review progress at frequent intervals. Repeat portions as often as necessary.

4. Role Play

In addition to discussion and demonstration, try role play and acting out to teach such concepts as negotiating intersections and access ramps. Set these configurations in an open space and have the students walk through them pushing chairs. Have students act out accelerating, braking, turning, and backing as they sit in their seats.

5. Peer Coaching

Peer coaching can be a very successful strategy. Encourage advanced MMH students or nonhandicapped students to tutor beginning MMH students on given topics.

6. Simplified Objectives (through task analysis)

Some theorists maintain that the human brain can deal with only one thing at a time at a conscious level. Nonhandicapped people can do this so quickly that they appear to be learning many things simultaneously. The MMH student, however, has more difficulty dealing with multiple concepts or with several concepts in rapid succession. Teaching can easily be tailored to this limitation and — through the effort and organization that go into such tailoring — can benefit all students, whether handicapped or not. Here are some ideas with regard to objectives:

- Take the standard driver education objectives and break them down into finer increments. Here is a simple example:

  "Fasten seat belt" might be broken into the following subobjectives:

  Grasp left belt in left hand.
  Grasp right belt in right hand.
  Place right prong at left receptacle.
  Push right into left until fixture snaps.

- Teach only one thing at a time. Be sure the concept is thoroughly mastered before introducing a new concept. For example, let the student master steering while the instructor operates the accelerator and brake. Then, when the student has mastered steering, introduce accelerating. When the student has mastered accelerating, introduce braking.

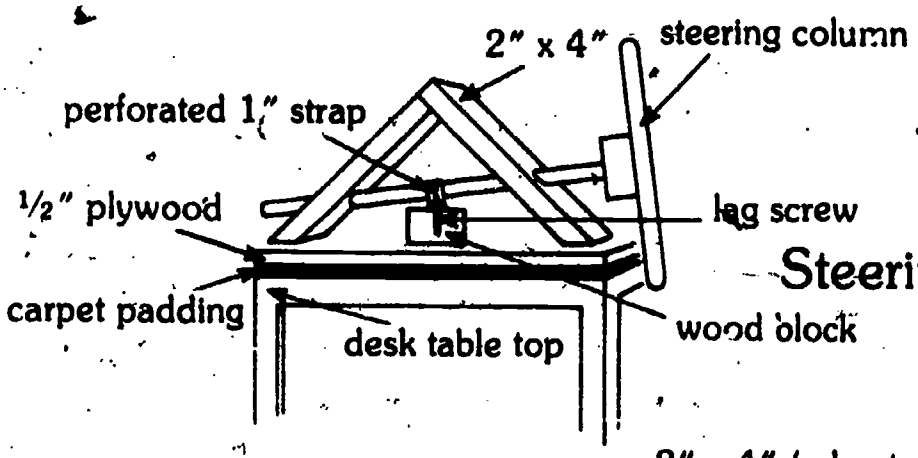
7. Practice Equipment

Bring steering wheels (obtainable from junk yards) to class. Allow students to get the feel of gripping them and turning them various degrees. If the wheels can be affixed to table or floor shafts, this is ideal (see diagram); however, unattached wheels can be quite useful for elementary turning maneuvers and for role play.

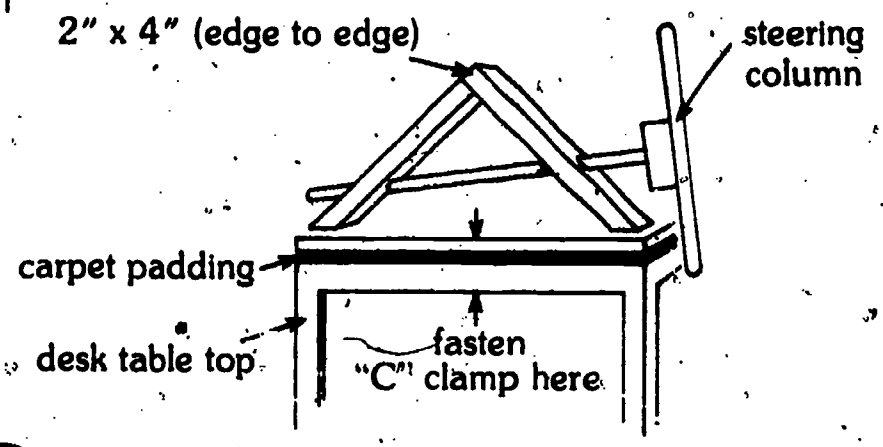
Have students practice turn signals and other skills while pushing chairs along traffic patterns marked on the floor. Some people have reported using powered golf carts as practice vehicles.

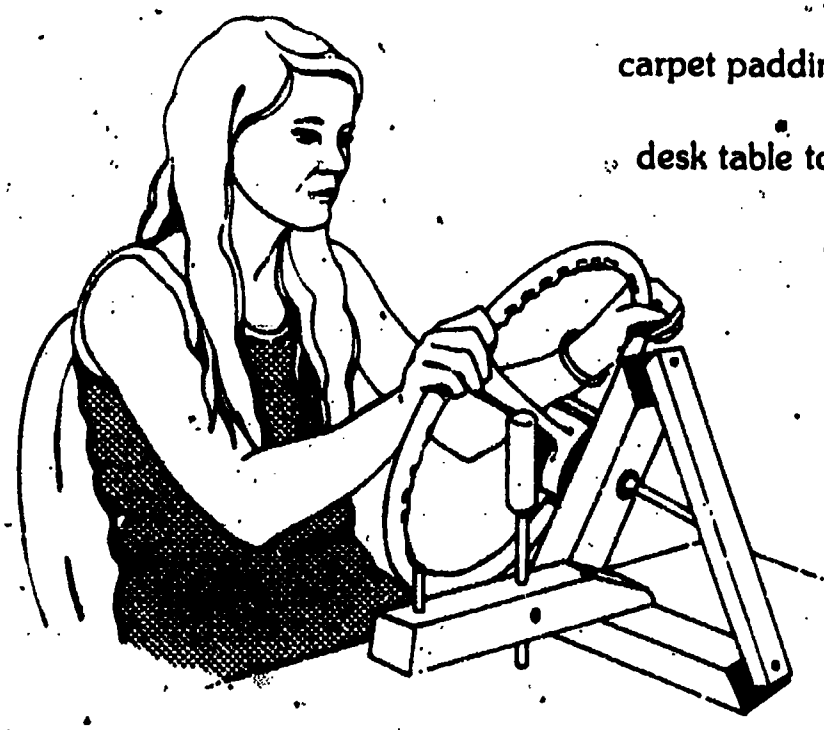
8. Preparation for Testing

Teach test taking skills so that test situations are not in themselves barriers to success (see Section 7 in this guide). Try wearing a uniform to simulate the test atmosphere, or ask a patrolperson to participate in practice sessions.



Steering Wheel with Column





Steering Wheel Only

Develop a good rapport with the examining station personnel to help them overcome any misunderstandings they might have in regard to mentally handicapped drivers. Visit the examining station personally; learn the exact method of application and test administration. Invite officers to your class to discuss procedures, answer questions, and describe the driver examination from their point of view. Take students on a field trip to the examining station during nonpeak hours (this, of course, should be arranged in conjunction with the examiners to avoid causing any disruption of normal routines).

Find out what you can do in preparing your students for the examination to make the role of the examiner easier with regard to handicapped students.

9. Parents

Get the parents involved.* Support from family members is very important for the handicapped driver. A positive attitude on the part of parents will reinforce the student's attitude that he or she can learn to drive, and this attitude might make the difference between success and failure in learning to drive. Knowledge that the parents will let the student use the family car after training and licensure are completed can be a motivating factor. Parents can also help the student practice maneuvers learned in class; extensive practice is especially important for the MMH student. The following are ideas for getting parents involved.

- Send information about the program activities home with the student.
- As class assignments, have students discuss their driver education goals, class progress, driving problems, attitudes about the use of the family car, or other topics with parents. Talk about the outcomes of these discussions in class. Involve students in planning ways to get their parents more involved.
- Have a visitors day in class. Let parents observe class activities.
- Talk to individual parents on the telephone or in person. Explain class goals and activities and the progress and problems of the individual student.
- Invite parents to ride along in the laboratory vehicle when the student is driving. (CAUTION: Check the implications for insurance coverage before this is done.) Explain how the parents can reinforce classroom and laboratory learning at home. Discuss with parents any differences between the laboratory car and the family car (e.g., what different or additional operations does the student have to do to operate the family car?).
- If the family car is appreciably different from the laboratory car, the teacher might arrange to have the family car available for the student to use one or more times for in-car instruction, in order to transfer skills.

*In light of P.L. 94-142, parents will necessarily be involved in the development of the Individualized Education Plan and so will have participated in the choice of driver education for the student (see Section 2 of this guide). This may be a starting point for subsequent involvement.

Scheduling Approaches

There are several ways of scheduling the MMH student into driver education classes. The following are some approaches which can be considered:

1. The MMH student is scheduled into the regular driver education classes with a special education teacher available as a resource person.

2. A special education class is taught driver education by a regular driver education teacher.

3. A special education class is taught driver education by a special education teacher who is also certified in driver education.

4. A special education version of driver education is taught by the special education teacher before the regular driver education program.

5. A special education version of driver education is taught by the special education teacher after the regular driver education program.[10]

Each of these approaches has advantages and disadvantages which need to be weighed carefully when planning a program. Some of the advantages and disadvantages of each are presented on the chart which follows.

The needs of individual students, as well as limitations of the school, availability of special education and driver education staff, scheduling restraints of the respective staff members, and other factors should be taken into account when selecting a scheduling approach. These approaches do not take into consideration the scheduling of laboratory experience which, ideally, should correlate with and support the academic portions of the course and should occur concurrently with the academic portions. Laboratory experience is discussed to some extent under "A Model for Scheduling."

[10] *Driver Education Programming*. Michigan Department of Education, pp 34-35

Approach	Advantages	Disadvantages
1. MMH student is scheduled into regular classes; special education teacher is available as a resource person.	a. MMH student could be motivated and helped by other students. b. Other students might profit from the strategies and activities planned for MMH student. c. MMH student might identify more closely in his or her achievements with the nonhandicapped students. d. Help of both teachers is available to the student. e. Special education teacher has access to course of study, textbooks, tests, and audiovisual equipment. f. Materials and concepts can be used as focus of study in other subject areas in the classes (e.g., using math to figure mileage, discussing driving laws in social studies, reading maps in geography).	a. In some districts, the handicapped student is now identified in the driver education class. No special consideration is given by either teacher. b. Additional driving experiences often are not available because of time limitations. c. Competition in classroom may intensify feelings of inadequacy in MMH students and cause subsequent withdrawal. d. Evaluation may be difficult for the driver education teacher not accustomed to working with MMH students. e. Opportunities for individual attention from the teacher are limited.
2. Regular driver education teacher teaches entire special education class.	a. The class is small, allowing for more individual attention and individualized pace. b. Materials and discussion can be geared to the students' level from the beginning.	a. Many driving instructors are not adequately trained in techniques of teaching mentally handicapped individuals. b. Students lose, or do not develop, identity with peer group in school.

Approach	Advantages	Disadvantages
	c. Lack of competition with nonhandicapped students produces more comfortable learning situation; this can lead to more self-expression.	c. Possible stimulus of regular classroom participation is not available.
	d. More field trips are possible because the class is small.	
	e. More driving time per student is available because class is small.	
	f. More individual attention is available because class is small.	
	g. Special education teacher is available for assistance.	
3. Special education class is taught by teacher certified in driver education.	a. Regular assignment for special education teacher eliminates financial loss for school that would occur if driver education teacher taught a small size class.	a. Special education teacher must be certified by the state to teach driver education.
	b. Classroom methods can be tailored for students.	b. Additional responsibility is put on teacher; some may not wish to or be able to take on extra duties.
	c. Teacher has better knowledge of individual student's abilities and needs.	c. Shortage of special education teachers might make it difficult to plan a consistent program.
	d. Problems of coordination are reduced because one person has the responsibility.	
	e. Materials are integrated into other studies.	

Approach	Advantages	Disadvantages
	f. School district has one more certified teacher to carry the workload in driver education.	
	g. Classes can be flexible in scheduling to fit with regularly scheduled driver education.	
	h. Closer coordination with parents is possible.	
4. Special education version of driver education is taught before the regular driver education program.	a. Students are prepared for the driver education course and so get more out of it.	a. Competition in classroom might still cause feelings of inadequacy in MMH student, despite prior preparation.
	b. Because of prior preparation, students can perform with greater success and build confidence.	b. Evaluation might be difficult for the driver education teacher not accustomed to working with MMH students.
	c. MMH students could be motivated and helped by the other students.	c. Opportunities for individual attention from the driver education teacher are limited.
	d. Because of prior preparation, necessity for special instruction is reduced.	d. In some districts, the student is not identified in the driver education class. No special consideration is given.
	e. Special education teacher could be available to give special help to the student.	
	f. Driver education materials and concepts can be used as focus of study in other subject areas in the special education class.	

Approach	Advantages	Disadvantages
5. A special education version of driver education is taught after the regular driver education program.	a. Learning from the regular class is reinforced by the special education teacher. b. Intensive preparation for testing can take place in the special education class. c. Arrangements for delayed evaluation (after the special education component) can be made. d. Additional practice with materials and concepts can be given as needed. e. Misconceptions and fears of the student can be allayed in a nonthreatening atmosphere more conducive to self-expression. f. If used in combination with a special education class prior to regular driver education, the benefits multiply. The student is prepared for driver education instruction and has this learning reinforced afterward.	a. If concepts or habits are learned poorly or incorrectly during driver education class, it might be very difficult to correct them afterward. b. The special education teacher might be in the position of reteaching much of the driver education course if sufficient learning did not take place. c. If the student, from lack of preparation, does not learn enough from the driver education course to succeed in evaluation, feelings of failure and inadequacy might result. These in turn might impede progress in the special education class afterward.

A Model for Scheduling

One successful project using a combination of scheduling approaches was implemented in a program of the Montgomery County Schools.[11] This implementation, summarized below, utilized four "tracks" or instructional phases.

Project: STUDENTS Phase II Model for Driver Education for the Handicapped

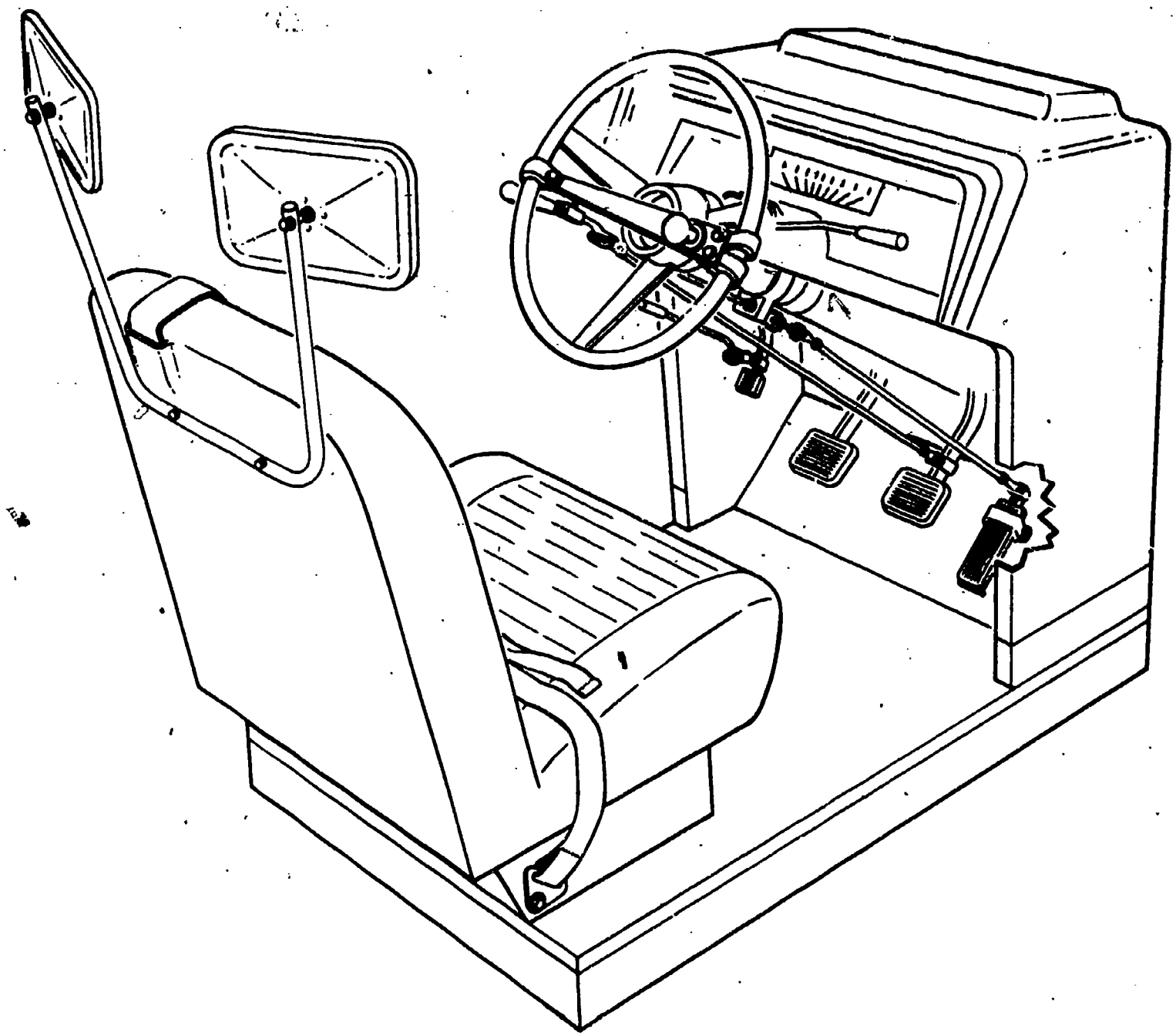
	Track	Intended for	Taught by	Description
Classroom	1	MMH students who can be expected to succeed in traditional driver education classroom (10% to 15% of MMH population)	Driver education teacher	Classroom and laboratory instruction occur in a traditional setting. Special education teacher acts in a supportive role, providing additional instruction and reinforcement as necessary.
	2	MMH students who cannot be expected to succeed on their own in a regular D.E. class (80% to 85% of MMH population)	Special education teacher presents most of academic portion of of driver education; driver education teacher acts in supporting role as required.	Classroom instruction occurs in special education setting. Because of teacher's knowledge of methods and techniques for teaching MMH students, this approach can be very effective, providing that the teacher understands the objectives and content of driver education. (NOTE: State Board of Education standards require that 36 hours of classroom driver education be taught by a certified driver education teacher. Therefore, it would be necessary either for the special education teacher to be certified in driver education or for a driver education teacher to provide 36 hours of the total number of hours of classroom instruction.)

continued

[11] *Project STUDENTS Phase II*, William T. Bolinger, Montgomery County Schools ("Students" has an additional meaning in this project: Safety Training Using Driver Education Non-Traditional Systems.)

Laboratory

Track	Intended for	Taught by	Description
3	MMH students who have been able to obtain a temporary learner's permit	Driver education teacher	Behind-the-wheel instruction is provided for Track 2 students (see page 62). This should occur concurrently with Track 2.
4	MMH students who need extra practice in laboratory	Driver education teacher or special education teacher	Additional behind-the-wheel instruction is given as required. This additional practice can occur either concurrently with or after Track 3. This track can be the most difficult to manage in terms of staff and time.



Simulators

may be equipped with special equipment for special students.

5 SENSORY HANDICAPS

Introduction

Among handicapped students who might receive driver education in the regular driver education classroom are the visually impaired and hearing impaired. According to figures projected by the Bureau of Education for the Handicapped, the incidence of hearing and visual impairment among children ages 6 to 18 is as follows: hearing impaired .575%[12] and visually impaired .10%.

Within these two groups there is the full range in degree of impairment. The hearing impaired include those with partial hearing loss (the "hard of hearing"), many of whom are assisted by hearing aids, as well as the profoundly deaf. Likewise, the visually impaired include the partially sighted as well as the blind (those whose sight is severely or totally impaired). Because, within both groups, individuals who have only slight impairment often function essentially as nonhandicapped learners, this discussion focuses primarily on the moderately and severely impaired.

[12] This figure includes .075% deaf and .50% hard of hearing

Visually Impaired

The definition of blindness (for determination of eligibility for services to the blind) is generally 20/200 in the better eye with correction.[13] In simple terms, this means the person can see at 20 feet what a person with normal sight can see at 200 feet. Partial sight generally falls in the range of 20/70 to 20/200.

To pass the pre-examination for a driver's license in Ohio, in most instances the applicant should have at least 20/70 or better vision using one or both eyes, with or without correction. Depending on the actual vision, certain restrictions may be included. The standards in this area are very complex and may vary depending on the individual case. When there are students in the class with unusual vision impairments, contact the nearest driver examination station for clarification.

In some instances there may be students who could not become licensed drivers. Nevertheless, many aspects of driver education will be useful to all visually impaired students, both partially sighted and blind (generally less than 20/70).[14] For example, instruction in pedestrian and passenger safety is important for the personal safety of visually impaired persons who will be riding in other people's cars, using public transportation, or walking in the vicinity of roadways. Other topics, too, might be useful and interesting to visually impaired students — for example, traffic laws, automobile systems and maintenance, emergency situations, and effects of alcohol and other drugs on drivers. Passengers or pedestrians who are informed about the vehicle in which they are riding, about the highway system in which they are moving, and about the performance of the driver with whom they are riding are likely to be safer and more at ease than if they were uninformed. Therefore, visually impaired students should be included in the classroom phase of driver education whenever possible.

[13]The diameter of the visual field is also considered, and must subtend an angle of at least 20 degrees. For example, a person with tunnel vision — even if visual acuity within the restricted range is better than 20/200 — would be considered legally blind

[14]Students with impaired vision who can be licensed to drive, would function in the classroom essentially as nonhandicapped students. Therefore, this group is not the subject of the information which follows. Rather, "visually impaired" refers here to those with less than 20/70 vision

Areas of Need	Suggestions for Meeting Those Needs
1. Alternatives to Regular Reading Materials Many visually impaired students will have difficulty using driver education materials produced in standard print. For some of these students, using versions of the materials produced in alternative forms might be the best solution.	Inform the students as early as possible of texts and other readings for the course so that the student can inquire into the availability of braille or large print versions of the materials or "talking book" records and tapes. If the same materials are regularly used in the classroom and there is a listening center at the school, have the materials taped and put on file at the listening center for the students' convenience.
2. Low Vision Aids Some partially sighted students are able to read regular materials by using magnifiers and other low vision aids. Some can read printed materials by holding them very close to their eyes.	When handouts are used, be sure the print is clear and dark. There is some disagreement as to whether it is very helpful to the student to have materials produced in large print. For some students it undoubtedly is helpful. In some cases, however, the size of the print and the reduced amount of material on a page slows down the reading pace unnecessarily. If the school has the capacity for enlarging print in reproduction, ask the student whether regular or large size print would be preferable.
3. Note Taking Some students use a braille typewriter or a special slate and stylus to take notes during class. Many students tape record each class session for later review and study.	Whenever handouts, chalkboard notations, visual aids, demonstrations, or other sight-dependent techniques are used, give verbal explanations or descriptions along with them. At all times, be careful to enunciate and speak loudly enough, remembering that the visually impaired student does not have the advantage of lipreading, upon which most people depend to some degree.

Areas of Need	Suggestions for Meeting Those Needs
4. Readers Some visually impaired students employ readers who read required materials into a tape recorder. The student then listens to the recording when preparing assignments or reviewing material for tests.	Make all reading assignments and materials available to the student as early as possible. To keep abreast of the rest of the students, the student will need time to get the materials, transmit them to the reader, have them taped, get them back, and listen to them before the class for which they are assigned. Share lesson plans with the student at least a week in advance, if possible. If a student does not have a reader but could profit from such a service, consider having sighted students who are good readers perform this service on a volunteer basis. If none is available in the driver education class, a service-oriented club at the school might wish to accept this service as a club project.
5. Location in Class For most visually impaired students, the best location will be close to the instructor and the chalkboard or other visuals. In such a location the student with partial sight will be able to see better what is going on and the student who is tape recording will be able to get a clear recording with a minimum of distracting background noise.	Encourage visually impaired students to seat themselves in the most advantageous location for their needs. Encourage students to change their location in the classroom whenever the locus of instruction changes. Avoid changing the locus unnecessarily. For example, wandering across the room while lecturing could be avoided, so that the student doesn't continually have to readjust tape recorder volume.
6. Evaluation Some students will have difficulty taking a standard written test.	Tests can be handled in several ways, depending on the type of test and the degree of sight loss:

Areas of Need	Suggestions for Meeting Those Needs
	• Give oral quizzes to the entire class, in which the students respond to the questions by writing a brief answer or the letter of a multiple choice answer. Choices should be spoken as part of the question. • Dictate the questions to the visually impaired student in an individual session. If the test is the objective type, the student with severe sight loss might type the answers. If it is an essay test, the student might record the questions (by tape recording, typing, or braille writer), record the answers at home (by typing or tape recording), and turn them in later. Or, the student might simply answer the questions orally at the time the test is given. • Arrange for a reader to read the test questions to the student and record the student's answers. • Volunteer braille transcribers are sometimes available from service agencies for the blind. These are people who come to the school and transcribe the test into braille before it is administered so the student can take the test along with the rest of the class. If this service is used, find out from the agency how far in advance of the test the service must be requested. • If the student has enough sight to read large print and to write, it might be helpful to provide dark lead pencils or pens and wide-lined paper before the test. Discuss this with the student before doing it, or request that the student bring any such needed materials at the time of the test.

Hearing Impaired

Unlike visually impaired individuals, severely hearing impaired individuals do drive. In fact, as a group, they have been found to have a better driving record than their hearing counterparts. Good safe driving records of deaf drivers have been attributed to several reasons:

1. Over 97% of driving decisions are based on vision, not hearing.
2. Deaf drivers are free from the hypnotic effects of noises (like a humming motor).
3. Deaf drivers are free from noise distractions and can concentrate on the driving task.
4. Use of alcohol and other drugs is minimal among the deaf.
5. Having a handicap causes the deaf driver to remain alert while driving, to compensate for the impairment.
6. There is an *esprit de corps* among the deaf to keep their driving records clean (and thereby retain their driving rights as a group).[15]

Often, the only special requirement applied by licensing authorities is the installation of a full-range or convex rear view mirror and outside mirrors to help compensate for the inability to hear warning sounds (sirens, horns, screeching tires).

The primary problem in providing driver education to the deaf is that of communication. Once a system of communication between the instructor and the student is established — whether through manual communication (sign language), lipreading, use of interpreters, or other means — teaching a deaf student is essentially similar to teaching a hearing student. It should be noted, however, that — depending upon the time of the onset of deafness (before or after the development of other skills took place), the student's educational experience, and the student's degree of dependence on manual communication — the hearing impaired student may have special instructional needs. For example, difficult reading materials might pose a problem. Idiomatic or abstract language might also be problematic. The more concrete and straightforward the instructor's presentation, the easier it will be for the student or interpreter to interpret the instruction.

The following are some instructional needs of hearing impaired students and suggestions for meeting these needs in the classroom and laboratory phases of the regular driver education class.

[15] These views are presented by Judge Sherman Finesilver in "The Driving Records of Deaf Drivers," as cited in *Driver Education for the Handicapped: A Resource Curriculum in Driver Education Teacher Preparation*, Aaron and Kraemer, pp. 40-41.

In the Classroom Phase

Areas of Need	Suggestions for Meeting Those Needs
1. Position of the Instructor and Interpreter For the student who lipreads and the student who has an interpreter, the proper positioning of the instructor and the interpreter is extremely important to the student's ability to comprehend the lesson.	Face the student when speaking, whether or not an interpreter is present. Even when an interpreter is used, the student may combine reading sign language, reading lips, and watching the instructor's gestures. Obviously, for lips to be read, they must be seen. Position the interpreter correctly. The best placement is near — to the side and slightly behind — the instructor. (Most interpreters will position themselves automatically.) This makes it possible for the student to watch the interpreter and the instructor, who may be gesturing or using visual aids, without shifting focal area.
2. Instructor's Pace and Style When an interpreter is used, the instructor's pace and style will affect the ease or difficulty with which the interpreter performs his or her role. When no interpreter is used, the pace and style can be an important factor in the student's ability to comprehend the lesson.	Don't try to speak unnaturally slowly to make it easier for an interpreter to interpret your words; in most cases, the interpreter can sign as quickly as a person normally speaks. Trying to pace yourself to the interpreter will force the interpreter to slow down, probably in an uneven rhythm. This makes signing difficult to do and difficult to read. The important thing is to speak clearly and not to ramble. Occasionally, an interpreter might ask that a phrase be repeated, a technical term or proper name be spelled, or the rate of speech be slowed. Only then should you try to alter the normal presentation. Or, it might be helpful to meet with the interpreter after the first session and discuss any changes in pace or style that would make the interpreter's job easier.

Areas of Need	Suggestions for Meeting Those Needs
	Be sure you have the student's attention when you speak. If the student is absorbed in note taking or some other activity, this might require a small wave or nudge from a nearby classmate.
	Speak clearly but do not exaggerate your enunciation; a person who lipreads is used to reading normal speech, not exaggerated contortions of the mouth.
	Repetition is essential. Repeat important points in different ways. This will be helpful to hearing students as well.
3. Choice of Words Elaborate and unnecessary language make more work for the lipreader or interpreter. Use of unnecessary comments, asides, jargon, and other superfluous language complicates the task of the interpreter and the deaf student.	Avoid unnecessary language. Be as direct as possible. Finish your sentences. When there is more than one way to say something, choose the simpler way. (Compare, for example, these pairs of phrases: with respect to/about; in the event that/if; and despite the fact that/although.) In each case the shorter phase serves just as well.
	Avoid superfluous commentary, jargon, and other language that serves no real purpose. This does not mean that there is no place in the classroom for humor or color; it simply means that it is important to be economical in using language.
4. Class Atmosphere Students need to know that the instructor is interested in their full understanding of driver education and that full participation is welcomed in the class regardless of communicative impairment.	Encourage question and answer periods in class. Invite students to ask questions about lesson content, to request clarification of what has been said, to ask that you explain the meaning of a term you have used, and so on. Often, such clarifications will be helpful to everyone in the class.
	If the deaf student is not comfortable asking questions in class, invite the student personally to ask questions after class in individual question and answer sessions.

Areas of Need	Suggestions for Meeting Those Needs
5. Visual Aids The student who cannot depend on hearing as a main source of information must rely primarily on sight in the classroom. The instructor should find ways to enhance the visual aspects of each lesson, so that the students receive as much visual stimulation as possible.	Use visual aids whenever possible and appropriate. Prepared visuals, charts or sketches on the chalkboard, demonstrations, and even informative gestures are helpful to the deaf student (and to other students). It should be remembered, however, that slides, transparencies, or overheads that require verbal commentary in a darkened room will be less successful. The student either will not be able to see the instructor or interpreter in the darkened room or will not be able both to examine the visual and to "hear" the commentary at the same time. If possible, print any necessary commentary right on the visual or provide a printed script (before the visuals if possible). If these techniques make the pace too slow, it may be preferable to try other strategies altogether. Use captioned films. These are standard, narrated films to which printed captions have been added. Many are available through: Captioned Films for the Deaf Bureau of Education for the Handicapped U.S. Office of Education Washington, DC 20202 Captioned simulator-films are available from some manufacturers of simulators. When using captioned films, some instructors find it helpful to use such techniques as the following: • Show the film at slow speed. • Show the film twice — first with the sound on and no interruptions, then standing by the screen and interrupting for explanation and discussion.

Areas of Need	Suggestions for Meeting Those Needs
	• Keep lights on in the classroom. • Supplement the film with chalkboard explanations. Commercial movies, filmstrips, and slides sometimes can be used effectively with deaf students. Information about such products is available from: The Alexander Graham Bell Association for the Deaf, Inc. 3417 Volta Place, N.W. Washington, DC 20007 When showing films for which captioned versions are not available, provide printed scripts (before the projection) or, if an interpreter is present, have enough light in the room so that the student can see the interpreter. Use sign language videotapes with individual students (during free periods, after school, or through a listening center). A list of pertinent videotapes is provided in Appendix B. If you have statistics, facts, lists, or other materials the students are expected to record, accompany the verbal presentation with a printed handout. If you expect the students to read the handout immediately, allow time for this before continuing verbally. Remember, it is difficult for the deaf student to read and listen at the same time. As with many of these techniques, providing handouts may be helpful to the hearing students as well, enabling them to really listen to your explanations rather than concentrating on notetaking. Have students copy information from the chalkboard. This helps them to internalize it while they write.

Areas of Need	Suggestions for Meeting Those Needs
6. Vocabulary While hearing students learn much of their vocabulary by hearing words used in context, deaf students are limited in the amount of conversation they casually pick up. Thus, by the time they reach high school, most hearing students have larger vocabularies than deaf students. Therefore, it will be helpful to teach the vocabulary needed for each lesson.	Teaching the vocabulary for a lesson can be done in several ways: • Write words and definitions on the chalkboard before class, then point to or circle each word when it is used in the lesson. • Prepare vocabulary handouts and give them out at the end of the preceding lesson. • Prepare flash cards for each lesson and give them to the deaf students at the end of the preceding class session (to be returned to the instructor) so the student can practice with the vocabulary at home. • Spend a few minutes at the beginning of each lesson teaching vocabulary for that day's lesson. Teaching vocabulary is particularly important in preparing the student for taking the written portion of the driver examination. This is discussed further in number 8. Don't let vocabulary become a barrier to successful performance on evaluations. Avoid introducing unfamiliar vocabulary on tests. Define any difficult new words you can't avoid using. Encourage students to ask for clarification of any words they don't know.

Areas of Need	Suggestions for Meeting Those Needs
7. Choice of Teaching Strategies. Deaf students learn best through experience with real situations, objects, and pictures. Variety in teaching strategies can also enhance learning and interest level.	The following are a few examples of alternative teaching strategies that can be effective: • Use active, participatory classroom strategies whenever possible. • Use real objects, demonstrations, and pictures to enhance explanations. • Try to organize content so that each activity or topic calls upon both conceptual skills and psychomotor skills. • Use role play to teach maneuvers and concepts. For example, set up traffic configurations in an open space and have students walk through them using chairs.
8. Preparation for the Driver Examination Many students will need specific preparation in how to take the driver examination so that the test situation itself is not a barrier to success.	Section 7 of this guide provides a description of procedures followed for the Ohio driver examination. Additional information can be obtained from the local examining station regarding scheduling and local approaches to the examination process. Based on all information available, inform the students what to expect and teach them to take this type of examination. Give sample tests administered exactly as the driver examination will be administered. Have students practice taking such tests until they are comfortable with the procedures.

Areas of Need	Suggestions for Meeting Those Needs

acceleration
address
adverse
allowable
applicants
approaching
audible
bulges
centerline
chauffeur
conditions
continue
emergency
entirely
gradually
hydrant
ignition
illumination
immediately
improved
inability
incorrect
injured
intersection
involved
manslaughter
minimum
municipalities
neutral
occupant
operator
opposite
overdriving
overtake
permissible
portion
procession
providing
reaction
refuse
registrar
revoked
signalled
suspended
travelling
vehicle's

Teaching vocabulary will probably be necessary before the pre-examination. To the left is a box of multisyllable words currently used in the pre-examination. While a deaf student might very well know some of these words, the assumption should not be made that, because a word is common to a hearing student, it is common to a deaf student. Pretests will help determine how much vocabulary development is required.

The following are suggestions for building vocabulary:

- Start building vocabulary early in the course.
- Build vocabulary gradually by using increasingly difficult words on tests.
- Retest in different ways.
- Re-administer the last several tests a few days before the pre-examination.
- Remove pressure (such as time limits) from test situations so that anxiety doesn't detract from their learning value.

9. Parent Involvement

Support from family members is essential for the handicapped student. Involve the parents whenever possible.

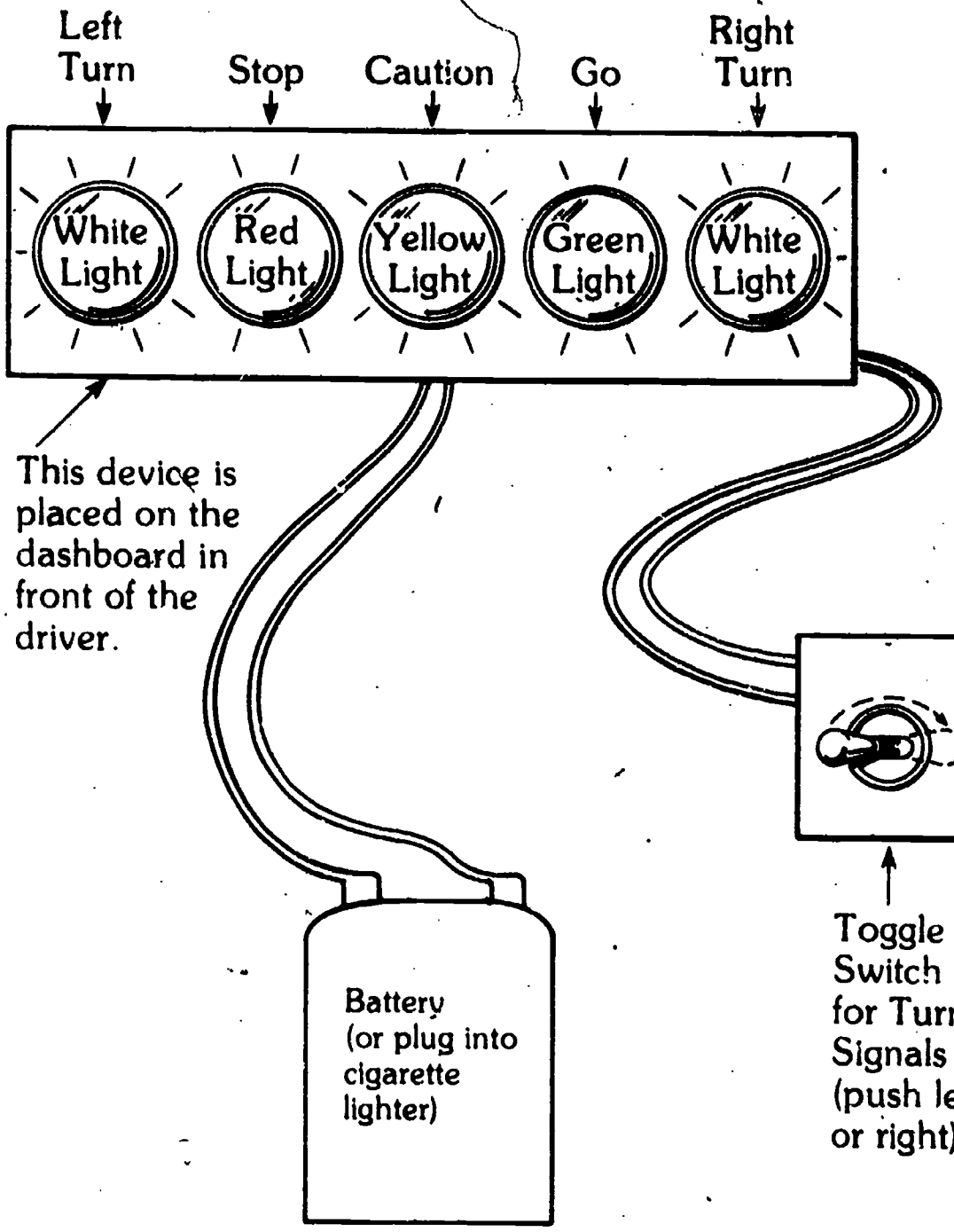
Compiled by staff of the Grace A. Greene Vocational Center, Denton City Schools, Dayton, Ohio

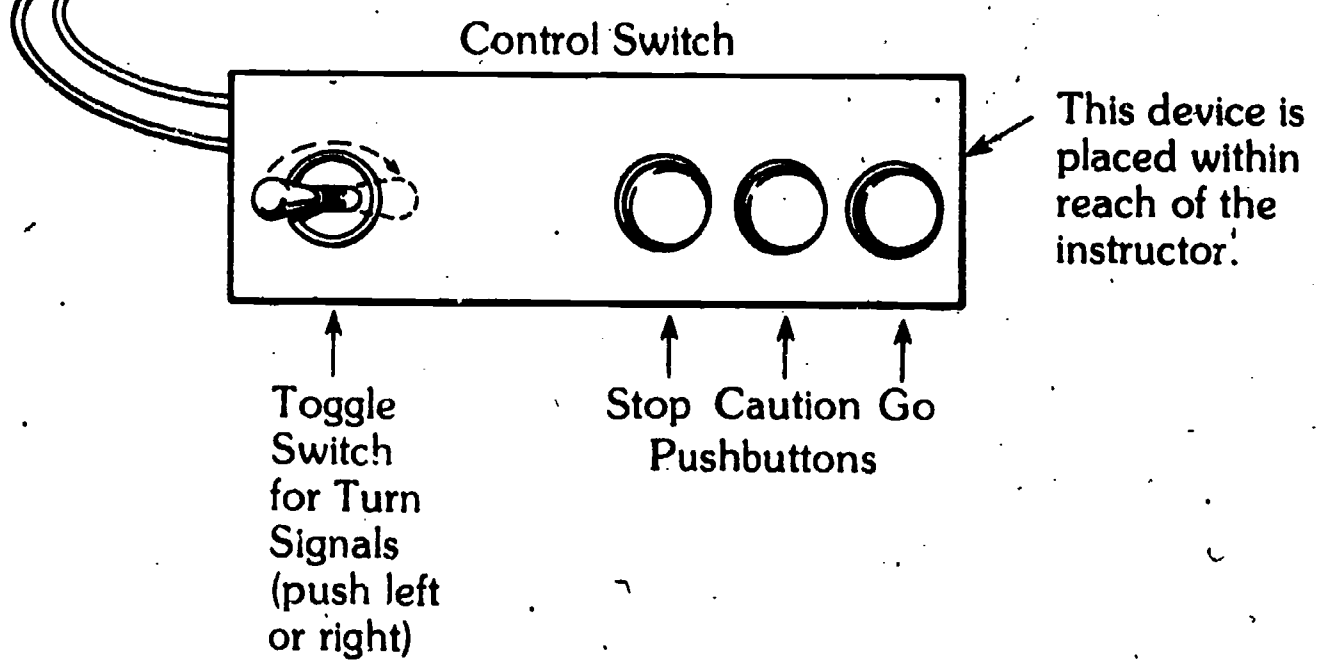
Areas of Need	Suggestions for Meeting Those Needs
1. Use of Simulators Use of simulators can provide valuable learning and practice for the deaf student. Use of this medium with deaf students might require a somewhat different approach by the instructor than when using it with hearing students.	Use of the automatic incorrect response code might not be possible with deaf students. A program in Massachusetts offered this description of its experience in this area: Students trained on simulators were divided into two groups, deaf and other than deaf. The deaf students could not be trained with the automatic incorrect response code because of their inability to hear the narrator's directions and, thus, respond within the time allowed. This meant that a Student Film Analysis Chart could not be used for each film on the simulator. Deaf students were evaluated on their demonstrated performance such as steering, braking, speed control, acceleration, signaling, and use of mirrors (both outside and inside).[17] Focus on use of simulator films for giving the student practice in the kinds of skills listed above. To provide feedback on performance, either stop the film to get the student's attention and then make the comments (this works best in an individual situation) or save commentary for the end of the film. If narrated simulator films are used to teach new driving concepts, an interpreter (standing close to the screen) might be used. (This, however, can be distracting to both deaf and hearing students who are trying to concentrate on the depicted road situation.) If this approach is used, the student's responses to the narrator's instructions relayed by the interpreter should not be timed.

[17] *Instructor's Manual for Driver Education of the Physically & Multiply Handicapped Person*. Easter Seal Society for Crippled Children & Adults of Massachusetts, Inc., p. 29.

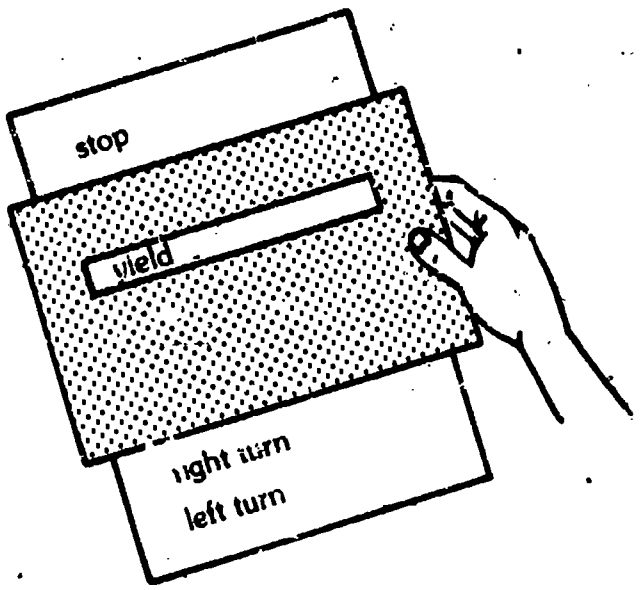
Areas of Need	Suggestions for Meeting Those Needs
	Giving the deaf student a script of the film narration to study before the film can also be helpful. As much as possible, use captioned films for simulators. These are available from some manufacturers of simulators.
2. Means of In-car Instruction The most important consideration in the behind-the-wheel phase of driver education will be finding a suitable (and quick) means of communication with the student. Presence of an interpreter in the instructional car would be difficult and is not permitted during the driver examination.	The following are ideas for communicatio during in-car instruction: • Hand signs seem to be the best method of giving directions to the profoundly deaf student. The signs must be quick and understood by both the instructor and the student before the lesson begins. • Mechanical devices, while less desirable, can work for frequently used instructions such as turns, go, stop, and caution. One such device is pictured on the following page. The device can be used only to give a few specific directions; any clarification needed by the student will require some other form of communication by the instructor.

Mechanical Device for In-car Instruction





Areas of Need	Suggestions for Meeting Those Needs



- Printed materials are another option. A few suggestions are given below.

  Flash cards would be the least acceptable method of using printed materials because of the time involved in finding, showing, and reading cards.

  Charts and maps of the route to be driven could be studied in advance and pointed to during instruction.

  A list of instructions printed on a single page could be used with a cut-out screen (see illustration). Using this technique, one instruction at a time shows through the cut-out.

  A note pad on which to write down particular problems is best used while stopped or parked.

  There are also commercially printed materials which can be purchased for illustrating different driving situations.

- Immediate discussion is a very useful technique. When a problem occurs, the instructor signals "right," the student pulls to the curb and stops, and the problem is discussed.

- Physical action may often be the clearest way of communicating with the student — especially the beginner. The instructor simply takes the wheel to make lane position adjustments, to avoid hitting a curb, or to demonstrate other needed changes. The student should know to expect this kind of intervention from time to time.

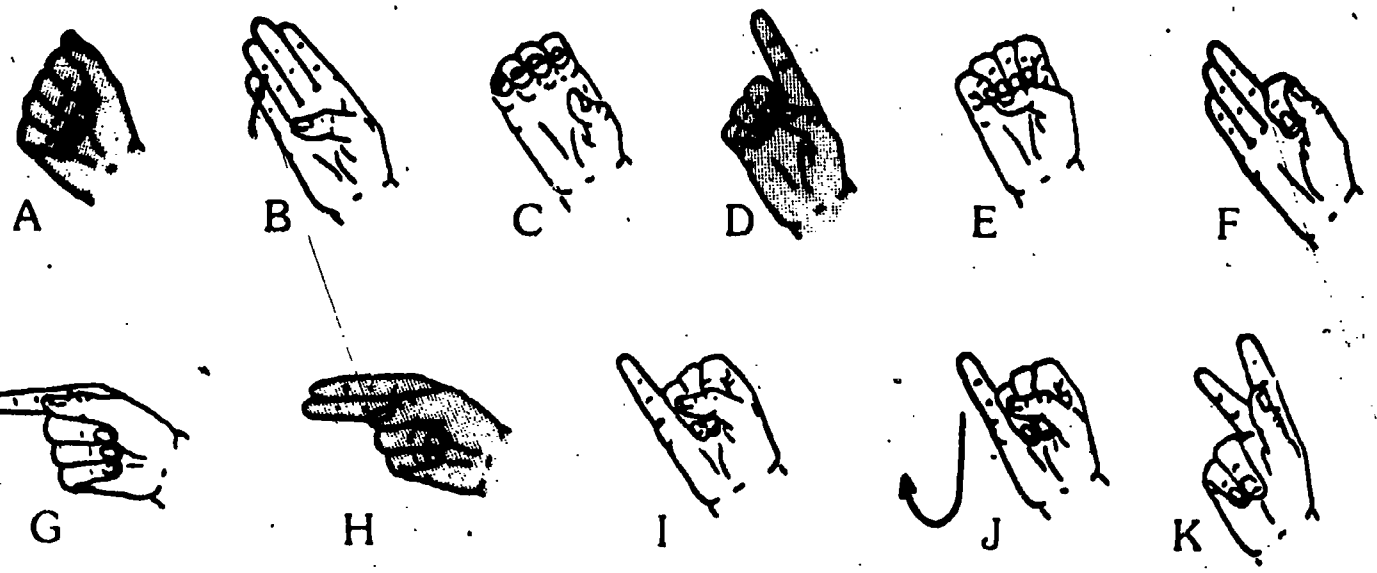
Areas of Need	Suggestions for Meeting Those Needs
3. Use of Sign Language	If you decide to use hand signs in in-car instruction, there are a few essential manual communication (sign language and manual alphabet) signs that should be learned: park(P) reverse (R) neutral (N) drive (D) low (L) start look stop go left turn right turn stay fast pass slow yes no good light move to left lane move to right lane number signs (for speed limits, number of lanes to move, and number of streets before turning)[18] These basic signs are illustrated and described on the following pages. Demonstrate each sign and its meaning and practice the signs with the student before beginning in-car instruction so there is a clear understanding of what is meant by each. Expect use of signs to be somewhat frustrating, especially at first. When a situation becomes tense, your instinct will be to react verbally and your recall of signs may suddenly disappear. As with any "foreign language," use of sign language becomes easy and natural only with practice.

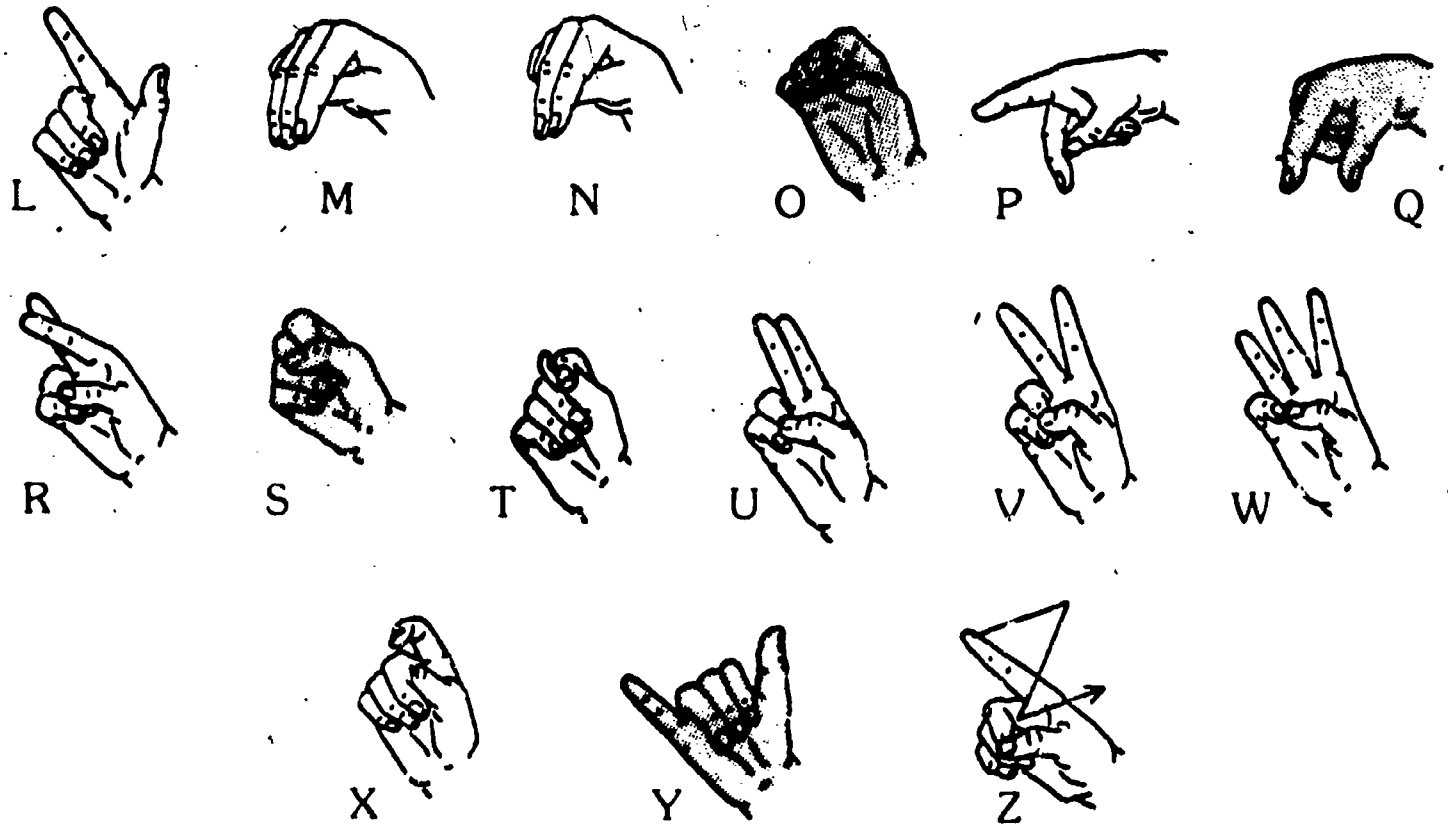
[18]List suggested in *Driver Education — Special Education Unit: Deaf*, Miami University, Dr. Bob Shrader, p. 2, (modified for use in this guide).

Manual Alphabet Used by the Deaf in North America[19]

Letters in the manual alphabet are always made with the palm facing the listener. Each letter should be made distinctly and separately.

Although you might need to use only "P," "R," "N," "D," and "L," the entire alphabet is shown here because references to these positions are given in the directions for some of the signs which follow.

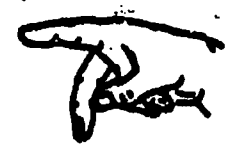




[19]Illustrations are taken from *Talk to the Deaf*, Lottie L. Riekehof.

90

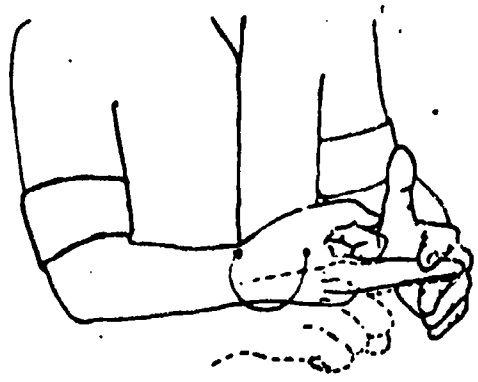
Signs for Gear Selection

Park	P	
Reverse	R	
Neutral	N	
Drive	D	
Low	L	

Other letters can be arranged between you and the student to stand for specific directions. For example, a "W" moved left and right in an arc might be designated to mean windshield wiper during in-car instruction.

Other Signs[20]

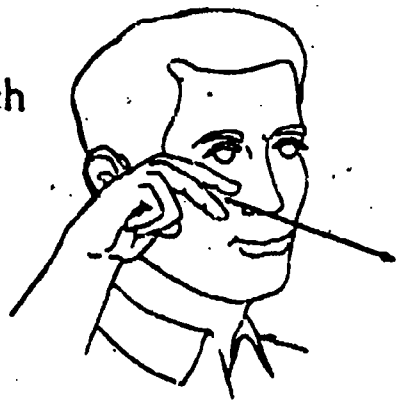
Begin, start



Using the tip of the right index finger, make a half-turn between the index and middle fingers of the left open hand (indicating a screw or a key being turned).

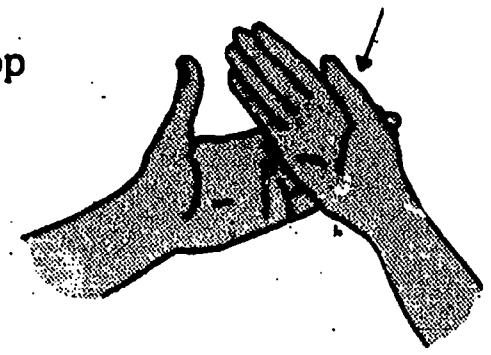
[20]Illustrations for all following signs (except "stay," "left turn," "right turn," "move to left lane," and "move to right lane") are from *A Basic Course in Manual Communication*, Terrence J. O'Rourke, National Association for the Deaf. Portions of the descriptions are from *Talk to the Deaf*.

Look at, watch



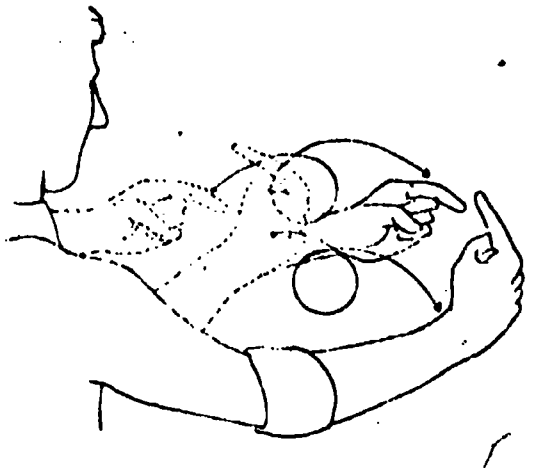
Place "V" near the eyes, pointing outward from face; move "V" forward (indicating eyes looking out).

Stop



Bring the little finger side of the right open hand down sharply to a position across the left open palm (indicating a barrier).

Go



Rotate index fingers around each other as they move forward (palms toward self).

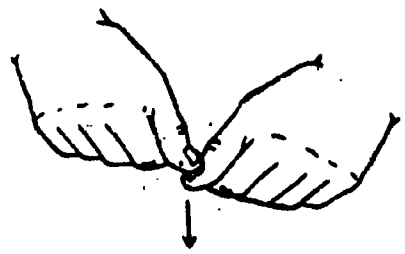
Left turn

Point "L" hand toward the left (index finger and thumb extended; other fingers closed against palm). See manual alphabet "L."

Right turn

Point "R" hand toward the right (second finger slightly crossing index finger; thumb holding other two fingers toward palm). See manual alphabet "R."

Stay

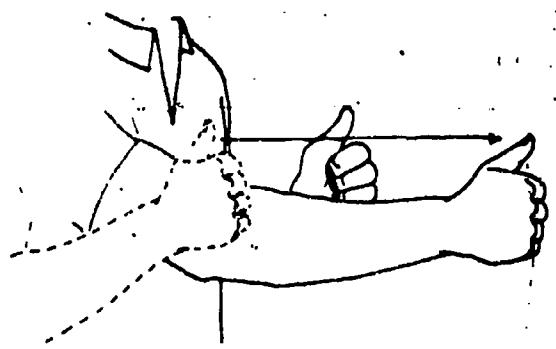


Place the thumb of the right "A" on the thumbnail of the left "A" and push downward slightly.

Fast, quick

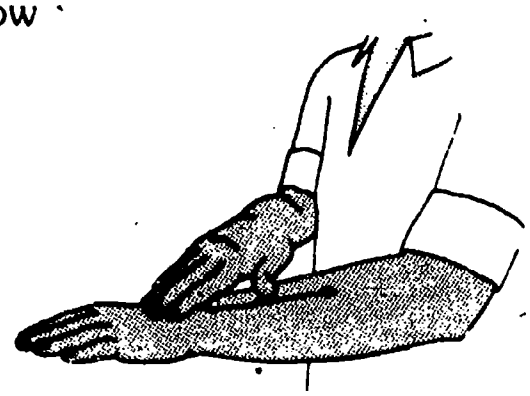
Snap the right thumb out of the curved index finger as if shooting a marble. Move wrist downward during the motion.

Pass



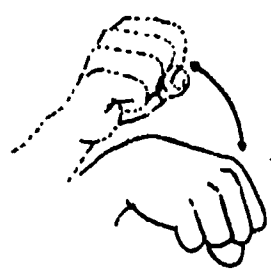
Move the right "A" forward past the left "A."

Slow



Stroke down the back of the left hand slowly with the right hand.

Yes

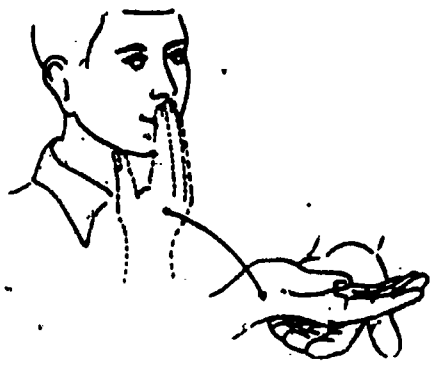


Hold the "S" hand before you, palm facing out, and bend the wrist forward. Repeat motion for emphasis.

No

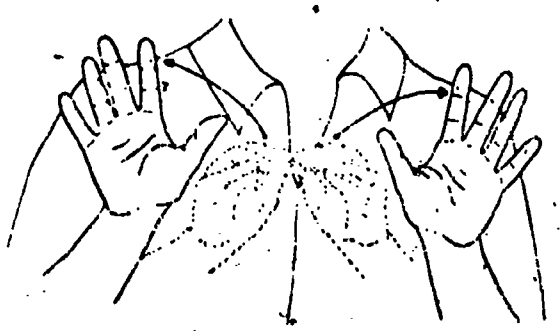
Make an abbreviated "N" and "O" by bringing the index, middle finger, and thumb together in one motion.

Good



Touch the lips with the fingers of the right hand and then move the right hand forward, placing it (palm up) in the palm of the left hand.

Light

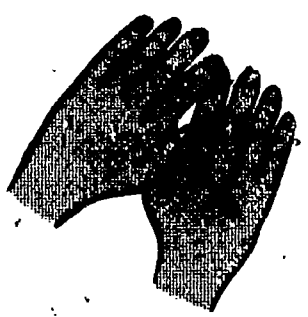


Point both hands outward, fingers touching thumbs and index fingers together; open fingers as hands move upward and to the side (ending in "5" position), palms facing forward.

Move to left lane

Place hands next to each other, palms down and parallel. Move right hand over on top of left hand.

Move to right lane



Place hands next to each other, palms down and parallel. Move left hand over on top of right hand.

Numbers

These illustrations indicate how the signs look to the listener (not the signer). Combination numbers are formed as illustrated for 21 through 23. For example, 55 would be formed by signing the "5" of "50" (open palm forward, five fingers extended) then moving that "5" slightly to the left to indicate another "5" being made.

1

2

3

4

5

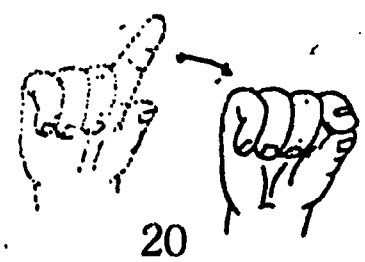
6

7

8

9

10



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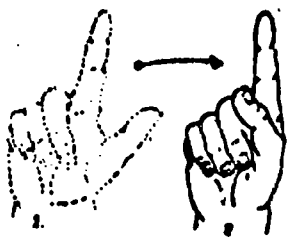

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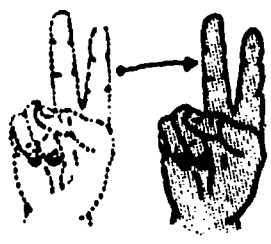

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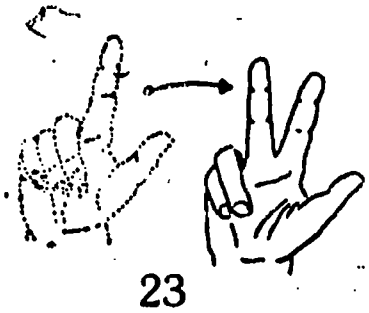

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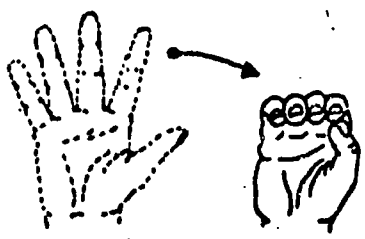

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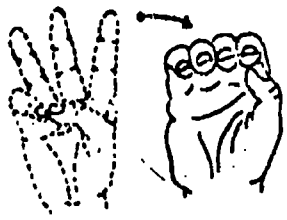

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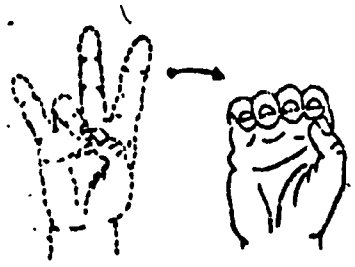

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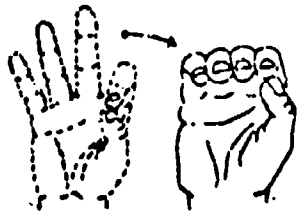
80



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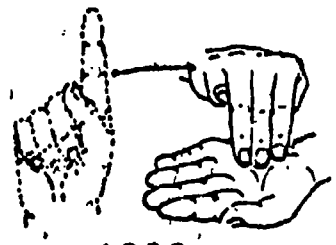

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6 PHYSICAL HANDICAPS