A DRIVER EDUCATION PROGRAM FOR THE EDUCABLE
MENTALLY RETARDED AT NORTH HIGH SCHOOL

DES MOINES, IOWA

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by
Richard Eisenlauer
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A DRIVER EDUCATION PROGRAM FOR THE EDUCABLE
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by

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. INTRODUCTION ..................................</td>
<td>1</td>
</tr>
<tr>
<td>The Problem .....................................</td>
<td>2</td>
</tr>
<tr>
<td>Importance of Problem ..........................</td>
<td>2</td>
</tr>
<tr>
<td>Procedure .....................................</td>
<td>4</td>
</tr>
<tr>
<td>Review of Literature ...........................</td>
<td>5</td>
</tr>
<tr>
<td>Definition of Terms ............................</td>
<td>6</td>
</tr>
<tr>
<td>Educable mentally retarded ....................</td>
<td>6</td>
</tr>
<tr>
<td>Aetna drivotrainer .............................</td>
<td>7</td>
</tr>
<tr>
<td>Reaction time tester ...........................</td>
<td>7</td>
</tr>
<tr>
<td>Profile sheet ..................................</td>
<td>7</td>
</tr>
<tr>
<td>II. DRIVER EDUCATION AT NORTH HIGH SCHOOL ...</td>
<td>8</td>
</tr>
<tr>
<td>Program for &quot;Normal&quot; Students ................</td>
<td>8</td>
</tr>
<tr>
<td>Classroom phase ...............................</td>
<td>9</td>
</tr>
<tr>
<td>Drivotrainer phase ............................</td>
<td>21</td>
</tr>
<tr>
<td>Dual-control car phase ........................</td>
<td>22</td>
</tr>
<tr>
<td>Modifying Driver Education Program to Meet</td>
<td></td>
</tr>
<tr>
<td>the Needs of Mentally Retarded Students ....</td>
<td>25</td>
</tr>
<tr>
<td>Reaction time test ............................</td>
<td>25</td>
</tr>
<tr>
<td>Distance judgment test ........................</td>
<td>26</td>
</tr>
<tr>
<td>Field of vision test ..........................</td>
<td>29</td>
</tr>
<tr>
<td>Examination of profile sheets ...............</td>
<td>29</td>
</tr>
<tr>
<td>CHAPTER</td>
<td>PAGE</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Aetna drivotrainer</td>
<td>31</td>
</tr>
<tr>
<td>Program for Educable Mentally Retarded</td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>34</td>
</tr>
<tr>
<td>Evaluation</td>
<td>38</td>
</tr>
<tr>
<td>Summary</td>
<td>39</td>
</tr>
<tr>
<td>III. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS</td>
<td>40</td>
</tr>
<tr>
<td>Summary</td>
<td>40</td>
</tr>
<tr>
<td>Conclusions</td>
<td>42</td>
</tr>
<tr>
<td>Recommendations</td>
<td>43</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>45</td>
</tr>
<tr>
<td>APPENDIX</td>
<td>48</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Traffic Violations: Twenty-Five Known Mentally Retarded Compared with Twenty-Five &quot;Normal&quot; Students, 1952 to 1959</td>
<td>3</td>
</tr>
<tr>
<td>II. A Comparison of Average Reaction Times of Twelve Educable Mentally Retarded with Twelve &quot;Normal&quot; Students</td>
<td>27</td>
</tr>
<tr>
<td>III. Results of Distance Judgment Tests for Twelve Educable Mentally Retarded Students and Twelve &quot;Normal&quot; Students</td>
<td>28</td>
</tr>
<tr>
<td>IV. Results of Field of Vision Test for Twelve Educable Mentally Retarded Students and Twelve &quot;Normal&quot; Students</td>
<td>30</td>
</tr>
<tr>
<td>V. Percentages Score on Films by Mentally Retarded Students Compared to &quot;Normal&quot; Students</td>
<td>33</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

The slow learning child deserves an opportunity to prepare himself for optimum adjustment in society. If education is to serve the needs of all children, this opportunity cannot be denied.

The educational program of the Des Moines, Iowa, Public schools is so organized that the retarded child may progress at his own individual rate of learning through special instruction. Classes are maintained for pupils whose intelligence quotients, ascertained by individual tests of intelligence, are below 75.1

Under the vocational guidance program developed in 1957, educable mentally retarded children are permitted to stay in school through the eleventh grade. Before this program was put into operation, the educable mentally retarded attended school until their sixteenth or seventeenth birthday, or, until they had completed the tenth grade. No provisions were made for special education classes after the student had completed the tenth grade.2

1Arthur S. Hill et al., "Standards for Special Class Placement," (Manual for Teachers of Special Classes for Retarded Pupils, Des Moines Public Schools, August, 1950), p. 5. (Mimeographed.)

2Ibid., p. 8.
The educable mentally retarded who attempted to enter the regular program after completion of the tenth grade usually enrolled in driver education. The number who enrolled each semester ranged from one to four. Under the current program begun in 1959-60, there were as many as twelve mentally retarded students enrolled in driver education.

I. THE PROBLEM

This project was based on the assumption that, regardless of academic ability, most high school students will hold an Iowa Operator's License; therefore, the purpose of this project was to develop a driver education program to be implemented at North Des Moines, Iowa, High School to meet the needs of the educable mentally retarded, the recommendations of the State Department of Public Instruction and the requirements for an Iowa Operators License to be issued by the State Department of Public Safety.

II. IMPORTANCE OF PROBLEM

A comparison of twenty-five mentally retarded students who had had driver education with twenty-five "normal" students selected at random from students who had had driver education, revealed that there were more traffic violations among mentally retarded students than among the "normal" students as is shown in Table I.
Of the twenty-five "normal" students, only five had
had violations recorded on their driving records, while the
driving records of the mentally retarded students showed
that fifteen had had violations. Some of the mentally retard-
ed had more than one violation recorded on their records.

The mentally retarded students are going to drive an
automobile upon the streets and highways of this state. Based
on present driving records of this group, a driver education
program to meet the needs of the mentally retarded students
should be offered by the school system.

### TABLE I

TRAFFIC VIOLATIONS: TWENTY-FIVE KNOWN MENTALLY
RETARDED COMPARED WITH TWENTY-FIVE "NORMAL"
STUDENTS, 1952 TO 1959

<table>
<thead>
<tr>
<th>Type of Violation</th>
<th>Mentally Retarded</th>
<th>Normal Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Accidents</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Faulty Equipment</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Speeding</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Revocation</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>License Expired</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Failure to Signal</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Obscured Vision</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>15</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>

Data is from records of the Department of Public Safety
Data related to a driver education program for the mentally retarded was limited because the few existing programs were only in their infancy. Therefore, the writer had to rely on his own resourcefulness and that of the other driver education instructors in the Des Moines Public Schools. The driver education program and plan of instruction at North High School had been developed by Lloyd Klinzmann and the writer.

Tests to determine reaction time, distance judgment, and field of vision were administered in 1960 to twelve educable mentally retarded students and twelve "normal" students to determine if there were any differences between the two groups. Both groups were enrolled in driver education at the time the tests were administered.

Scores indicating interest, aptitude, and ability of the educable mentally retarded who took driver education in the spring and fall of 1960 were examined. The scores were recorded on profile sheets for each student. The scores examined were those made on the following tests:

1. Lee-Thorpe Occupational Interest Inventory, Intermediate, Form A.1

2. Stanford Achievement Reading Test, Form D.2

1California Test Bureau, 110 Dickson St. Madison, Wisconsin.
2Harcourt-Brace and World Inc., 2126 Prairie Ave., Chicago, Illinois.
The Aetna Drivotrainer was used as a teaching device for the educable mentally retarded students taking driver education during the spring of 1960. A record of student progress, as indicated by scores on test films, "Always on Guard," "Backing," "Driving on Hills," "Parking Your Car," and "Your Road Test," was compared with scores of "normal" students in the same class taking driver education.

The data collected were used as the bases for a modified program of driver education designed to meet the needs of the mentally retarded students at North High School.

IV. REVIEW OF LITERATURE

A limited amount of research has been done on the development of a driver education program for the educable mentally retarded.

C. H. Kahn, special education instructor at Hayward High School, Hayward, California, developed a driver education program using the following tests:

3. Purdue Pegboard.\(^1\)

4. Bennett Mechanical Comprehension, Form AA.\(^2\)

5. Science Research Associates Primary Mental Abilities,\(^3\) Ages 11-17.

\(^1\)Science Research Associates, 259 East Erie St., Chicago, Illinois.

\(^2\)Psychological Corporation, 303 East 45th St., New York, New York.

\(^3\)Science Research Associates, 259 East Erie St., Chicago, Illinois.
program for the mentally retarded on a twenty week bases.
The program set-up by Kahn was divided into three categories:
(1) learning parts of the car, (2) studying motor vehicle
code, and (3) behind-the-wheel driving. Kahn found that the
mentally retarded student could participate in the driver
education program if the materials used in the driver educa-
tion course were simplified.¹

O. L. Young, driver education instructor at Santa
Monica High School, Santa Monica, California, found many
schools work with the mentally retarded in the core subjects:
English, mathematics, and social studies. However, these
youngsters are "thrown in" with the rest of the school for
driver education classes.²

V. DEFINITION OF TERMS

Educable mentally retarded. The educable mentally
retarded student in the senior high school driver education
program is sixteen to nineteen years of age with an intelli-
gence quotient range between 55 and 75. He has an appearance
that is similar to any other youngster his age, but he is

¹C. H. Kahn, "Teaching Driver Education To Mentally
Retarded Adolescents," Exceptional Children, XXII (October,
1955), 17-19.

²O. L. Young, "Driver Education for the Mentally Re-
tarded Student," California Teachers Association Journal, LI
(March, 1955), 26-27.
lower in capacity and achievement in the basic skills of reading, writing, and spelling.

**Aetna Drivotrainer.** Aetna Drivotrainer is a teaching aid for driver education developed by the Aetna Casualty and Surety Company and manufactured by the Automatic Voting Machine Company. The teaching aid is composed of the following parts: a number of small Aetna cars which are equipped with the controls found on a standard automobile; a master control and recording cabinet electrically connected to each of the Aetna cars; and detailed instructions for use with 16mm movie films, which have been especially produced for use with the drivotrainer.

The driver education program was planned for students who are not yet competent to operate a motor vehicle.

**Reaction time tester.** This is a device in which the clutch, brake, and accelerator pedal are arranged in the same manner as they are in a conventional automobile. In testing, the subject sits down and places the right foot on the accelerator. He is directed to move his foot from the accelerator to the brake pedal as rapidly as possible when a red light appears. The distance an electrically-run timing hand travels, after the red light appears and until he steps on the brake, measures the braking reaction time.

**Profile sheet.** A profile sheet is a form used to record the results of tests taken by students. The sheet is marked off in graduated percentiles from 0 to 100.
Chapter II

Driver Education at North High School

The 1957 driver education program and plan for instruction used at North High School was developed by Lloyd Klinzeman, former driver education instructor at North High School, and the writer. The 1957 program was developed through trial and error until the instructors had developed a satisfactory program for the "normal" students.

The driver education program was planned for a ten-week course with five fifty-five minute periods a week. The students were to spend forty-five clock hours in driver education. The time allotted for each of the different categories was as follows: twenty-four hours of classroom and study; twelve hours in the Aetna Drivotrainer; nine hours in the dual control car, three hours driving behind-the-wheel, and six hours as an observer.

I. Program for "Normal" Students

A. General Objectives

1. To create a conscientious sense of social responsibility in drivers.

2. To set up standards for safe, sportsmanlike driving.

3. To equip drivers with the information, skill, practices, and habits needed for such driving.
4. To orient the driver and the pedestrian to this motor age. Every course in driver education in the
5. To reduce traffic emergencies and accidents to a minimum.

B. PURPOSE

The purpose of driver education, as it is taught at North High School, Des Moines, Iowa, is to provide the best possible program of driver education for the greatest possible number of students consistent with pupil needs, available facilities, and financing.

C. AIM OF DRIVER EDUCATION

By providing an educationally sound program of driver education to all of the students at North High School, Des Moines, Iowa, the school is fulfilling its responsibilities to the individual student, to the members of the school district, and to society as a whole by making a contribution toward the solution of the problem of traffic and highway safety as they exist at the local, state, and national levels.

D. HOW THE COURSE IS SET UP

The driver education program at North High School is divided into three phases: (1) classroom, (2) drivetrainer, and (3) dual control car. This should be shown about highway

1. Classroom phase

The classroom and study phase is divided into six units.
a) Unit I: Legal Requirements

In teaching the course in driver education, the first project is to make a study of the rules and regulations of the State of Iowa.

(1) Objectives

(a) To develop an understanding of and a respect for the purposes and desirability of traffic laws and regulations.

(b) To acquaint students with the traffic laws and regulations pertaining to the State of Iowa.

(2) Unit Outline

(a) What are the age requirements for obtaining a driver's license?

(b) What provisions are made in the law for people to learn to drive?

(c) What are the rights and duties of pedestrians?

(d) What are the rules regarding the giving of hand signals?

(e) For what acts might you lose your driver's license?

(f) What facts should be known about highway signs and markings?
(g) What are the speed regulations?

(h) What equipment must be included in order to make the car road worthy?

(i) What are the penalties for failing to live up to the rules and regulations?

(3) Student Activities

(a) Each student, under the age of eighteen years, must secure written consent from the parents to drive.

(b) Each student must fill out an application for a driver's permit.

(c) Class discussion.

(d) Eye tests.

(e) Film.

(i) "Your Permit to Drive."

(f) Test to obtain an instruction permit.

(4) Pamphlets.

Department of Public Safety, The Iowa Drivers' Guide: Current issue. Des Moines, Iowa; The State of Iowa.

b) Unit II: The Driver.

The art of driving, like the art of living, requires the development of attitudes characterized by responsibility, sportsmanship, and courtesy. In the hands of a responsible driver, the motor vehicle
is a useful tool; but in the hands of an irresponsible person, it can be an instrument of destruction, injury, and death. The good driver evaluates his own physical and psychological abilities and compensates for limitations and defects. He also understands and compensates for faults of other highway users. In order for a motor vehicle operator to practice good driving judgment, he must stay alert, practice self-control, and make wise use of driving knowledge and skill.

(1) Objectives

(a) To provide students with an understanding of the psychophysical limitations of drivers and to develop methods of compensating for deficiencies.

(b) To develop an awareness of differences in physical qualifications of drivers.

(c) To show the effects of emotions, habits, and attitudes on driving performance.

(d) To acquaint students with the desirable and undesirable mental traits of drivers.

(2) Unit Outline

(a) The automobile has changed our lives.

(b) Traffic accidents.

(c) Improving traffic safety.
(d) Good eyesight and the driver.
(e) How the driver's eyes must function.
(f) Danger in eye fatigue. Construction and
(g) General health. The vehicle and a master.
(h) Physical unfitness. Have been developed.
(i) Bringing the car to a stop. Reaction time.
(j) The stopping distance.
(k) The danger zone.
(l) Consistent reaction time.
(m) Margin of safety.
(n) How drivers differ. The journey.
(o) Bad risks as drivers.
(p) The thrill of power.

(3) Student Activities: entwickel a better driver.
(a) Written assignments:
(b) Class discussion: good driver; bad driver.
(c) Film: "Incredible Journey."

(4) Textbook
American Automobile Association, Sportsmanlike
Association, 1955. Chapters I, II, III, IV, and
V.

(c) Unit III: Learning How to Drive
Driver education students should develop the feeling
of confidence that is necessary to handle an automobile properly. This confidence should be based on an understanding of the construction and mechanical operation of the vehicle and a mastery of the fundamental skills which have been developed through carefully guided practice in actual traffic situations.

(1) Objectives

(a) To develop an understanding of the purpose of the various gauges and control devices located in the driver's compartment.

(b) To give the student self-confidence in his ability to maneuver a motor vehicle under various traffic conditions.

(c) To strengthen the good driver attitudes developed through classroom instruction.

(2) Unit Outline

(a) At the wheel.

(b) The gauges.

(c) Six safety aids.

(d) Starting devices.

(e) Control devices.

(f) Under the hood.

(g) Transferring the power to the rear wheels.
(h) The brakes.
(i) The steering system.
(j) Car readiness.
(k) Personal readiness.
(l) Driving cars with automatic transmissions.
(m) Backing the car.
(n) Turning the car around.
(o) Preparation to drive in traffic.

(3) Student Activities
(a) Written assignments.
(b) Class discussion.

(4) Textbook
and X.

d) Unit IV: Traffic Laws - Natural and Man-made
Traffic rules promote safe, efficient, and orderly movement of traffic. Past experience and nature's laws have combined to provide rules and regulations for traffic. It is the obligation and responsibility of each driver to abide by these laws to safeguard life, limb, and property, and thus help to make driving more enjoyable.

(1) Objectives
(a) To develop an understanding of, and a respect for, the basic laws of motion and how they affect the operation of a motor vehicle. Driving.

(b) To develop an understanding of, and a respect for the purposes and desirability of traffic laws and regulations.

(c) To develop a disposition towards practicing rules of the road rather than following one's impulses.

d) To foster a spirit of encouraging others to drive safely and obey the rules of the road.

(2) Unit Outline

(a) Nature's laws demand obedience. and other types of driving.
(b) Friction.
(c) Kinetic energy and changing speed.
(d) Force of impact.
(e) Laws developed from custom.
(f) Rules of the road.
(g) Responsibilities in case of accident.
(h) Laws concerning ownership and licensing.
(i) Enforcement of laws.
(j) Results of observance and enforcement.

(3) Student Activities
(a) Written assignments.
(b) Class discussion.
(c) Film: "Look Who's Driving." Reverse Unit.

(4) Textbook

e) Unit V: Sound Traffic Practices

On the highway, there are judgments and decisions to be made calling for alertness and split-second timing. City driving requires constant attention to the action of other drivers and behavior of pedestrians. Readiness for instant and correct action can avoid serious trouble. Rural and super-highway driving create other types of driving responses. By developing thorough knowledge of traffic situations under various conditions, the beginning driver learns to avoid accidents and gains valuable ability and confidence.

(1) Objectives

(a) To develop proper attitudes toward driving responsibilities.

(b) To provide the student with the fundamental knowledge essential to the
acquisition of basic manipulative skills in driving.

(c) To acquaint the student with skill maneuvers required under adverse conditions. [Chapters XV, X, XVI, XVII]

(d) To provide training perception.

(2) Unit Outline

(a) Successful "solo driving."
(b) Sportsmanship at the wheel.
(c) The open road.
(d) Rounding curves.
(e) Going over hillcrests.
(f) Pavement edges.
(g) Driving in traffic.
(h) Winter driving.
(i) Driving in special areas.
(j) Care of safety and control devices.
(k) Good pedestrian habits.
(l) Pedestrian protection programs.

(3) Student Activities

(a) Written assignments.
(b) Class discussion
(c) Map reading
   i) City and state maps
(d) Film on an appreciation for the
f) Unit VI: You and The Motor Age

The motor vehicle has become an essential part of our civilization. But it has done so at a tremendous cost of life, limb, and property. Within the last half-century, because of mass production, distribution, and use of motor vehicles, highway traffic control has become a major social and economic problem in the United States.

Many individuals and groups have devoted a great deal of effort to engineering, law enforcement, and education to stem the tide of destruction, disfigurement, and death. The ultimate solution to this problem seems to lie in the development of new generations of motor vehicle users who not only are skillful drivers, but who are socially concerned with and intelligently aware of the nature and importance of driving efficiency and traffic safety.

(1) Objectives

(a) To develop an appreciation for the
pioneering efforts of automotive engineers.

(b) To enable students to understand that the automobile was developed through the application of scientific principles.

(c) To develop an understanding of the social and economic influences of the motor vehicle.

(d) To develop an awareness of the problems which highway transportation presents.

(e) To develop favorable attitudes regarding the responsibilities of drivers.

(2) Unit Outline

(a) Automobile and dollars.

(b) Economies in operating your car.

(c) Insurance protection against losses.

(d) Jobs in which you must drive.

(e) Jobs with a future.

(f) Building better roads.

(g) Engineering the highway.

(h) Highway financing.

(i) Managing modern traffic.

(3) Student Activities

(a) Written assignments.

(b) Class discussion.
2. Drivotrainer Phase

The Drivotrainer is a teaching device made up of the following parts: twelve Aetnacars which are equipped with all of the controls found on a standard automobile; a master control and recording cabinet electrically connected to each of the Aetnacars; and a complete course of study using specially designed teaching films. The films are in black and white and were written and produced as the result of a cooperative effort on the part of leading educators and the Aetna's Information and Education Department.

a) Advantages attributed to the use of the drivotrainer

(1) Classroom trainers shorten the time necessary in actual on-the-road training.

(2) By eliminating extraneous distractions, the classroom trainer enables students to learn more quickly and effectively.

(3) Many students can be taught simultaneously,
thus saving teacher's time and providing
more time for dealing with advanced problems
in actual traffic situations.

(4) Techniques for successfully meeting driving
emergencies can be more efficiently taught.

b) Unit Outline

The lesson plans for the films that are shown to
the students were produced by the Aetna Information
and Education Department and are supplied free of
charge to each school that has the drivetrainer
installations.¹

3. Dual-Control Car Phase.

a) Practice Driving Schedule.

There will be three students in the practice driving
groups under the supervision of an instructor in
a dual-controlled car. Each of the students will
receive three hours of practice driving behind-
the-wheel of a dual-controlled car and six hours
of observation time, making a total of nine hours
in this phase of the instructional program.

b) The Dual-Control Car.

The car to be used in this phase of the instructional
program shall be a standard automobile secured from

¹Appendix (c) driving.
a local representative of a nationally-known manufacturer and shall be equipped with a set of standard dual-controls as recommended by the manufacturer for use with his automobile. Other special equipment for use on the dual-control car shall be supplied at the direction of the board of education and shall include:

(1) A sign or lettering on the car which shall read "Des Moines Public Schools - Driver Education" below which shall appear a credit line of the local dealer supplying the car.

(2) An outside rear-view mirror on each side of the car.

(3) Insurance coverage as specified by the board of education.

The dual-control car shall be operated only in direct connection with the driver education program and shall be under the supervision of one of the driving instructors at all times.

c) Unit Outline

(1) Incidental Steps in Car Operation.
   (a) Starting the engine.
   (b) Gear positions.
   (c) Stopping the car.
   (d) Steering.
(2) Observing Traffic Patterns.

(a) Changing lanes.

(b) Right and left turns.

(c) Observing all traffic signs and signals.

(3) Maneuvering the Car.

(a) Turning the car around.

(b) Backing the car.

(4) Downtown Driving.

(a) One-way streets.

(b) Observing all traffic signs and signals.

(c) Signalling.

(d) Changing lanes.

(5) Gaining Proficiency.

(a) Starting and stopping on hills.

(b) Driving in city traffic.

(6) Parking.

(a) Parallel.

(b) Angle.

(7) Highway Driving.

(a) Speed adjustments.

(b) Passing.

(c) Getting on and off pavement edges with car.

(d) Observing road signs.

(8) Review.
(a) Students work on the skills in which they experience the most difficulty.

(9) Pre-Road Test.

(a) Backing.

(b) Driving in traffic.

(c) Parking.

(d) Right and left turns.

(e) Signalling.

(f) Controlled intersections.

The Iowa Highway Patrol Examiner tests the students to determine whether or not they qualify for an Iowa Driver's License.

II. MODIFYING DRIVER EDUCATION PROGRAM TO MEET THE NEEDS OF MENTALLY RETARDED STUDENTS

Testing of the mentally retarded students in relation to reaction time, distance judgment, and field of vision failed to reveal any reasons why these students, as far as necessary driving skills are concerned, could not become competent drivers.

Reaction time test. A reaction time test given to twelve educable mentally retarded students revealed no marked difference between them and the "normal" students as shown in Table II.
Data indicated that the reaction time of the mentally retarded girl students was slightly behind the national norm of 0.40 second. The difference in score between the mentally retarded girls and the national norm is not enough to present any hazard in driving a car. Therefore, no change would have to be made in this phase of the driver education program.

**Distance judgment test.** A person with faulty depth perception usually cannot judge distances accurately. In the distance judgment test, the students have two miniature cars in a box twenty feet in front of them. Strings are attached to the cars. The student has to pull the strings and attempt to line the cars up side by side. Unless a person's distance perception is considerably below normal, he should have an error of less than one inch in lining the cars side by side. In Table III is shown the results of the twelve educable mentally retarded student's and twelve "normal" student's error in judgment. The students had three tries at lining the cars up side by side. The results presented in Table III is the average of the three tries.

The data presented in Table III indicates there is no difference between the educable mentally and the "normal" student, since the "normal" student's average error is less than one inch. The data obtained from this test indicate there is no problem as far as distance judgment is concerned.
### TABLE II

**A COMPARISON OF AVERAGE REACTION TIMES OF TWELVE EDUCABLE MENTALLY RETARDED WITH TWELVE NORMAL STUDENTS**

<table>
<thead>
<tr>
<th>Mentally Retarded Students</th>
<th>Normal Students</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boys</strong></td>
<td><strong>Boys</strong></td>
</tr>
<tr>
<td>Score in Seconds</td>
<td>Score in Seconds</td>
</tr>
<tr>
<td>A</td>
<td>0.40</td>
</tr>
<tr>
<td>B</td>
<td>0.39</td>
</tr>
<tr>
<td>C</td>
<td>0.40</td>
</tr>
<tr>
<td>D</td>
<td>0.41</td>
</tr>
<tr>
<td>E</td>
<td>0.39</td>
</tr>
<tr>
<td>F</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Note: This table should be read as follows: The scores shown for each student are the average of ten trials on the reaction time tester.
### TABLE III

RESULTS OF DISTANCE JUDGMENT TESTS FOR TWELVE EDUCABLE MENTALLY RETARDED STUDENTS AND TWELVE NORMAL STUDENTS

| Mentally Retarded Students | | | Normal Students |
|---------------------------------|---------------------------------|---------------------------------|
| Boys | Score in Inches | Girls | Score in Inches | Boys | Score in Inches | Girls | Score in Inches |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| B | 5/8 | B | 7/8 | B | 1/4 | B | 3/4 |
| C | 7/8 | C | 1/2 | C | 5/8 | C | 1/2 |
| D | 3/4 | D | 3/4 | D | 1/2 | D | 3/8 |
| E | 1/2 | E | 7/8 | E | 3/4 | E | 1/2 |
| F | 3/4 | F | 3/8 | F | 7/8 | F | 3/4 |
with educable mentally retarded, therefore, no change would be necessary on this phase of the program.

Field of vision test. Most persons can see more than 90° to each side, making a total field of vision of over 180°. A field of vision less than 140° is generally considered a serious handicap to safe driving. In Table IV are shown the results of the twelve educable mentally retarded students field of vision scores and the field of vision scores of twelve "normal" students.

The data presented in Table IV indicate the educable mentally retarded students field of vision is comparable with that of the "normal" students. Therefore, no change would be necessary in this phase of the program.

Examination of profile sheets. In examining the profile sheets of the educable mentally retarded students, the following items were noted:

1. There is a great difference among these slow learning students as to interest areas and types and levels of interest.

2. The aptitude and achievement test results reveal some high degrees of ability.

3. As a group these boys and girls made low test scores in the basic skill subjects of reading, arithmetic, grammar and spelling.
TABLE IV

RESULTS OF FIELD OF VISION TEST FOR TWELVE EDUCABLE MENTALLY RETARDED STUDENTS AND TWELVE NORMAL STUDENTS

<table>
<thead>
<tr>
<th>Mentally Retarded Students</th>
<th>Normal Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys Score in Degrees</td>
<td>Girls Score in Degrees</td>
</tr>
<tr>
<td>A 180°</td>
<td>A 183°</td>
</tr>
<tr>
<td>B 184°</td>
<td>B 179°</td>
</tr>
<tr>
<td>C 181°</td>
<td>C 180°</td>
</tr>
<tr>
<td>D 179°</td>
<td>D 161°</td>
</tr>
<tr>
<td>E 182°</td>
<td>E 181°</td>
</tr>
<tr>
<td>F 179°</td>
<td>F 180°</td>
</tr>
</tbody>
</table>

Note: This table should be read as follows: The scores shown for each student is the average of three trials on the field of vision tests.
4. The average amount of reading retardation is approximately five years for the group.

5. The mean intelligence quotient of the total group is 72.4.

6. On the Purdue Pegboard, which is a finger and arm dexterity test, there were more than over 50 percent of the students with a score above the 50th percentile on some parts of it.

The information gained from examining the profile sheets of the educable mentally retarded students helped the writer to modify the driver education program and plan of instruction to meet the needs of the mentally retarded students. Due to low scores of the mentally retarded students in the basic reading skills, the two tests given in the program will be given orally by the instructors. All lectures and written material given to the educable mentally retarded students will be simplified in such a manner that the students can comprehend the material.

Aetna drivotrainer. In using the drivotrainer with the students, films are shown to the students once before any scoring on the films take place. The instructor, before showing the films, always gives instruction on what the film will cover and what he wants the students to note throughout the viewing of the film. After showing the film and after
the students have driven in the drivotrainer cars, the instructor will comment on points they missed during the film and errors students made in their drivotrainer cars. After this critique with the students, the instructor will set the recording device to score the film the students had previously seen. The students will see thirteen films throughout the driver education course, but are graded only on five.

After the films are scored, the students have a sheet on which the mistakes made during the showing of the films are recorded. The instructor has a master copy that has the record of each car on it. The instructor reads from this master copy the results to the students, who mark whether the different things checked for are right or wrong on the score sheets. In Table V are the results of scores on the different films tested of the educable mentally retarded students and "normal" students in the same class. The students were scored twice on all of the films. A grade of eighty out of a possible one-hundred per cent is considered passing. The percentages was set up by the Educational Division of the Aetna Life Insurance Company. The scores in Table V are an average of twelve mentally retarded students compared with the scores of twelve "normal" students.

None of the educable mentally retarded students scored above eighty per cent on any of the films on the first
TABLE V

PERCENTAGES SCORE ON FILMS BY MENTALLY RETARDED STUDENTS COMPARED TO "NORMAL" STUDENTS

<table>
<thead>
<tr>
<th>Name of film</th>
<th>Mentally Retarded 1st</th>
<th>Mentally Retarded 2nd</th>
<th>Normal Student 1st</th>
<th>Normal Student 2nd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always on Guard</td>
<td>68</td>
<td>78.5</td>
<td>88</td>
<td>94.5</td>
</tr>
<tr>
<td>Backing</td>
<td>71.5</td>
<td>79.5</td>
<td>90</td>
<td>95</td>
</tr>
<tr>
<td>Driving on Hills</td>
<td>66</td>
<td>77</td>
<td>85</td>
<td>93</td>
</tr>
<tr>
<td>Parking Your Car</td>
<td>73</td>
<td>79</td>
<td>86</td>
<td>96</td>
</tr>
<tr>
<td>Your Road Test</td>
<td>75</td>
<td>80</td>
<td>89</td>
<td>96</td>
</tr>
</tbody>
</table>

recording of scores. Only four out of the twelve scored above eighty per cent on the "Road Test" film. The writer experimented on two of the films with this group. The films were showed twice before any scoring and then the educable mentally retarded students were scored twice. On the first scoring, only six out of the twelve educable mentally retarded students had a score of more than eighty per cent. On the second scoring, eleven out of the twelve has a score of eighty per cent or more.

Especially helpful for the mentally retarded students is the explanation of difficult terminology and phraseology related to the successful driving experiences. The mentally retarded students verbal weakness makes a grasp of the material nearly meaningless until symbols involved are skillfully
interpreted by the instructor. Even when this background is supplied, repetition of the filmed material will be necessary to achieve the level of proficiency which characterizes the performances of the normal student on a first viewing of the films.

The Aetna Drivotrainer program for the educable mentally retarded must be flexible and adaptive in order to adapt to their varying degrees of intellectual potential.

The present driver education program falls short of meeting the needs of the mentally retarded student for several reasons. First, it does not provide adequate time under the supervision of the driver education instructor. Second, too much of the material used in the text *Sportsmanlike Driving* assumes normal reading skills which the mentally retarded student does not possess. Third, materials are not adapted to the student's ability levels. Fourth, time is not used so that the mentally retarded student is free to work under the direct supervision of an instructor.

III. PROGRAM FOR EDUCABLE MENTALLY RETARDED STUDENTS

One of the first considerations in developing a driver education program for the mentally retarded is that of the amount of time to be allocated for the varying activities which constitutes the course of study.
The basic block of time to be set aside for the driver education program is to be ten weeks, the same time used for the regular driver education program.

While the basic block of time remains the same, the actual time for the program is greater. Within the ten week period, the educable mentally retarded will participate in the program five days a week under supervised instruction. This is in contrast with the three-day-a-week program under supervised instruction for "normal" students in the present program.

This arrangement of time is possible because mentally retarded students have no study periods, thus allowing for the greater utilization of available time. Normal students have study periods two days a week for unsupervised study.

The ten-week unit of time has been retained for purposes of this project because it can be easily accommodated within the administrative framework now employed at North Des Moines High School.

A recommended number of twelve students would take the driver education course within the prescribed time. Twelve students are recommended to make maximum use of the available Aetna Drivotrainers.

There have been adaptations of features of the present program for "normal" students, but only those phases which are clearly suited to the needs of the mentally retarded have been
This is consistent with the philosophy that educational tools and techniques must be flexible enough to meet this segment of our school population which must master the driving skills, but are not so natively endowed that this is possible within the present driver education program.

Therefore, a new approach implementing variations of a broadened nature has been proposed. The writer believes the proposed recommendations will have this effect, bringing the mentally retarded into a new program. Implementation of such a program calls for the practices:

1. That the program include a minimum of forty-five hours under supervision of the driver education instructor. This is an increase in time of eighteen hours over the present twenty-seven hours of supervision for normal students.

2. That the mentally retarded student presupposes limitations in reading skills. Therefore, all testing of students will be orally administered.

3. That the Iowa Highway Patrolman has agreed to administer orally the Iowa Drivers' License test on which a performance score of eighty-five per cent is essential before a drivers' permit will be issued. Patrolmen have noted that many of these students have failed the test two, three, even more times, because of inability to grasp terms or understand the phrasing
of questions.

4. That study in the textbook will be accomplished under supervision. Here again the problems of reading can be solved by the instructor as a resource person, always available to explain words and phraseology too difficult for the mentally retarded youngster.

5. That elimination of study periods for the mentally retarded will release time which may be used more efficiently under the supervision of an instructor. Study periods for the mentally retarded are generally considered as inefficient use of time.

6. That class projects will be supervised by instructors. This includes careful explanation of highway maps, local street traffic patterns, legal driver-related problems, and driving situations where accident possibilities exist.

7. That the film material introduced in conjunction with the Aetna Drivotrainer will be shown four times to the mentally retarded instead of twice, as in the case of normal students.

8. That materials be simplified wherever possible is recommended. This includes interpretation of textbook presentation and the material presented in the film accompanying the Aetna Drivotrainer.
IV. EVALUATION

The program for the mentally retarded students proposed by the writer was put into effect in the fall semester of 1960. While data is inconclusive, it appears that the program for the mentally retarded outlined here provided increased opportunity for growth and the development of certain essential driving skills.

For example, under the original program, all of the mentally retarded students, who were required to read the test necessary to obtain a driver instruction permit and to take the test without oral assistance, failed. Under the proposed plan, with the test administered orally, only one out of twenty-two students failed on the first attempt.

Grades on course examinations covering material presented in films improved significantly after the films were shown the recommended four times instead of two, as in the present program for the normal student.

Examination over text and lecture materials was successfully completed by ninety-one per cent of the students when the test was administered orally. Under the conventional paper-pencil testing used previously for the mentally retarded students, none successfully completed the examination.

Further, notebooks, class projects, and other assigned efforts, which "normal" students may complete independently
were done with more care, accuracy, and punctuality by the mentally retarded student while working under supervision of an instructor.

V. SUMMARY

In modifying the driver education program developed by Lloyd Klinzman and the writer to meet the needs of the mentally retarded students, the following adjustments are urged:

1. That the students spend a minimum of forty-five hours under direct supervision of the instructor.
2. That all testing be administered orally.
3. That all textbook and class project work be under the supervision of the instructor.
4. That film material used with the drivotrainer be shown to the students four times.
5. That all testing, class lectures, projects, and films be simplified so the students can comprehend the material.

From the data presented, the writer has modified the present driver education program to meet the needs of the mentally retarded students at North High School.
CHAPTER III

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY

This project was based on the assumption that regardless of academic ability most high school students will hold an Iowa Operators License; therefore, the purpose of this project was to develop a driver education program for the educable mentally retarded to be implemented at North High School, Des Moines, Iowa, to meet the needs of the educable mentally retarded, the recommendations of the State Department of Public Instruction, and the requirements of the Department of Public Safety.

The project included a review of literature in the field of driver education for the mentally retarded. Data were made available for this project from the following sources: (1) Driving records from the files of the Department of Public Safety; (2) the driver education program at North High School; (3) scores on reaction time, distance judgment, and field of vision tests; (4) profile sheets of the mentally retarded; and (5) Aetna drivotrainer program.

The writer reviewed literature that pertained to the mentally retarded in the field of driver education.
A comparison was made of driving records of the mentally retarded to that of "normal" individuals. The information was obtained from the Department of Public Safety. Both groups examined had had driver education at North High School.

The driver education program was reviewed by the writer to see what phases could be used in the program for the mentally retarded.

Reaction time, distance judgment, and field of vision tests were given to the educable mentally retarded students and "normal" students to see if there was any difference between the two groups.

The writer examined profile sheets of the mentally retarded that indicated interest, aptitude, and ability.

Scores of the mentally retarded on test films used with the drivotrainer was compared with scores of "normal" students in the same class.

In reviewing the literature, the writer found that hardly any research had been done in this field. The literature that was reviewed confirmed the writer's findings that simplification of the materials used in the teaching of driver education was needed.

In comparing the driving records of the mentally retarded to "normal" individuals, the data indicated there was a need for a separate program for the mentally retarded
students.

In reviewing the driver education program at North High School, the writer concluded that the program could be used with the mentally retarded students, but certain modifications were needed to meet the needs of the mentally retarded.

The scores of the mentally retarded students on the reaction time, distance judgment, and field of vision tests revealed that the mentally retarded fell within the range of the "normal" students on the tests.

The profile sheets of the mentally retarded students revealed that the students were low in reading ability and spelling. This was one reason for the simplification of the materials used in the teaching of driver education.

The scores of the mentally retarded on the test films used in the drivetrainer phase of the program revealed the mentally retarded students were below the standards set forth by the producers of the films. The mentally retarded program provides for the repetition of the films for the mentally retarded students and enables them to meet the standards set up by the producers of the films.

II. CONCLUSIONS

The information and data in this study seem to justify the following conclusions:
1. The educable mentally retarded student cannot compete in the same class with the normal student because of his slowness in the basic skills of reading and writing.

2. The success for this type of person must be related to a modified presentation of material based upon the ability of the student.

3. A driver education course, properly presented, offers more incentive than most courses that the educable mentally retarded can experience in the high school.

4. The mentally retarded student possesses physical skills necessary for driving a car in the same degree as normal students.

5. The educable mentally retarded student can benefit and succeed in a driver education course.

6. Motivation is continuous since there is an opportunity to drive an automobile on the streets of Des Moines as well as taking the training in the classroom.

7. The Aetna Drivotrainer is an important aid in teaching the educable mentally retarded the steps in the proper operation of the automobile.

III. RECOMMENDATIONS

The following recommendations are offered by the writer:
1. That educable mentally retarded students should be grouped in separate classes, not mixed with the "normal" students in driver education.

2. That the educable mentally retarded student's counselor should help the driver education instructor in getting the materials out to the students; seeing that the students get the materials home; and that materials are brought back at the proper time.

3. That a related unit in the care and maintenance of the automobile be conducted synonymously with the driver education program by the auto mechanic department to teach students care and maintenance of the automobile necessary for its safe operation.

4. That a follow-up study be inaugurated after the recommended program has been implemented to determine whether mentally retarded students are developing improved driving skills and attitudes.
BIBLIOGRAPHY

A. PERIODICALS


B. BOOKS


C. UNPUBLISHED MATERIAL


FILMS USED ON THE AETNA DRIVOTRAINER

1. Introduction of the Drivotrainer
2. Driving Automatic Shift Car
3. Turning At Intersections
4. Defensive Driving
5. One-way Streets
6. Shifting Your Car
7. Backing
8. Driving On Hills
9. Learning to Park
10. Parking Your Car
11. Always On Guard
12. Driving On Country Highways
13. Your Road Test
Title: Introducing the Drivotrainer

Aim: To familiarize the students with the Drivotrainer by demonstration and practice.

Preparation:

Thread the projector and have the proper programming plug inserted in the recorder for automatic scoring. Have the "rear window mirrors" properly adjusted. Students should be instructed to listen carefully to the narration for directions.

Procedure:

1. Brief students on content and aims of the film.
2. Teacher should put special emphasis on the place of simulators in training.
3. Run film and score.
4. Explain and discuss scores with students and have them mark error check sheets.
5. Discuss the future application of the methods, techniques and skills portrayed in this film.
6. Run film and score again.
Title: Driving An Automatic Transmission Car

Aim: To demonstrate the elementary skills necessary for the safe operation, in uncomplicated situations, of a car equipped with an automatic shift. This is a basic film for beginning drivers and covers: (a) the location of the various gears on several of the different quadrants currently in use; (b) selection of the proper gear; (c) starting and safety practices when leaving the curb; (d) the proper use of the brake; and (e) the safe way of turning corners.

Preparation:

Have Drivotrainer ready for automatic operation with film loaded and ready to show, correct plug in scoring socket and projector amplifier turned on. Students should have Error Check Sheets.

Procedure:

Brief the students thoroughly on what to look for in the film. Among the points you will probably want to cover are:

(a) Learning the designation and use of the gears on the quadrants.

(b) The fact that, unlike standard transmission gear-shifts, there is more variation in the location of gears on the automatic transmission quadrants.

(c) Safety practices in starting the car and pulling away from the curb.

(d) The need for vigilance at the wheel.

(e) Establishing a safe speed.

(f) Use of the brake.

(g) Safety precautions to take in turning a corner.

The film can be repeated on automatic operation as
many times as is necessary for the class to reach the desired level of proficiency.

If the teacher studies the film thoroughly enough so that he can use it effectively with the Drivetainer in "manual" operation, he can run and re-run sections of the film until he is sure the lesson is grasped. For example, he would not proceed to that section dealing with the safe method of leaving the curb until the class had grasped the method of gear selection. The first section would be repeated until the scores of the students reached the desired level of proficiency.
Title: Steering, Signalling and Braking

Aim: To teach students correct steering techniques on curves, on straight roads, and when turning corners, left and right; the use of proper signals; proper recovery from steering operations; correct use of the foot brake in typical road situations; and to give further practice in those skills taught in Film 1.

Preparation:

Have Drivotrainer ready for operation with Film 2 ready for showing. Plug 2A should be in place in the scoring socket, with plug 2B at hand for easy changing. Students should be in Aetnacars with error check sheets. Sound amplifier should be turned on.

Procedure:

1. Brief students on content of film and stress the highlights.

2. Run film for observation and allow the students to practice with the controls. Do not score.

3. Answer any questions arising from the film showing.

4. Run film and score. Remember to remove plug 2A immediately after the 20th scoring incident and replace with plug 2B for the remainder of the film.

5. Read scores to students and have them make any necessary comment.

6. Rerun film and score again. Remember to start the film with plug 2A in the scoring socket.

Review: Compare both score sheets, point out common errors, and indicate the proper remedies. Stress the major learning points and caution students to be alert for them as the film is shown.

Testing: Run film and score again. Compare results with the standard of proficiency (80%). If unsatisfactory, continue to teach with this film until the desired proficiency is reached.
Title: Defensive Driving

Aim: To teach students recognition of potentially dangerous situations so that they can avoid involvement in emergency situations brought about by the careless or reckless acts of other drivers.

Preparation:

Have Drivotrainer ready for automatic operation. The film should be loaded and ready for showing. The correct scoring plug should be in the socket and projector amplifier turned on. Students should have Error Check Sheets.

Procedure:

1. Brief students on the purpose and content of the film. Among the points that may be covered are:
   a. First part of film is a third person demonstration of the principle of defensive driving.
   b. Remainder of film gives students an opportunity to drive their classroom cars in a series of driving situations requiring them to apply defensive driving tactics such as:
      (1) covering the brake for quick stops
      (2) making precautionary slowdowns
      (3) alertness for cars which change lanes without warning
      (4) yielding the right of way
      (5) maintaining proper distance behind car ahead
      (6) allowing room for cars to pass safely

2. Run the film and score students.

3. Discuss the score sheet, and have students mark errors on check sheets. Answer questions arising from the reading of the scores.

4. Rerun film and score again.

5. Continue showing film until class reaches the desired level of proficiency on the scores.
Title: Driving on One-Way Streets

Aim: To give the students a better understanding of and appreciation for one-way streets. The students will be shown many of the different ways in which one-way streets are marked and some of the ways of determining the direction of a one-way street while approaching it. Also, they will be shown the proper way to turn into and off of a one-way street from both two-way and one-way streets. They also take up parallel parking on the left-hand side of a one-way street.

Preparation:
Thread the projector, have the correct programming plug in the socket and have the projector amplifier turned on. Students should have their Student Error Check Sheets.

Procedure:
1. Brief the students thoroughly on the nature and content of the film and explain the purpose of one-way streets.
2. Run the film and score the students.
3. Discuss the scores with the students and have them mark their errors on their Student Error Check Sheets.
4. Rerun the film as many times as necessary to reach the desired degree of proficiency.
5. Discuss the film and draw analogies to local situations.

Review: Compare errors on the first and second score sheets. Point out the common weaknesses and indicate the remedies. Re-emphasize the important learning areas in the film. Listed below are some of the different items you might bring up for discussion.

1. Look over your shoulder before leaving the curb or changing lanes.
2. Signal before changing lanes or turning a corner.
3. Change only one lane at a time.
4. Turn from the proper lane and enter the proper lane on the other street.
Title: Shifting Smoothly

Aim: To teach students the location of all gear positions and neutral; the correct shifting techniques; the proper use of the clutch pedal, and its coordination with the accelerator in moving the car smoothly from a standstill; the correct engine starting technique; and finally the coordination of gear-shift lever, clutch, and accelerator to obtain smooth transition from one gear to another at the proper time.

Preparation:

Have Drivotrainer ready for automatic operation. Film should be loaded and ready for showing with the appropriate programming plug in the proper position. Students should be seated in Drivotrainer cars and supplied with error check sheets. The sound amplifier on the projector should be turned on, and all switches set for automatic operation.

Procedure:

1. Brief students on content, and stress highlights of the film.

2. Run film. Since this is the first film to be shown, it would be well to have students observe only, so that they may concentrate on the narrated instruction and on the action in the film. However, if the instructor desires, he may have the students practice during the first showing.

3. Rerun the film and score. Observe the students while they are operating the controls and make corrections of improper actions as they occur.

4. Discuss scores with students and have them mark error check sheets. Answer questions which may arise.

5. Run and score film a second time.
Title: Backing

Aim: To teach students correct clutch and accelerator techniques and proper signals to use when backing the car. To provide means of orienting students so they will develop correct steering skills and habits when backing. To develop a proper regard for the safety of others when backing.

Preparation:

Have Drivotrainer ready for automatic operation. Film 15 should be loaded and ready for showing. Plug 15A should be in the scoring socket with plug 15B at hand for quick changing. Students should be in Aetnacars and mirrors should be properly focused on the screen. Error check sheets should be in the hands of the students.

Procedure:

1. Brief students on the content of the film, stressing the highlights and special nature of the film. Explain the use of mirrors and of the reversed portions of the film. Warn students to follow the verbal instructions given on the sound track about turning to the rear and also about facing forward.

2. Run film for students' observation and have them practice using the mirrors.

3. Answer questions which arise after showing the film.

4. Run film and score students.

5. Give scores to students and have them mark error check sheets. Emphasize the weaknesses shown on the first run and point out the remedies.

6. Rerun film and score again.

Review:

Compare errors on first and second score sheets. Point
out the common weaknesses and indicate the remedies. Re-emphasize the important learning areas in the film.

**Testing:**

Although the film is equipped with an integral test section, it is desirable, because of the nature of the film, to rerun it in its entirety until the desired standard of proficiency is reached.
Title: Driving on Hills

Aim: To teach students the correct techniques, proper safety precautions and accurate sense of judgment needed for driving on hills.

Preparation:

Have Drivotrainer ready for operation, with film ready and programming plug in position. Students should be in Drivotrainer cars with error check sheets.

Procedure:

1. Brief students on the content and highlights of film, placing emphasis on the special techniques to be taught.

2. Run film and score.

3. Discuss scores with students, have them mark error check sheets, and indicate remedies for errors shown.

4. Rerun and score again.

5. Compare scores of the two runs, have errors recorded on check sheets.

Review:

Rerun film as necessary to reach an acceptable standard of achievement.

Testing:

Students are tested automatically with each run of the film since a test section is an integral part of the film.
Title: Learning to Park

Aim: To teach the techniques of steering, clutch and accelerator control, and braking needed for parking maneuvers. To develop judgement and the sense of safety desirable when performing these operations.

Preparation:

Have Drivotrainer ready for operation. Students should be in Aetnacars with error check sheets. Plug No. 1 for parking film should be in place with Plug No. 2 readily available for changing.

Procedure:

1. Brief students on content and highlights of the film, indicating where they should be practicing and where they should be observing only.

2. Run film and score.

3. Discuss scores and have students mark error check sheets. Point out weaknesses and suggest remedies.

4. Run film and score again.

5. Compare scores of first and second runs. Point out and stress remedies for indicated weaknesses.

Review:

Rerun and score film until acceptable standard is achieved.
Title: Parking Your Car

Aim: To test the proficiency of students in using the skills needed for parking the car. To test their judgement and attitudes in the use of signals, road speed, awareness of pedestrians, and their general safety consciousness. To test the students' control of their cars in close maneuvering.

Preparation:

Have Drivotrainer ready for automatic operation, with Film 21 loaded and ready for showing, plug 21 in the scoring socket. Students should be in Aetnacars with error check sheets and with mirrors in proper position for backing.

Procedure:

1. Brief students on the nature of the film.
2. Run film and score.
3. Discuss scores with students and have them mark errors on check sheets.
4. Rerun this film as many times as is necessary to reach the desired degree of proficiency.

NOTE: This film, although primarily a test film, is very useful in giving students needed drill in parking techniques. It should prove particularly valuable in locations where on-the-road parking practice is difficult or dangerous.
Title: Always On Guard

Aim: To demonstrate emergency situations likely to be encountered by the driver. To show some of the basic responses which may be helpful in avoiding accidents. To emphasize the need for alertness and "defensive driving." To test the reaction time of students. To drill students on basic responses so that they may be more able to cope with possible emergencies.

Preparation:

Have Drivotrainer ready for automatic operation with Film 12 loaded and ready to show, plug 12 in position in the scoring socket, and projector amplifier turned on. Students should be in their Aetnacars with error check sheets.

Procedure:

1. Brief students thoroughly on the nature of the film and be sure they completely understand what is expected of them. Tell them when to start engines and when to start driving. It is also advisable to warn each class that it must not divulge the contents of the film to other students.

2. Run the film and score students.

3. Discuss the score sheet, have students mark error check sheets and record their reaction times. Answer questions arising from the reading of the scores.

4. Rerun film and score again.

Review:

Rerun film and drill students as many times as is necessary to bring students up to the standard of proficiency in making proper responses to the emergencies shown.
Title: Learning to Drive on Country Highways

Aim: To give the student experiences in some of the many different situations which might occur while driving on roads of this type. The student will become familiar with gravel roads as well as paved surfaces. He is also shown the proper way to pass another car on the open highway and what to do when meeting another car which passes improperly. The student is also shown the proper way to enter a curve on the road and the safest way to stop on a highway.

Preparation:
Have the Drivotrainer cars changed from manual to automatic transmission. Thread the projector, insert the proper programming plug, and turn on the projector amplifier to let it warm up for immediate operation. Students should have their Student Error Check Sheets.

Procedure:
1. Brief the students on the nature and contents of the film.
2. Run the film and score the students.
3. Discuss the scores with the students and have them mark their Student Error Check Sheets.
4. Discuss the film and draw analogies to local situations.
5. Rerun the film as many times as necessary to reach the desired degree of proficiency.

Review: Compare the errors on the first and second score sheets. Point out the common weaknesses and indicate how they can be rectified. Re-emphasize the important learning areas in the film. Listed below are some of the different items you might bring up for discussion.

1. Stop and check for traffic before entering the highway.
2. Hold foot on brake while waiting for the highway to clear, to prevent the car from creeping forward.
3. Driving on the highway requires constant speed adjustments as the driver "reads the road ahead."
Title: Your Road Test

Aim: To provide a searching examination of the proficiency of the students in their use of the various driving skills taught in the course, as well as testing the dependability of their judgement as indicated by their reactions to the many and varied traffic situations shown in the film. To test their application of the traffic rules and regulations and their general observance and use of safe driving habits. To allow a thorough final check on their strengths and possible weaknesses, so that the weaknesses (if any) may be bolstered and special remedial practice may be given if necessary.

Preparation: Have drivotrainer ready for automatic operation with Film 22 loaded and ready for showing. Plug 22A should be in the scoring socket with plugs 22B and 22C at hand for convenient changing. Students should be in Astmacars with error check sheets, and with mirrors properly focused on the screen.

Procedure:
1. Brief students carefully on the film, paying special attention to the beginning of the film.
2. Run film and score, remembering to install plug 22B immediately after the 20th scoring incident is completed, and 22C immediately after the 40th incident has scored.
3. Discuss each item on the score sheet. Point out the weaknesses and prescribe the remedies. Have students mark their error check sheets. Answer questions arising from the results of the examination.

NOTE: Where common weaknesses are shown, it is advisable, if time permits, to rerun the particular film which teaches the skills in which weaknesses are shown. Additional practice such as this will help to improve student proficiency in these areas.