The primary purpose of this study was to determine the effectiveness of the Oregon Level I Diversion Program in changing knowledge and attitude concerning driving after drinking.

A secondary purpose was to determine the effect of the eight different class-time schedules used to teach the required 12-hour curriculum on the clients' test scores. An additional purpose was to determine if a significant correlation existed between gain in knowledge scores and selected instructional variables.

The 61 Item Drinking and Driving Inventory was administered to all 965 individuals in the sample. Pretest and posttest scores were analyzed using a Paired T and Analysis of Covariance. Data from questionnaires administered to teachers in the Oregon Diversion Program were correlated with students' gains in knowledge scores. The Pearson r and Spearman rho were used in the correlation analyses.
Results of the statistical analyses at the .05 level of significance were:

1. There was a significant difference in pretest and posttest scores for all four dependent variables (knowledge score, two attitude scores and the behavioral intention score).

2. There was a significant difference in the adjusted means among the eight time spans for three of the dependent variables (knowledge score, one attitude score and the behavioral intention score).

3. The instructional variable identified as Cultural Differences on the questionnaire correlated significantly with students' gains in knowledge scores.

An additional finding was gathered from the Oregon Department of Motor Vehicles' statistics. There was a lower re-arrest rate for the clients who completed the Level I Diversion Program than for the persons who chose to be processed through the court system.

Selected recommendations included:

1. A long range study of recidivism to include correlation of personal and demographic variables of clients should be conducted.

2. A demographic analysis of program instructors, including their educational background correlated with student performance, should be undertaken.
3. A contrastive analysis of two-hour versus three-hour class schedules should be designed including consideration of subject matters and voluntary versus mandatory classes.

4. Additional studies should be developed using this curriculum with: a) a cross section of adults without prior alcohol offenses, and b) adolescents who have had alcohol offenses.
A STUDY OF THE EFFECTIVENESS OF THE OREGON DUII (DRIVING UNDER INFLUENCE OF INTOXICANTS) MANDATED EDUCATIONAL PROGRAM IN CHANGING KNOWLEDGE AND ATTITUDE CONCERNING DRIVING AFTER DRINKING

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JUDITH A. CONKEY

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Dean of Graduate School

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Typed by Darlene Thorn for JUDITH A. CONKEY
DEDICATION

To my husband, Harlan, this thesis is dedicated in special appreciation and love for his patience and constant encouragement. His belief in my potential to accomplish this goal inspired me from start to finish.
ACKNOWLEDGEMENTS

Many expressions of gratitude need to be made at the completion of this dissertation. I want especially to acknowledge Dr. Tom E. Grigsby, my major professor. As my mentor in Adult Education, he inspired me to pursue a graduate degree and make a contribution to research in the field. He has continued to encourage me through the several years that I have been his student. Without his guidance and expertise, this paper would not have been accomplished. To the other members on my committee - Dr. Marjorie McBride, Dr. Forrest Gathercoal, Dr. Emery Hildebrandt, and Dr. Dave Lawson - all of whom were asked to fill in during the final year of my doctoral pursuit, I express my deep gratitude for their willingness to give of their time and assistance.

Special thanks must be given to Dr. Carol Brownlow, Director of the Oregon Diversion Program, who has given me professional guidance and assistance from her office which certainly made this research more possible, more accurate, and more pleasant. Her willingness to give of her time and her information was invaluable.

I am also very appreciative of the support I have received from friends and professional colleagues. Those at O.S.U. and at Western Oregon State College gave encouragement and helpful suggestions treasured beyond their knowledge.
My three lovely children, Janet, Jeff and Jill, have all reached adulthood during my years as a doctoral student; their sacrifices and support have given rewards unanticipated at the outset and have been the source of a valuable lesson that the life of the mind does not occur in a vacuum.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>INTRODUCTION</td>
</tr>
<tr>
<td></td>
<td>Purpose of the Study</td>
</tr>
<tr>
<td></td>
<td>Objectives of the Study</td>
</tr>
<tr>
<td></td>
<td>Background Information</td>
</tr>
<tr>
<td></td>
<td>Rationale for the Study</td>
</tr>
<tr>
<td></td>
<td>Limitations of the Study</td>
</tr>
<tr>
<td></td>
<td>Definition of Terms</td>
</tr>
<tr>
<td></td>
<td>Summary</td>
</tr>
<tr>
<td>II</td>
<td>REVIEW OF LITERATURE</td>
</tr>
<tr>
<td></td>
<td>Adult Education and Mandatory Continuing Education</td>
</tr>
<tr>
<td></td>
<td>Mandatory Education for Persons Arrested for Drunk Driving</td>
</tr>
<tr>
<td></td>
<td>Recidivism</td>
</tr>
<tr>
<td></td>
<td>The Development of Educational Countermeasures for Drunk Driving</td>
</tr>
<tr>
<td></td>
<td>Summary</td>
</tr>
<tr>
<td>III</td>
<td>RESEARCH DESIGN</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
</tr>
<tr>
<td></td>
<td>Design of the Study</td>
</tr>
<tr>
<td></td>
<td>Hypotheses</td>
</tr>
<tr>
<td></td>
<td>Population for the Study</td>
</tr>
<tr>
<td></td>
<td>Treatment Variable</td>
</tr>
<tr>
<td></td>
<td>Instrumentation</td>
</tr>
<tr>
<td></td>
<td>Data Collection</td>
</tr>
<tr>
<td></td>
<td>Method of Analysis</td>
</tr>
<tr>
<td>IV</td>
<td>PRESENTATION OF THE FINDINGS</td>
</tr>
<tr>
<td></td>
<td>Findings Relative to the Hypotheses Under Investigation</td>
</tr>
<tr>
<td></td>
<td>Hypothesis 1</td>
</tr>
<tr>
<td></td>
<td>Hypothesis 2</td>
</tr>
<tr>
<td></td>
<td>Hypothesis 3</td>
</tr>
<tr>
<td></td>
<td>Hypothesis 4</td>
</tr>
<tr>
<td></td>
<td>Rate of Recidivism</td>
</tr>
<tr>
<td></td>
<td>Summary of Findings</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

(Continued)

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>SUMMARY, DISCUSSION OF FINDINGS WITH CONCLUSIONS, AND RECOMMENDATIONS</td>
</tr>
<tr>
<td></td>
<td>Summary</td>
</tr>
<tr>
<td></td>
<td>Restatement of the Problem</td>
</tr>
<tr>
<td></td>
<td>Instrumentation and Curriculum</td>
</tr>
<tr>
<td></td>
<td>Objectives of the Study</td>
</tr>
<tr>
<td></td>
<td>Hypotheses of the Study</td>
</tr>
<tr>
<td></td>
<td>Findings</td>
</tr>
<tr>
<td></td>
<td>Discussion of Findings With Conclusions</td>
</tr>
<tr>
<td></td>
<td>Objective 1</td>
</tr>
<tr>
<td></td>
<td>Objective 2</td>
</tr>
<tr>
<td></td>
<td>Objective 3</td>
</tr>
<tr>
<td></td>
<td>Objective 4</td>
</tr>
<tr>
<td></td>
<td>Recommendations for Action</td>
</tr>
<tr>
<td></td>
<td>Program Recommendations</td>
</tr>
<tr>
<td></td>
<td>Recommendations for Adult Educators</td>
</tr>
<tr>
<td></td>
<td>Including Alcohol Educators</td>
</tr>
<tr>
<td></td>
<td>Recommendations for Further Study</td>
</tr>
<tr>
<td></td>
<td>BIBLIOGRAPHY</td>
</tr>
<tr>
<td></td>
<td>APPENDICES</td>
</tr>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
</tbody>
</table>
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Demographic Profile of DUII Diversion Clients</td>
<td>43</td>
</tr>
<tr>
<td>2.</td>
<td>Mean Scores, Standard Error, T Values and Levels of Significance for the Four Dependent Variables</td>
<td>56</td>
</tr>
<tr>
<td>3.</td>
<td>ANCOVA Among the Eight Time Spans for Part I of the Test Battery</td>
<td>58</td>
</tr>
<tr>
<td>4.</td>
<td>ANCOVA Among the Eight Time Spans for Part II of the Test Battery</td>
<td>59</td>
</tr>
<tr>
<td>5.</td>
<td>ANCOVA Among the Eight Time Spans for Part III of the Test Battery</td>
<td>60</td>
</tr>
<tr>
<td>6.</td>
<td>ANCOVA Among the Eight Time Spans for Part IV of the Test Battery</td>
<td>61</td>
</tr>
<tr>
<td>7.</td>
<td>Part I Posttest Scores with Ranked Means and Standard Error for the Eight Time Spans</td>
<td>62</td>
</tr>
<tr>
<td>8.</td>
<td>Part II Posttest Scores with Ranked Means and Standard Error for the Eight Time Spans</td>
<td>63</td>
</tr>
<tr>
<td>11.</td>
<td>ANCOVA Between Knowledge Gain and Behavioral Intention Gain for the Eight Time Spans</td>
<td>66</td>
</tr>
<tr>
<td>12.</td>
<td>Correlation Coefficients and Levels of Significance for Congruence in Responses to Questions 2 and 3 and Gain in Knowledge</td>
<td>69</td>
</tr>
<tr>
<td>13.</td>
<td>Correlation Coefficients and Levels of Significance for Congruence in Responses to Question 9 and Gain in Knowledge</td>
<td>70</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>14. Correlation Coefficients and Levels of Significance for Congruence in Responses to Questions 10, 11, 12, 13 and 17 and Gain in Knowledge</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>15. Instructors' Ranking of Items Causing Greatest Difficulty</td>
<td>72</td>
<td></td>
</tr>
<tr>
<td>16. Correlation Coefficients and Levels of Significance for Congruence in Responses to Question 19 and Gain in Knowledge</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>17. Population Distribution in Each Class-Time Schedule Configuration</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>
THE EFFECTIVENESS OF THE OREGON DUII (DRIVING UNDER INFLUENCE OF INTOXICANTS) MANDATED EDUCATIONAL PROGRAM IN CHANGING KNOWLEDGE AND ATTITUDE CONCERNING DRIVING AFTER DRINKING

I. INTRODUCTION

Americans everywhere are fed up with the toll the drunk driver exacts from us every year. Billions of dollars and almost countless human tragedies occur year in and year out, and it is time to bring this under control. (Volpe, cited in Johnson, 1982, p.2)

This statement by John A. Volpe, head of President Reagan's Presidential Commission on Drunk Driving, is representative of the national concern for the development of effective drunk driving countermeasures.

A look at the recent 1981 highway statistics shows cause for action to be taken:

- Traffic accidents are the major cause of violent death in the United States.
- Alcohol is involved in 50 percent of those fatalities.
- In 1980 an estimated 51,077 people died in motor vehicle crashes.
- Drunk drivers were involved in 25,000 of those fatalities, in addition to 750,000 injuries per year.
- As many as 25% of drivers in nonfatal accidents had been drinking prior to the accident.
- Motor vehicle crashes related to alcohol cost American society 1.8 billion a year. (NIAAA, 1981)

In 1982, President Reagan, with these alarming facts in hand, established a 30 member Presidential Commission on Drunk Driving to combat what he called an "epidemic" of drunk driving on the nation's
roads. This Commission is expected to play a key leadership role in a broad-based educational campaign to improve highway safety. This is the federal government's most recent effort to bring the drunk driver problem under control.

Clayton Hall, head of the National Highway Traffic Safety Administration, urges, however, that the action to solve the drunk driving problem requires an integrated effort by all levels of government and society. He states:

We must recognize that in a real sense drunk driving is first and foremost a local problem not a Federal one. It has reached national importance because it is a significant problem in every community in this nation. The ultimate responsibility for solving this problem must be accepted at the local level, for it is in our cities, towns, and counties that the primary resources for controlling the drunk driving exist . . . (Hall, cited in Vejnoska, p.8)

Hall goes on to say that the development and improvement of drunk driving countermeasures (i.e. action taken in retaliation) in the various states throughout the country offer promise for control of the present drinking driver population.

According to the National Safety Council (1982) 30 states and the District of Columbia have introduced or enacted legislation intended to address the problem of drinking and driving. Much of the recent legislation by states has concentrated on making it easier for police to enforce drunk driving laws. In addition, legislation in some states, including Oregon, has established rehabilitation programs for convicted offenders, often mandating rehabilitation or education for all first offenders. These legislated countermeasures
seek to educate people who have been arrested for driving while intoxicated not to drive drunk again. Determining the effectiveness of such educational treatment is vital for these programs' continued existence. It is Oregon's particular educational countermeasure, the Diversion Program, that provided the impetus for this study.

**Purpose of the Study**

The purpose of this study was to examine the impact of the Level I Oregon Diversion Program on clients who had been arrested for drunk driving. These clients received 12 hours of instruction about alcohol and its effects on the driving task.

**Objectives of the Study**

1. To determine whether mandated adult education as prescribed by Oregon's House Bill 2010 was effective for persons arrested for driving while intoxicated.
2. To determine if there was an effect of the time span used to teach the required curriculum on the differences in pretest and posttest scores.
3. To determine if there was a significant relationship between the gain in knowledge scores and selected instructional variables.
4. To determine the recidivism rate for participants who complete the Level I program during the year of the study.
Background Information

The United States began its love affair with the automobile in 1893; less than 10 years later drunk driving was added to a list of problems attributable to alcohol. (Cameron, 1979) Much concern about drunk driving has occurred in the 80 years hence. From a 1904 editorial which prophesied:

Inebriates and moderate drinkers are the most incapable of all persons to drive motor wagons. The . . . diminished power of control of both the reason and senses are certain to invite disaster in every attempt to guide such wagons. (Cited in Cameron, 1979, p.496)

to the formation of the Alcohol Safety Action Project by the federal government in 1970, the United States has experienced a tremendous growth in the drunk driving problem as evidenced in the current 1981 highway statistics.

Traditional punitive measures have been used unsuccessfully by courts in an attempt to control drunk driving. Lack of certainty of punishment has been cited as the probable cause of lack of success. (Ross, 1982) In his review of deterrence measures used in other countries, H. Laurence Ross concluded that certainty of punishment for drinking and driving seems to reduce such behavior; however, in the long run, this effect wanes. (Ross, 1982)

The American Automobile Assn., a private company, has been involved in seeking solutions to the drunk driving problem for two decades. In 1964, the AAA Foundation for Traffic Safety provided
funding to Columbia University's Teachers College to initiate the Safety Research and Education Project. This project focused on determining the most effective means of attacking the problem of drunk driving. In 1966, the AAA working with officials in Phoenix, Arizona, launched a full scale DWI (Driving While Intoxicated) Counterattack Program to reeducate and rehabilitate persons convicted of Driving While Intoxicated (DWI), as an alternative to punishment alone. The DWI school that evolved became the model for widespread efforts across the nation. (Vejnoska, Staffwriter, AHRW, 1982)

The Federal government has been actively involved in seeking solutions to the drunk driving problem since the late 1960's. The passage of the Highway Safety Act of 1966 and the Motor Vehicle Safety Act of 1966 laid the groundwork for the establishment of the Alcohol Safety Action Projects. This marked the real beginning of U.S. commitment to drunk driving countermeasures.

Rehabilitation countermeasures such as education and treatment designed to modify drinking behavior are a relatively new concept in the traffic safety area. (Cameron, 1979) Programs such as driver safety schools, group therapy, and individual psychotherapy have in some U.S. communities recently replaced or supplemented the traditional punitive measures used by courts when sentencing drinking drivers. (Malfetti and Simon, 1974)

An important distinction is made between countermeasures with general deterrence and those with specific or individual deter-
rence. General deterrence is aimed at discouraging the driving population as a whole from drinking and driving while specific deterrence is aimed at reducing the recidivism rate of convicted traffic offenders and reducing auto crashes. (Cameron, 1974; Reed, 1982)

In August 1981, the Oregon Legislature enacted House Bill 2010, which established Oregon's specific deterrence countermeasure. This Bill created new procedures and penalties governing persons arrested for Driving Under the Influence of Intoxicants (DUII). Although the bill addresses the penalties and sanctions for all DUII offenses, the bill also provides a new option to those individuals who have not been arrested for a DUII offense within 10 years. This option is called the Diversion Program. If an offender meets all the criteria established in the law, then that offender may agree with the court to be evaluated by an Alcohol and Drug Evaluation Specialist and to participate in an education and/or treatment program. Successful completion of the program and compliance with other conditions of the diversion agreement will result in the charge of DUII being dismissed. The legislation provided for program administration through the Oregon Mental Health Division which is responsible for providing future legislative bodies with data for justification of its continuation. The Mental Health Division has adopted a standardized curriculum to be used in all 71 instructional centers. Clients are referred for instruction through the following process:
1. Drivers receive a citation for DUII.

2. Drivers choose to participate in the diversionary program rather than plead guilty with its ensuing penalties and rather than pleading not guilty and hiring a lawyer.

3. Drivers are examined by a state trained Alcohol and Drug Evaluation Specialist.

4. Drivers, based on the results of this evaluation, are placed in either Level I or Level II treatment programs.

   Level I programs are didactic in nature. They are not treatment; and are designed to be used only for non-problem drinkers. Clients are required to receive 12 hours of instruction. The Level II programs are more intense than Level I requiring a minimum of 24 contact hours with each client. This program provides education, group therapy, and counseling.

   The Mental Health Division has designed a comprehensive evaluation design of the Diversion Program in five areas:

   1. Effect on the judicial system.
   2. Effect on the recidivism rate of offenders.
   3. Effect on the client.
   4. Cost effectiveness of the program.
   5. Performance of Alcohol and Drug Evaluation Specialists and DUII diversion treatment providers. (Brownlow, 1982)

This specific countermeasure deterrence program has been mandated by the legislature. Since the nature of this deterrence
program is largely experimental, this study will focus on an analysis of effect two and three:

2. Effect on the recidivism rate of offenders, and
3. Effect on the client.

**Rationale for the Study**

Despite the rapid growth in federal commitment to reduce drinking driving problems and the recent proliferation of drunk driving countermeasure programs in various states, knowledge of the impact of these various countermeasures is very limited. Cameron (1979) points out that only a small proportion of drinking-driving programs in the U. S. have ever been subjected to a scientific evaluation of their effectiveness in reducing the alcohol-traffic problem. In fact, much of what is known about the effectiveness of some types of drinking-driving countermeasures is based primarily on data from other countries. In 1976, U. S. Department of Transportation officials agreed that,

... few traffic safety programs have been scientifically assessed. ... Traffic safety research is handicapped by inadequate data systems and the inability to maintain experimental control over the areas to be assessed. Moreover, because of funding limitations, most safety projects are too small or too short to permit collection of sufficient criterion data to provide a sensitive test of the project's effectiveness. (Cited in Cameron, 1979, p.504)

In an extensive evaluation of the impact of the federally funded Alcohol Safety Action Projects, the National Highway Traffic Safety Administration reported:
As intended, the Program demonstrated how and where the traditional system for controlling drinking drivers needs improvement. Although various projects reached high efficiency levels towards the end of their three year terms, it became obvious that improvements are still needed. Enforcement needs to be maintained at a high level. Prosecutors and judges can speed their processing of cases. . . Education and treatment modalities need to make much bolder experiments in search of effective responses to problem drinkers. . . Evaluation--an experience almost completely new to the criminal justice system--is an essential tool for the effectiveness of both sanctions and the court system as a whole. (NHTSA, 1979, p.7)

The NHSTA also concluded:

. . . experimentation should continue to define the proper modalities, curricula, and staffing for evaluating and treating drinking drivers. (NHTSA, 1979, p.10)

The Oregon Diversion Program has high potential for impacting the drinking and driving behavior of its participants because it insures early identification of drinking problems and then requires clients to be matched to appropriate treatment, i.e. Level I or Level II. There is a greater probability of success with this program than in states where all first offenders are treated in the same manner. However, the fact remains that part of the success of the Level I Diversion Program must be determined by the success of the educational component. Therefore, it appears that research on this topic is warranted.

Moreover, this program presents a unique research situation in the area of adult education because the Diversion Program can be considered a form of mandatory education. Although the participants are given a choice, it is a limited choice. They must choose between the
Diversion Program and the expensive court procedure. Mandating education for adults presents an interesting paradox for a study since adult education theorists proclaim that successful adult education is voluntary and self-directed.

**Limitations of the Study**

This study will be subjected to the following limitations:

1. The reliability, validity, and objectivity of the 61 Item Drinking and Driving Test Battery.
2. The extent that the effect of prior knowledge on alcohol and its effects on driving would have on participants' test scores.
3. The accuracy of the test score information obtained from the Level I instructors.
4. The degree to which external psychological factors such as motivation, resentment, and attitude would have on participants' test scores.

**Definition of Terms**

Definitions of terms and abbreviations used throughout the study are provided so that they may be understood within the text.

**ADES**—Alcohol Drug Evaluation Specialist

**ASAP**—Alcohol Safety Action Projects. This was a federally funded forerunner of drunk driving countermeasures.
BAC--Blood Alcohol Content
Countermeasure--An action taken in retaliation to try to solve a problem.
Drunk Driver--This term describes the operator of a motor vehicle who is intoxicated. His/her blood alcohol concentration is at the legal minimum of .10 percent.
DUII--Driving Under the Influence of Intoxicants
DWI--Driving While Intoxicated
DOT--Department of Transportation
General Deterrence--Program whose purpose is to deter the large majority of drivers from driving after drinking through fear of arrest and sanctioning.
MCE--Mandatory Continuing Education, i.e. coursework a professional is required to take in order to keep his/her certificate or job.
NHTSA--National Highway Traffic Safety Administration
NIAAA--National Institute on Alcohol Abuse and Alcoholism
MHD--Mental Health Division
Recidivism--Relapsing to a former condition. In this study refers to re-arrests for drunk driving.
Specific Deterrence--Programs whose purpose is primarily to prevent a DWI offender from repeating the offense
Time Schedule Configuration--The scheduled class-times used to teach the curriculum - the number of hours per day times the number of days per week which had to total a minimum of 12 hours.
Time Span--Refers to the eight different class-times used in this study, as defined in Time Schedule Configuration.

Summary

The alarming increase of accidents and deaths due to drunk drivers nationwide has stimulated federal and state governments to legislate drunk driving countermeasures. The 1981 legislature in Oregon enacted an educational countermeasure - The Diversion Program. The Diversion Program began in 1981 under the auspices of the Mental Health Division. Clients for this adult education program are persons who have been arrested for drunk driving. The curriculum for this program contains information about alcohol and its effects on the driving task. The underlying assumption of this Diversion Program is that the knowledge gained by the participants will reduce the recidivism rate of drunk drivers. A complete and thorough evaluation of this program is vital to its continued existence. The effectiveness of the Diversion Program in changing knowledge and attitudes concerning driving after drinking was the concern of this study.
II. REVIEW OF LITERATURE

The review of the literature related to this topic was conducted in three areas: 1) Adult Education and Mandatory Adult Education; 2) Mandatory Education for Persons Arrested for Drunk Driving; and 3) The Development of Educational Countermeasures for Drunk Driving.

**Adult Education and Mandatory Continuing Education**

Roger Axford defines adult education as "Planned and organized learning activities chosen on either a formal or informal basis with the conscious intention of self-fulfillment including information seeking, understanding, skill acquisition, and identifying and solving personal and community problems. . ." This author also defines adult education as "The process of bringing about intelligent change in mature individuals, and in our community or society, through programs and agencies for continuing education." (Axford, 1980, p.6)

In defining adult education, some persons place an emphasis upon the individual and the benefits to be derived by the individual from continuing education, while others place the emphasis upon the improvement of society. Axford purports that adult education can help solve social problems in our communities. In fact, during times of social stress, adult education agencies are called upon to make up educational deficiencies for groups of people. (Axford, 1980) On the other hand educators must not lose sight of the importance of the
individual in adult education and of adult education to the individual. In our diverse society there are many purposes for adult education programs. Most adult educators would claim that the purposes of the various programs should be supplied by the learner, and the learner would attend voluntarily. However, there are situations in our society where adult education programs are compulsory. Cyril Houle (1981), acknowledges this fact when he lists six aims and goals of those who undertake any adult education program.

1. To make up for the deficiencies of incomplete earlier schooling.
2. To extend and develop further an interest which is already held.
3. To meet personally felt needs.
4. To fulfill a compulsory requirement set upon the individual from outside.
5. To follow a conscious pattern of maintaining breadth of view.
6. To carry on a habit.

In his fourth aim mentioned above, Houle states that some persons undertake a program because it is required by some outside agency.

In adult education literature compulsory education most often is referred to as Mandatory Continuing Education, i.e. coursework a professional is required to complete in order to keep his or her certificate or job. K. Cross, in her book, *Adults as Learners*, presents a well-written discussion on MCE in which she points out the complexity
of the mandatory continuing education trend. She states the basic issues surrounding MCE are:

1. To what extent should free American citizens be coerced into education?

2. Is compulsory education effective; that is, do people who are required to attend continuing education classes necessarily become more competent?

3. Who should be charged with developing and enforcing standards for professional accountability? (Cross, 1981, p.43)

Stern (cited in Cross, 1981) calls mandated continuing education "the most vexatious issue confronting adult educators and society." Mandatory Continuing Education (MCE) has received considerable attention in recent literature due to its controversial nature. While public school teachers have long been familiar with MCE in the guise of required inservice education, other professionals have only recently become subjected to MCE. According to Beverly Watkins in a recent Chronicle of Higher Education article, some form of continuing education is being required for 16 professions other than teaching, in all 50 states. For example, optometrists are required to participate in continuing education in 43 states. Twenty states mandate continuing education for physicians, with enabling legislation passed in four more states. Pharmacists must participate in continuing education in 21 states. (Chronicle of Higher Education) At present some form of continuing or inservice education for teachers is required or is under consideration in at least 28
states. Many others, such as New Jersey, Oklahoma, Utah, Vermont, and Virginia, permit local districts to set continuing education policy.

Professionalism and individual conscience dictate that the individuals keep current in their fields of practice in order to render the best service to the public. But, there is conflict. Generally, professionals are self-directed and do not want to deal with bureaucratic red tape and government agencies telling them how to function. Some practitioners may feel coerced into participating in continuing education because of a few who perform substandardly. (Lowenthal, 1981).

The wide disagreement among professionals about the appropriateness of MCE is discussed by several authors (Cross, 1981; Ohiliger, 1981; Smith, 1981; Miller, 1977; Tuttle, 1977). As Cross (1981) points out, coercion of free American citizens is basically a values issue which is difficult to resolve. In a recent issue of Lifelong Learning, Ohliger and Smith's opposing views are given. (Ohliger, 1981; Smith, 1981). John Ohliger from Basic Choices, Inc., opposes MCE. He writes that there is no evidence that MCE guarantees worthwhile learning, but that there is growing awareness that it, in fact, undermines it. Frank Kunkel, Executive Secretary of the Ohio Board of Pharmacy testified against MCE for pharmacists and Ohliger quotes:

No action by our legislators, short of capital punishment, can remove what few incompetents and malactors we
have from our ranks. A relatively few hours of MCE will have no significant effect in changing them from what they are to what the idealist would like them to be. Conversely, the good professional pharmacists are and have been exceeding the minimal requirements all along and because they want to, which is much better motivation than a statute. (Ohliger, 1981, p.5)

Conversely, a proponent of MCE, Roxie Smith, Assistant Executive Director of the American Council on Pharmacy Education in Chicago, feels that MCE is the most acceptable means of monitoring professional competence (Smith, 1981). She feels that state licensure boards prefer MCE because it is an easy requirement to install and less expensive than possible alternatives. Smith adds that practitioners prefer it because they can select the learning activities they desire. She equates MCE with the lifelong learning theory and feels that society and practitioners view MCE as an integral part of professionalism. Underlying the entire process is the assumption that if exposed to meetings, courses, readings, and other educational activities, the professional's existing knowledge and skills will be reinforced and new knowledge and new skills will be acquired.

Ohliger refutes Smith's idea that MCE is the most acceptable means of monitoring professional competence. He states that if it were truly acceptable it would not need to be enforced by escalating laws or association regulations. He sees force as a last resort tactic, and he supports this position by quoting the University of Wisconsin Extension: "There is no evidence that people continue to learn only when forced to do so."
Compulsory education for many adults in various professions is in use at the present time. Some liken it to compulsory education for children. Stern (cited in Cross, 1981) argues that since we accept it for children, we might as well accept compulsory education for adults. This argument prompts the examination of a core principle of adult education--that of andragogy vs. pedagogy. Andragogy, as defined by Malcolm Knowles (1970), is "the art and science of helping adults learn" whereas pedagogy is concerned with helping children learn. For many years adult educators have assumed that the characteristics of adult learners are different from child learners. These assumptions about adult learners are given by Knowles (1970) as follows:

Andragogy is premised on at least four crucial assumptions about the characteristics of adult learners that are different from the assumptions about child learners, on which traditional pedagogy is premised. These assumptions are that, as a person matures, (1) his self-concept moves from one of being a dependent personality toward one of being a self-directing human being, (2) he accumulates a growing reservoir of experience that becomes an increasing resource for learning, (3) his readiness to learn becomes oriented increasingly to the developmental tasks of his social roles, and (4) his time perspective changes from one of postponed application of knowledge to immediacy of application, and accordingly his orientation toward learning shifts from one of subject centeredness to one of problem centeredness.

In an analysis of these assumptions, it is difficult to determine why these should not apply to the teaching of children. And, in fact, Knowles (1970) himself wrote:

I believe that andragogy means more than just helping adults learn; I believe that it means helping human beings learn, and that it therefore has implications for the education of children and youth.
Cross (1981) points out, however, that Knowles refers frequently in his writings to the "unique characteristics of adults as learners" and to andragogy as a "comprehensive theory of adult learning." Thus, it is not clear if Knowles is advocating two distinct approaches to teaching--one for children and one for adults--or whether he is suggesting that andragogy replace pedagogy as a more sound approach to the education of both adults and children. If adult educators accepted this latter premise, andragogy would not be a theory of adult learning but, rather, a theory of instruction purporting to offer guidance to teachers in general.

This concept of andragogy is very similar to the "freedom to learn" concept as presented by Carl Rogers (1964) in his book entitled Freedom to Learn. In his theory, Rogers believes students can be trusted to learn and to enjoy learning when a facilitative person can set up an attitudinal and concrete environment which encourages responsible selection of goals and ways of reaching them. A close examination of his approach would lead the reader to believe that Rogers would accept the andragogy assumptions listed by Knowles as applicable to all ages of learners.

Kidd (1973) and White (Kreitlow, 1981) suggest that the appropriate difference in the education of children vs. adults should center around the issue of teaching vs. learning--not age difference. The literature in the field of adult education tends to be learner centered rather than instructor centered. This concept suggests that
the instructor is there only as a facilitator, not as a controller of
the learning situation. It must be noted that all pedagogical situ-
ations are not the opposite of this (Rogers, 1964).

Cross (1981) suggests, however, that if an educator wants to
know how to help a learner learn, the educator needs to know what
teachers do to facilitate learning. That seems to suggest a need for
a theory of teaching--or at least a theory for facilitating
learning. As Cross points out, the issue of andragogy has sparked
much debate but little research. It appears that more research is
needed which looks at how teachers facilitate learning. In addition,
research is needed in compulsory educational situations for adults.

The crux of the MCE controversy is stated by Cross (1981) in her
second question, "Is compulsory education effective: That is, do
people who are required to attend continuing education classes
necessarily become more competent?" She states that this question
should be answered through research, but so far there is inconclusive
data. Cross remarks that this lack of data forces us to rely on some
common-sense conclusions:

1. As a group, people who are required to learn are
more likely to have up-to-date information than
people who are not so required.

2. People who are motivated to learn are most
likely to be better informed than people who are
merely serving time in class.

3. Voluntary learning is most effective, but com-
pulsory learning is better than nothing.
Researchers have sent questionnaires to various professional organizations to determine their views on the need for MCE. One questionnaire was sent to a stratified random sample of 700 Maryland dentists. Of the 330 usable replies received, more opposed MCE than favored it. Those whose age was under 40 years were more in favor of MCE, while those over 40 years of age opposed it. Those who were opposed cited arguments to support their positions. They felt MCE was a "control from above" and they opposed controls on their lives and felt that one cannot force another person to learn. Others called continuing education programs "wastes of time" or "tax exempt vacation write-offs." (Whaples, Ewert, 1981)

Another questionnaire was sent to leisure service professionals in Wisconsin. Researchers sent the questionnaire to 1640 professionals with a 50 percent return. The importance of continuing education was ranked high by 87 percent of the leisure service professionals. Forty-seven percent believed that continuing education should be mandatory. (Henderson, 1980)

Unfortunately, these questionnaires sampled only opinions and do not measure any effectiveness of MCE. Therefore, adult educators are sure that continuing education can be mandated but are not sure that learning can. Many people would support Diana Darminati, Vermont Adult Basic Education Program, when she states, "We cannot make someone learn. Mandatory education is a misnomer. We can dangle jobs and training like a carrot to entreat participants, but we cannot
mandate learning, and all the aphorisms in the world are not going to change that fact." (Ohliger, 1981)

Cross's (1981) third question in the MCE debate is, "who should be charged with developing and enforcing standards for professional accountability?"

At the present time, there is little input from the consumer in designing MCE standards. Cross (1981) points out that there is rising opposition to bureaucratic governmental regulation, to professional societies admitting only "their own kind," and to the universities for "perpetuating class status." There appears no resolution to this issue in the literature.

**Mandatory Education For Persons Arrested For Drunk Driving**

The Alcohol Safety Action Projects of the early 1970's supplied much needed data about the rehabilitation of persons arrested for DWI. This came about largely as a result of the use of rehabilitation and education for additional court-imposed sanctions in ASAP jurisdictions. When the ASAP program began in 1970, the treatment profession was oriented almost exclusively toward alcoholic persons who had sought treatment. Little attention was paid to the needs of the problem drinking driver or the social drinker. The commonly held belief was that only persons who voluntarily asked for help could be successfully treated. Drinking drivers who came through the court system were usually sent to some alcohol safety school based on a
lecture format. Judges were generally unwilling to refer people to existing long-term therapy programs for a DWI charge.

The old and rather pessimistic view about the effectiveness of involuntary treatment for alcoholics was well expressed in a 1973 University of Florida Law Review article:

Since neither doctors nor researchers have reached a consensus in favor of mandatory treatment, it seems that involuntary commitment of alcoholics is inappropriate as a frequently and indiscriminately applied technique. (Hanrahan, 1982, p. 312)

By 1977, the situation had changed. The alcoholic treatment profession nationwide had come to regard DWI caseloads as one of their main sources of clients and had adjusted to the idea of accepting involuntary referrals. There was a substantial change in treatment philosophy for which ASAP quite surely bears a large part of the responsibility.

The DWI program in Phoenix (Malfetti & Simon, 1974) has served as a prototype or guide for approximately 400 corrective DWI programs throughout the United States and Canada. Hundreds of these counterattacks have been planned to achieve the same objective—reducing the chances of recurrence of drunk driving.

The DWI program in Phoenix was studied from its inception in 1966 through 1973. During this time, 15,000 people completed the DWI school in Phoenix. A study of repeat offenses was made, matching the first 500 persons (experimental group) convicted of DWI who took the course against 500 (control group) who were convicted of the same
charge at about the same time but did not take the course. Matching was done on age, sex and race. Driving records were searched for both groups for three years before and three years after the DWI conviction. Post-baseline conviction data revealed significant differences in favor of the experimental group in DWI convictions (p.<.01) and "points" (an index of overall moving violation including plea bargained and reduced DWI charges) (p.<.01). Post-baseline citation data showed significantly in favor of the experimental group on DWI citations (p.<.05). (Malfetti & Simon, 1974)

Another study was completed in 1978 with some DWI offenders who were referred to the Alcoholism and Drug Dependence Unit of Mayo Clinic/Rochester Methodist Hospital. (Martin, 1979) The purpose of the study was two-fold:

1. To determine how this DWI group compares with a control group of ADDU patients in achieving and maintaining sobriety.

2. To determine how many of the DWI group returned to court after they completed treatment at ADDU and under what circumstances they did so.

There were 40 persons in the DWI group and 40 in the control group which were matched for age, sex, locality and consecutive admission. It was anticipated that the DWI's would be less successful in achieving and maintaining sobriety since they were coerced by court into the program to avoid jail or fine. However, this assumption proved false. Both groups showed similar rates of success. The extent of recidivism was impossible to compare since the control
group's driving records were withheld for confidentiality. In the DWI group, however, five persons had alcohol related charges and eleven of the DWI group had a total of 20 non-alcohol related charges--mainly speeding during the year following the treatment.

A second study in Rochester, Minnesota was done with DWI offenders to determine the effectiveness of the educational treatment. (Swanstrom & Ring, 1979) Recidivism was used as the principal indicator of success. First time offenders were assigned to one of the three groups as a result of an interview--either a severe drinking problem, moderate problem, or no problem. Then, persons were randomly selected to the three groups with N's of 40, 41, and 40. The follow-up period lasted for two years. The results of this study revealed that the first time DWI offender had a low probability rate of re-arrest or re-conviction for a subsequent DWI offense. Only 14 percent of the total group were subsequently re-arrested or re-convicted. The DWI offenders who went to the classes were also compared to a group who were on straight probation with no treatment. There was a slight trend for improvement in favor of DWI classes, although it was not a statistically significant difference. In addition, there did not appear to be any significant relationship between the severity of the problem and recidivism.
Recidivism

Any program dealing with behavioral change must address the issue of recidivism. Many of the studies on recidivism have been done in the area of smoking cessation.

Essigner reported in the Journal of Health and Social Behavior, (1972) on psychosocial predictors of smoking recidivism. In this study, former cigarette smokers interviewed in 1964 were re-interviewed in 1966. In the two-year interim, approximately 13 percent had returned to smoking cigarettes. Recidivism was examined as a function of selected demographic, environmental, behavioral, and attitudinal variables. The demographic factors of age and sex most significantly differentiated recidivists from successful abstainers. Females and younger respondents were more likely to be recidivists. Also, two environmental variables showed significant differentiation. Respondents without young children in the household, and those having "former" smokers as close friends, were more likely to be successful abstainers.

A second study by Guilford (1972) was designed to: a) evaluate the effectiveness of a group treatment approach in enabling smokers to try to give up cigarette smoking for six months, and b) to describe the personal characteristics of smokers who succeeded in quitting as compared to those who failed. One hundred seventy-five untreated smokers were matched with 173 smokers who attended the Seventh-Day Adventist group treatment plan. Differences in success
rates favored the treated group. More females were recidivists than males. Older males and females were more successful abstainers than younger subjects. The amount of cigarettes consumed, contrary to previous assumption, seemed unrelated to the degree of successful abstinence.

Hunt, Barnett and Branch (1971) studied resumption of smoking or relapse rate over time for a group of people who had successfully completed a treatment program and had given up smoking. They drew an illustrative curve based on 84 studies. They arbitrarily selected three, six, and twelve months and established each point by averaging all the studies that reported for any of the three times. All the individual study curves are remarkably similar to the curves drawn with the averaging data of the studies. All of the curves are marked by a steep decline during the first three months, a subsequent gradual leveling off and an asymptotic level well above zero. The universality of the curve characteristics was assessed by the authors in two ways, one practical and one theoretical.

On the practical side, the high incidence of recidivism during the first three months would indicate that present treatment methods are too brief or methods are too inefficient to produce a lasting effect. Obviously, the majority of subjects need some further supportive treatment during the first six months after successful completion of therapy.

The authors questioned the theoretical implications of the curve
in becoming asymptotic before it reaches zero. Why is it that roughly 20 percent of the S's treated do not return to smoking? If this is attributable to some personality or physiological characteristics, then this group of people deserves further study. See Figure 1.

The authors added a relapse curve for treated heroin users and treated alcohol abusers. The data were fragmented and there was less of it, but, still, the similarity of the three curves suggests similarity in success and failure rates where dealing with behavior change.
In reviewing these studies on recidivism, it is observed that the rate of recidivism is much greater during the first three months after treatment. Also, the demographic factors of age and sex seem to differentiate most successfully between successful abstainers and recidivists. Females and younger subjects fail most consistently.

The Development of Educational Countermeasures For Drunk Driving

Alcohol's contribution to traffic crashes has been recognized for many decades. For some 70 years, there has been a "system" for dealing with drivers whose performance is impaired by alcohol. Legislation forbids them to drive when impaired, police arrest them for doing so, and prosecutors take their cases to court, where their guilt or innocence is determined by judge and jury. The traditional penalties for a misdemeanor offense (jail and fine) are supplemented by actions against the driver's license, and the private sector increases its insurance rates for persons convicted of Driving While Intoxicated (DWI). Clearly, the policy makers have attempted to control drinking and driving by deterrence through law. (Ross, 1982) The effectiveness of this system in preventing alcohol-related accidents has never been measured, but accident figures suggest it is not effective enough.

Reed (1982) states that the most effective general deterrence programs have been those that raised drivers' perceived risk of arrest and punishment for drunk driving. In Britain, fatalities from
traffic accidents decreased 23 percent when the Road Safety Act of 1967 allowed police to require breath tests of drivers. Passage of similar legislation in Canada brought about eight percent reduction. But, in both areas the deterrent effect dissipated in a few years apparently because drivers discovered that the publicized penalties did not materialize. To achieve permanent deterrence, it is presumed that the risk of arrest must be increased and kept at a high level.

The Director of Traffic Safety in Oregon testified that traffic accidents do decrease when police patrols increase. There have been several short-term examples of this occurring here in Oregon (Bellamy, 1983). What remains unknown is just what levels of risk are necessary to achieve various degrees of deterrence and what it would cost to bring such increases about state-wide and nation-wide.

Some areas have imposed stiffer penalties to convicted drinking drivers rather than increasing patrols (Cameron, 1979). It would seem to be less expensive and easier. Existing evidence, however, suggests that severe punishment is ineffective. (Oliver, 1979; Robertson, 1973; Reed, 1982; Ross, 1982)

The reputed effectiveness of severe punishment for drunk driving in Scandinavian countries could not be confirmed by scientific study (Ross, 1982), and is of questionable relevance to American drinking driving behavior. In fact, a Chicago program requiring seven-day jail sentences for DWI offenders resulted in a decreased conviction
rate (Robertson, 1973).

Deterrence is but one among several goals of the criminal law system, the other being retribution, incapacitation, and rehabilitation. Rehabilitation refers to measures such as education and treatment applied to offenders with the goal of modifying their behavior in the future. The success of rehabilitation is determined in part by the recidivism rate of clients based on additional convictions.

Rehabilitation countermeasures are a relatively new concept in the traffic safety area (Cameron, 1979). Recognizing that a substantial proportion of drinking drivers had drinking problems led to the development in the 1970's of widespread efforts to address the health aspects of DWI. The Alcohol Safety Action Project (ASAP) begun in 1971 by the National Highway Safety Bureau, now known as the National Highway Traffic Safety Administration (NHTSA), combined legal sanctions against DWI with health responses in a comprehensive approach. This program involved the establishment (between January 1971 and September 1972) of 35 Alcohol Safety Action Projects in communities throughout the nation. The basic strategy behind the ASAP program was to initiate comprehensive health and legal approaches to counter drunk driving crashes. These approaches included apprehension, adjudication, rehabilitation and public information and education efforts. Prior to ASAP, these functions were divided among several agencies. ASAP attempted to bring detection, apprehension, case investigation, adjudication, sanctioning, rehabilitation and
education all under a single coordinated system. This systematic approach in dealing with the alcohol problem was the cornerstone of the ASAP program.

The objective was to develop and evaluate local systems within three years. The principal goals were to reduce alcohol-related deaths and accidents significantly, to demonstrate the effectiveness of an integrated approach that had not been tested and to have a catalytic effect on other jurisdictions. While one of the more novel features of the ASAP effort was its provision for support and integration of all highway safety and alcoholism treatment activities into a single, organized effort directed at drunk driving, it proved to be a most ambitious and difficult effort to evaluate. (USDOT, NHTSA, 1979) First, local variations made overall evaluation of success or failure very difficult. Projects developed in different directions with different sequencing, some quickly performing with great efficiency, others stalled for long periods because of factors beyond their control. Second, because of the variety of components involved in various countermeasures, it was difficult to discuss the achievement of "objectives." It is important to examine each of the 35 projects individually to determine "success" according to the efficiency and effectiveness of its individual countermeasure areas, as well as its highway safety results. Third, the ASAP Program was at least as developmental as it was demonstrative. The projects were as new to the profession of highway safety as they were to all the local components.
The educational program aspect of the ASAP was reviewed by dividing the participants into two categories: Problem drinkers and social drinkers.

A summary of the studies of the educational component of the ASAP programs indicated that the educational treatment (in whatever format used in the different localities) did not reduce re-arrests or crashes among the DWI's (problem drinkers) treated. For the social (non-problem) drinkers, however, who entered the rehabilitative programs, there were significantly lower re-arrest rates. There was some data from "poorly controlled studies" (USDOT, NHTSA, 1979) to suggest that the educational programs can change the drinking driver's knowledge of alcohol related problems.

At least three types of schools were identified from the ASAP program level data. These ranged from most interaction-oriented (Type I) to the most lecture-oriented (Type 3). It made little difference to which kind of school the social drinkers were referred. However, the problem drinkers entering lecture-oriented (Type 3) schools had higher rearrest rates than those entering more interactive type schools. (NHTSA, 1979)

The ASAP programs have made a large impact on the courts' approach to persons arrested for drunk driving. These programs created a mechanism for providing DWI offenders with alcohol information and, as appropriate, referral for treatment. The ASAP programs have introduced a new case finding mechanism for the alcoholism field, one
that appears to offer potential for early intervention in drinking problems. Roughly 250,000 drivers were referred to education and treatment programs while ASAP demonstration programs were operating (NHTSA, 1979). In addition, creation of the DWI schools caused major changes in adjudication of DWI cases (NHTSA n.d.). Courts greatly increased the use of probation and referrals to rehabilitation.

One of the results of the ASAP programs has been improved legislation for dealing with drunk drivers in nearly every state. The state legislature of Oregon designed a drunk driving specific deterrence countermeasure which was enacted in 1981. House Bill 2010 created new procedures and penalties governing persons arrested for Driving Under the Influence of Intoxicants (DUII). Although the bill addressed the penalties and sanctions for all DUII offenses, the bill also provided a new option to those individuals who had not been arrested for a DUII offense within ten years. The option is called the Diversion Program. If an offender meets all the following criteria established in the law: a) no prior DUII in ten years, b) no similar diversion program in ten years, c) no felony conviction within ten years which resulted from the operation of a motor vehicle, and d) no reportable accident associated with the present charge, then that offender may agree with the court to be evaluated by an Alcohol and Drug Evaluation Specialist and to participate in an education and/or treatment program. Successful completion of the program and compliance with other conditions of the diversion
agreement will result in the charge of DUII being dismissed. The charge will not appear on a criminal record. However, an entry is made on the driving record and maintained for ten years (Brownlow and Holley, 1982).

The unique feature of Oregon's Diversion Program is that it is a pre-conviction option. The defendant does not enter a plea and, consequently, avoids all of the expense and time involved in trying the case. Should the defendant fail to satisfactorily complete the Diversion Program, he/she is returned to court and prosecution is begun. The defendant has waived only the right to a speedy trial. Since no plea has been entered, there is no suspension of the driver's license.

From the beginning of this new program (November 1, 1981) to June 30, 1982, 5,550 Oregonians chose the diversion option. This represented 80 percent of the eligible first-time offenders. (Brownlow and Holley, 1982)

Upon qualification and agreement with the court to participate in the Diversion Program, the DUII offender must report to an Alcohol and Drug Evaluation Specialist (ADES). The bill stipulates that "whenever possible" the evaluator should not be the same person who will provide treatment. Each judicial district has determined for itself how to best implement this requirement and has designated some person or persons within the county to provide this service to the court. By June 30, 1982, 142 persons representing all 36 counties
had been so designated. (Brownlow and Holley, 1982)

At the initial evaluation, the offender is determined to be a social drinker or a problem drinker/alcoholic (a continuum of beginning problem to chronic addiction). This is accomplished by administering a series of standardized tests, examining the criminal and driving histories of the defendant, considering the blood alcohol concentration and police report at the time of arrest, and conducting a structured interview with the individual. Those classified as social drinkers are referred to a Level I program, and those classified as having more severe drinking problems are referred to a Level II program. Level I programs provide primarily alcohol information education. Level II includes therapeutically oriented education (group or individual), residential or outpatient therapy, antabuse, or various combinations. (Brownlow and Holley, 1982)

Summary

In the review of literature in the areas of mandatory adult education and mandatory education for persons arrested for drunk driving, it is apparent that more research is needed. Cross (1981) made it clear that the crux of the mandated education controversy in the adult education field is determining whether or not such compulsory type education is effective. Since the field of adult education has widely accepted for many years that adult education should be voluntary to be effective, the issue of mandated adult
education needs to be researched.

Secondly, research with subjects who drink and drive raises the question "can behavioral change take place where alcohol is involved?" Longlasting behavioral change has proven difficult to achieve, especially in the areas of drinking alcohol, smoking, and weight reduction. In fact, for years the field of alcohol counselors and alcohol treatment facilities felt that drinking behavior would not change unless such change was initiated by the drinker, not an outside force (Hunt, Barnett and Branch, 1971). This time, the question comes up with the added factor of alcohol, "can mandated education be effective for users of alcohol?"

Thirdly, in tracing the development of drunk driving countermeasures, it can be seen that the field has developed quickly with little research. The few studies that have been done to determine the effectiveness of such educational programs have left questions unanswered. The studies completed in Minnesota (Martin, 1979) had only 40 subjects each, and no opportunity to study recidivism of all of those.

The follow-up studies of the ASAP programs have shown more evaluation on the series of local systems than on the effectiveness of the education component (USDOT, NHTSA, 1979). Moreover, the review of this literature reveals a void in regard to the length of time used for the instruction, and how this may affect the pretest and posttest scores of the program participants. Anderson, et.al.,
in their book, *Encyclopedia of Educational Evaluation* (1976), indicate that there should be a three month interval between a pretest and a posttest to avoid "the practice effect" on the possible gain in scores. Courtney (1983) advises that only six weeks of time should elapse to avoid "the practice effect." None of the studies reviewed have mentioned any length of time used to teach the information. It would seem that evaluation of time spans would be necessary when dealing with cognitive information. It is important for program directors to know if the time schedule configuration has any effect on gain in scores as this would affect scheduling of classes.

The Diversion Program in Oregon provides a unique opportunity for research to be done which will add valuable information to the fast growing rehabilitation countermeasures for drunk drivers across the nation. Moreover, it offers the opportunity to evaluate the effectiveness of a mandated educational program for adults with the added complexity of an alcohol-related problem.
III. RESEARCH DESIGN

Introduction

This study was designed to investigate the impact of the Level I Diversion Program in the State of Oregon. This educational program is for persons who are arrested for drunk driving and choose to attend 12 hours of classes rather than electing to be processed through the court system with a 'not guilty' plea. The Research Design Chapter is included to provide an overview of the procedures employed in the collection of data. This chapter includes the following sections which are described in detail:

1) the design of the study,
2) the hypotheses to be tested in the study,
3) a description of the population for the study,
4) a description of the curriculum used,
5) a description of the instruments used to collect the data,
6) the statistical treatment utilized in analyzing the data.

Design of the Study

To fulfill the intended purpose of this study the following procedures and steps were followed:

1. A review of research studies concerned with mandated adult education, mandatory education for persons arrested for
drunk driving, and the development of educational countermeasures for drunk driving was completed.

2. A personal interview with Carol Brownlow, Director of the Oregon Diversion Program, was conducted to determine the policies and procedures followed in Oregon, and to obtain permission to conduct this study.

3. An outline of the proposed research, explaining the methodology and objectives of the study was presented to the Alcohol and Drug Department of the Oregon Mental Health Division for review and approval.

4. A questionnaire was designed and mailed to 71 Diversion Programs throughout the State of Oregon in cooperation with the Alcohol and Drug Department of the Oregon Mental Health Division.

5. Preliminary review of the 52 returned questionnaires revealed that eight different time schedule configurations were being used throughout the state for the 12 hours of required instruction.

6. Pretest and posttest scores for all clients in the Level I Diversion Program were collected through the Mental Health Division in Salem, Oregon, for this study.

7. The resulting data from the questionnaires and the test scores were compiled, programmed and tabulated. Appropriate statistical tools were applied.
8. Responses to the hypotheses, delineated in the study, were prepared.

9. The findings were summarized and concluded with relevant recommendations for further action or study.

**Hypotheses of the Study**

In an effort to determine if the Oregon Diversion Program was effective in changing knowledge about alcohol and its effects on the driving task, and in changing attitudes toward driving after drinking, some specific hypotheses were formed. The following null hypotheses were proposed:

**HO 1:** There is no significant difference between the pretest and posttest achievement scores for the 965 clients in the Oregon DUII Diversion Program.

**HO 2:** There is no significant difference in the pretest and posttest scores for subjects participating in the eight different time schedule configurations used to teach the required 12 hour curriculum.

**HO 3:** There is no significant difference between the gain in knowledge scores and the gain in behavioral intention scores for the DUII clients participating in the eight different time schedule configurations for the 12 hour curriculum.
HO 4: There is no significant correlation between the gain in knowledge scores of DUII clients and selected instructional variables.

**Population for the Study**

The population for this study was selected from the 1,988 individuals who enrolled in the Level I Diversion Program for driving under the influence of intoxicants in the State of Oregon between November, 1981 and December, 1982. For the 1,988 individual pretest and posttest scores, 965 were found to be complete and usable for this study. The demographic data that were available for this population included age, sex, ethnicity, educational level, monthly income, source of income and employment status. Table I presents a demographic profile of the 965 persons who were subjects for this study.

A randomized sample of the population was used for testing H02 and H03.
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<td>30.6</td>
</tr>
<tr>
<td></td>
<td>More than 1250</td>
<td>26.4</td>
</tr>
<tr>
<td>SOURCE OF INCOME</td>
<td>Wages/Dividends/Interest</td>
<td>70.7</td>
</tr>
<tr>
<td></td>
<td>Social Security</td>
<td>4.6</td>
</tr>
<tr>
<td></td>
<td>Public Assistance/Welfare</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>Pension/Unemp./Vets.</td>
<td>10.8</td>
</tr>
<tr>
<td></td>
<td>O.S.I.P.-State</td>
<td>.9</td>
</tr>
<tr>
<td></td>
<td>S.S.I.-Federal</td>
<td>1.0</td>
</tr>
<tr>
<td>EMPLOYMENT STATUS</td>
<td>Full time</td>
<td>53.3</td>
</tr>
<tr>
<td></td>
<td>Part time</td>
<td>11.2</td>
</tr>
<tr>
<td></td>
<td>Irregular</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>31.6</td>
</tr>
</tbody>
</table>
The Treatment Variable

Subjects received instruction from the curriculum developed and field tested by the American Automobile Association (AAA) and representatives of the State Departments of Education in Arizona, New York, Ohio, and Wisconsin. This curriculum was field tested using 17 groups with a total of 494 students in alcohol information schools. It is being used in Oregon by permission of the staff from the Colorado Department of Health (Timken, cited in Kushner, 1981). The general objectives of the alcohol education program, as given in the curriculum guide, are:

1. To deliver knowledge about alcohol and its effects on the driving task.
2. To change attitudes and drinking behavior in relation to driving.
3. To positively affect the rate of recidivism with drinking drivers.

The format, curricula, and materials in the teacher's manual are geared toward promoting change in three areas: (1) participant knowledge, (2) participant attitudes, and (3) participant future behavior. (Kushner, 1981)

The present delivery system for the curriculum uses two levels. Level I is lecture oriented while Level II involves lecture plus group interaction. The Level I curriculum presents facts about
alcohol, its effects, pertinent legalities and penalties. The curriculum is taught at 71 instructional sites throughout the state. Thirty-three of the 36 counties in Oregon have at least one program. Multnomah County has the most, with 20 approved programs. Teachers are selected at the individual sites, however, they must receive final approval from the Alcohol and Drug Office, Mental Health Division, Salem, Oregon. Qualifications for teachers are education, experience, and/or training in one or more of the following: Social Science, Psychology, Counseling, Alcohol/Drug Rehabilitation, Education, Traffic Safety, or other related fields. Scheduling for the classes is done locally. The law governing the Diversion Program requires that the Level I program range between two and ten sessions in length and a minimum of 12 hours in duration. Within these limits, the 71 instructional sites are free to choose one of the eight time schedule configurations. The time schedules currently used for the Level I instruction are:

1. Two hours of instruction once a week for six weeks.
2. Three hours of instruction once a week for four weeks.
3. Three hours of instruction twice a week for two weeks.
4. Four hours of instruction on a Friday evening and eight hours the following day, completing the total instruction in a two-day time span.
5. Two hours of instruction once a week for seven weeks.
6. Two hours of instruction twice a week for three weeks.
7. Two and one-half hours of instruction once a week for five weeks.

8. Six hours of instruction on two consecutive Saturdays.

**Instrumentation**

Two instruments were utilized in the collection of data. The instrument used to assess knowledge and attitude change had been previously tested and developed. The second instrument was a questionnaire designed by this researcher in cooperation with the Mental Health Division of the State of Oregon to gather information from the 71 instructional sites. The following section outlines the test battery used in the study.

In order to assess both knowledge and attitude change, the 61 Item Drinking and Driving Test Battery was used. Malfetti and Winter (1976) explain in the *Counseling Manual for DWI Counterattack Programs* the research that they conducted to test the validity and reliability of this test. The test battery consists of four parts. The four parts (dependent variables) are:

**Part I** measures factual knowledge and includes test items 1-30. Item screening for this part of the test was accomplished by a Delphi Panel of 75 experts in alcoholism and driving. A complete item analysis was performed. This instrument was administered to groups in four states, and the test reliability ranged from .64 to
.68 for the pretest administration and .71 to .80 for the posttest administration using Kuder-Richardson formula 20. These scores demonstrate that test items have content validity.

Part II measures attitude using a two-point scale of agree or disagree and includes items 31 through 50. Items for Part II were also selected by a rating of experts in the field of alcoholism. Estimates of reliability yielded coefficients of .79 to .84, obtained by using a split-half technique after rank ordering the items according to item weight and corrected for shortened test length with the Spearman-Brown Prophecy Formula. Content validity was judged to be high by the authors (Malfetti, Winter).

Part III measures attitude using a five-point scale from strongly disagree to strongly agree and includes items 51 through 55. This attitudinal score is not a rigorously developed instrument like Parts I and II. It was arrived at simply by creating a direct statement of each objective.

Part IV measures behavioral intentions using a five-point continuum from definitely no to definitely yes and includes items 56-61. The format and development are similar to those for Part III. Statements were written directly from the behavioral intentions objectives with one item for each objective.

This 61 item Drinking and Driving Inventory Test Battery is administered as a pretest during the first session of the Level I diversion classes in Oregon. The same test battery is given as a
posttest at the conclusion of the instruction. Thirty minutes is allowed for clients to complete the test. The item format is such that the test is largely self-explanatory. (Appendix A) Instructors are given specific directions for administration and scoring of the test.

A questionnaire was developed by this researcher to gather information from the 71 instructional Diversion Programs throughout the state. The questionnaire consisted of 20 questions designed to determine individual program characteristics. Respondents were asked to specify the time span used to teach the required curriculum, the number of classes taught, the percentage of instructional time spent in lecture, group discussion, guest speakers, films and other techniques. In addition, respondents were asked to rank various teaching aids in order of frequency used. Also, teachers were asked to rank items that caused the greatest difficulty in their teaching process. (Appendix B)

Data Collection

The Diversion Program for the state of Oregon is administered through the Alcohol and Drug Section of the Mental Health Division. The Director of the Diversion Program requires each instructor at the 71 instructional sites to collect the pretest and post-test scores for each client in the program. These scores were
tabulated for each part of the test battery, and sent to the Mental Health Division office in Salem, Oregon, for the completion of this study. The scores were then transposed to tape for computer entry. There were 71 questionnaires mailed out in October, 1982, and 58 questionnaires were returned by January, 1983. This comprised an 82 percent return. The responses from the questionnaires were tallied and transposed to a disk for computer entry. The data analysis were completed at the Oregon State University computer center.

Method of Analysis

The Student's t-test and the Analysis of Covariance were applied in testing the various hypotheses in the study.

The Student's t-test was used for the first null hypothesis to determine if a significant difference existed between the pretest measures and posttest measures. The T is a significance test which will test the hypothesis statement that two means are not significantly different. The T test is appropriate when two sets of scores come from the same source, thus making it the test of choice for the pretest and posttest scores collected from the same persons for this study. (Courtney, 1982)

The statistical tool utilized for the second null hypothesis was the One-way Analysis of Covariance. Analysis of Covariance is a statistical technique which combines the concepts of analysis of
variance and regression to handle situations where the researcher cannot completely control all of the variables in a study. It is a procedure for testing the significance of differences among post-measure mean scores, accounting for the influence of uncontrolled factors in the experiment. The covariance analysis adjusts for initial differences in the data, using pre-measure information as a base. By making these adjustments, sampling error is reduced and precision is increased. The criterion of random sampling is required in the use of the tool. (Courtney, 1982) For the second null hypothesis the One-way Analysis of Covariance using the F statistic was applied to determine if significant differences existed between the test scores and the eight class time formats used to administer the treatment. The pretest served as the covariate for the analysis. There were four separate parts of the test which required four separate analyses. The sample for this measurement was randomly selected by computer program.

The design matrix represents a two by eight arrangement consisting of the cells illustrated below:

<table>
<thead>
<tr>
<th>Class time Formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>Pretest Scores</td>
</tr>
<tr>
<td>Posttest Scores</td>
</tr>
</tbody>
</table>
According to Cohen's sample size table, this randomly selected sample of 40 individuals per cell provides for a power level of .80 when the effect size is .25. Criteria associated with a power level of .80 assures the probability of committing a Type I error not more than 20 percent of the time. (Cohen, 1969)

The significance of the F ratio is determined by using an F table and comparing the computed F values with statistically calculated tabular F values. The probability level, which is read from the F tables, acts as a comparison point for making decisions about rejection or retention of the hypothesis.

If the Analysis of Covariance determines that the means are significantly different, then an additional test must be done to identify the source of the variance. In the treatment of data, the Bonferoni Multiple Comparisons procedure was used following a significant F ratio in the analysis of the second null hypothesis. (Neter, Wasserman, 1974) A .0015 level of confidence was set for this analysis since so many comparisons had to be made.

The One-way Analysis of Covariance was also applied to the third null hypothesis to determine if significant differences existed among the knowledge score (Part I of the test), the behavioral intention score (Part IV of the test), and the eight class-time formats. The gain between the knowledge pretest score and the knowledge posttest score served as the covariate. The sample for this measurement was randomly selected with a total N of
246. The design matrix represents a two by eight arrangement consisting of the same cell arrangement as HO 2.

Class time Formats

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge Gain Score</td>
<td>40</td>
<td>40</td>
<td>11</td>
<td>40</td>
<td>11</td>
<td>40</td>
<td>40</td>
<td>26</td>
</tr>
<tr>
<td>Attitude Gain Score</td>
<td>40</td>
<td>40</td>
<td>11</td>
<td>40</td>
<td>11</td>
<td>40</td>
<td>40</td>
<td>26</td>
</tr>
</tbody>
</table>

For the purpose of this study, the .05 level of significance was used to determine if the differences between sets of means were due to chance variation or if they represented real differences that required a rejection of the null hypothesis.

Correlation is a measure of the linear relationships between two factors or variables. The Pearson $r$ is a statistical technique which is appropriate for determining the degree of linear relationship which exists between two or more measures using interval scale data. Its principal advantage is that it permits the measurement of a number of variables and their relationships simultaneously. (Courtney, 1982).

A Spearman rank order (rho) is another correlation tool which is to be used with ordinal data. This tool is useful in describing
the relationship between two small samples of ranked data. (Courtney, 1982)

The Pearson $r$ was chosen as the appropriate tool for use in studying the interval type data generated by the responses to the questionnaire. The Spearman rho was selected as appropriate to analyze the ranked data provided in the questionnaire.

The .05 level of confidence was utilized for the correlations in this study.
IV. PRESENTATION OF THE FINDINGS

The purpose of this study was to determine if the Oregon DUII mandated educational program for adults was effective. The goals of this mandated program were to effect change in three areas:

1. Participant knowledge about alcohol and its effects on the driving task.
2. Participant attitudes in relation to driving and drinking.
3. Participant future behavior which will positively affect rate of recidivism.

The curricular procedure for this statewide program includes a pretest of factual knowledge about alcohol and its effects on driving, two measures of attitudes about drinking and driving, and a measure of behavioral intentions related to driving and drinking. This test is administered again at the end of the instructional period. The difference in test scores was used as one determinant of effectiveness.

A secondary purpose of the study was to determine whether the class-time schedule used to deliver the 12 hours of information had any effect on the differences in test scores. Currently, eight different time schedule configurations are being used. It was the goal of this researcher to discover if any of these time schedules seemed to affect knowledge and attitude change differently as
measured by the 61 Item Drinking and Driving Test Battery. Another goal of the study was to discover if class-time schedules had any affect on the difference in the gain in knowledge scores and the gain in behavioral intention scores. A fourth purpose of the study was to determine whether various instructional modes and concerns of the teachers in the program could affect the students' gain in knowledge.

The sample for this study consisted of 965 individuals who completed the Level I Diversion Program for drunk driving in the State of Oregon between November 1, 1981, and December 31, 1982. All research participants were pretested and posttested using the 61 Item Drinking and Driving Inventory as an achievement measure. Demographics on the population are presented in Chapter III. (Table 1) For purposes of discussion, the term 'group' refers to one of the eight time span configurations as shown in Table 17, p.80.

**Findings Relative to the Hypothesis Under Investigation**

HO 1: There is no significant difference between the pretest and posttest achievement scores for the 965 clients in the Oregon DUII Diversion Program.

A standardized test was administered to these clients. The test had four parts. Part I was a measure of knowledge about alcohol and its effects. Part II and Part III were measures of attitudes about drinking and driving. Part IV was a measure of
behavioral intentions in regard to future driving and drinking behavior. A Paired T was computed using all 965 scores. Each of the four-part scores on the 61 Item Drinking and Driving Test Battery showed a significant difference (P<.001). Table 2 presents the mean score, the standard error, the T value, and the p value for the four dependent variables.

**TABLE 2**

Mean Scores, Standard Error, T Values and Levels of Significance for the Four Dependent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number</th>
<th>Mean ± Std. Error</th>
<th>T Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest 1</td>
<td>965</td>
<td>22.707 ± 0.16</td>
<td>31.80</td>
<td>.000*</td>
</tr>
<tr>
<td>Pretest 1</td>
<td>965</td>
<td>17.674 ± 0.17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest 2</td>
<td>965</td>
<td>6.575 ± 0.03</td>
<td>15.44</td>
<td>.000*</td>
</tr>
<tr>
<td>Pretest 2</td>
<td>965</td>
<td>6.072 ± 0.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest 3</td>
<td>965</td>
<td>22.229 ± 0.11</td>
<td>9.67</td>
<td>.000*</td>
</tr>
<tr>
<td>Pretest 3</td>
<td>965</td>
<td>20.964 ± 0.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest 4</td>
<td>965</td>
<td>26.560 ± 0.13</td>
<td>10.92</td>
<td>.000*</td>
</tr>
<tr>
<td>Pretest 4</td>
<td>965</td>
<td>25.282 ± 0.13</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at .01 level
Discussion: The aggregate test population was considered in this analysis. All four computed T values were greater than the tabular T value of 1.96, therefore, HO 1 was rejected for all four parts of the test.

The p value of .000 for every part of the test shows a significance greater than the .05 level established for this study.

HO 2: There is no significant difference in the pretest and posttest scores for subjects participating in the eight different time schedule configurations used to teach the 12 hour curriculum.

For this analysis a random sample of 40 observations was taken from each time configuration. Three of the eight time schedule configurations had fewer than 40 clients. Hence the maximum number available in these three groups was used. Pretest scores were used as a covariate and different time schedules were treated as independent variables in an analysis of covariance for posttest scores. Each of the four parts of the test was analyzed separately for this hypothesis. From the Analysis of Covariance, using an F test for equality of adjustment group means, test scores on three of the four parts of the test differed significantly by the time schedule configuration.

The information in Table 3 presents the Analysis of Covariance for part one of the test.
TABLE 3
ANCOVA Among the Eight Time Spans for Part I of the Test Battery.

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>1</td>
<td>1996.40</td>
<td>138.23</td>
<td>.0000**</td>
</tr>
<tr>
<td>Among Groups</td>
<td></td>
<td>32.64</td>
<td>2.26</td>
<td>.0304*</td>
</tr>
<tr>
<td>Error</td>
<td>239</td>
<td>14.44</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at .01 level  
* Significant at .05 level

Discussion: With respect to the posttest score on Part I, the measure of knowledge, the computed F was greater than the tabular F of 2.048, therefore, the null hypothesis can be rejected for part one of the test. The F value of 138.23 shows that a significant difference exists between the covariant, the pretest score, and the posttest score. The significance level of .000 exceeded the .05 level of confidence established for this study. The F value of 2.26 indicates that a significant difference exists among the eight time span groups after adjustment for the covariate and the significance level of .0304 exceeded the .05 level of significance established for this study.

The results of the Analysis of Covariance for part two of the test, the two-point attitude measure are revealed in Table 4.
TABLE 4
ANCOVA Among The Eight Time Spans for Part II of the Test Battery

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>1</td>
<td>38.80</td>
<td>57.27</td>
<td>.0000**</td>
</tr>
<tr>
<td>Among Groups</td>
<td>7</td>
<td>10.69</td>
<td>2.25</td>
<td>.0308*</td>
</tr>
<tr>
<td>Error</td>
<td>239</td>
<td>161.94</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at .01 level  
* Significant at .05 level

Discussion: Since the computed F was greater than the tabular F of 2.048 the null hypothesis can be rejected for Part II of the test. Part II of the test was a measure of attitude toward driving after drinking alcohol. The F value of 57.27 signifies that a significant difference exists between the pretest and the posttest scores. The significance level of .000 exceeded the .05 level of confidence established for this study. The F value of 2.25 demonstrates that a significant difference exists among the time span groups and the significance level of .0308 exceeded the .05 level of confidence established for this study.

The information in Table 5 depicts the results of the Analysis of Covariance for dependent variable number three, an attitude measure using a five point scale.
TABLE 5
ANCOVA Among the Eight Time Spans for Part III of the Test Battery

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>Sum of Square</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>1</td>
<td>241.29</td>
<td>241.29</td>
<td>22.29</td>
<td>.0000**</td>
</tr>
<tr>
<td>Among Groups</td>
<td>7</td>
<td>138.57</td>
<td>19.80</td>
<td>1.829</td>
<td>.0824</td>
</tr>
<tr>
<td>Error</td>
<td>239</td>
<td>2586.68</td>
<td>10.82</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at .01 level

Discussion: Since the computed F was less than the tabular F of 2.048, this part of the test did not show a significant difference across the time spans. Therefore the null hypothesis must be retained for Part III of the test, which measures attitude toward drinking and driving. The F value of 22.29 signifies that there is a significant difference in the pretest score, the covariate, and the posttest score. However, the F value of 1.829 indicates that there is not a significant difference among the eight time span groups after they were adjusted for the covariate. The p value of .0824 was greater than the .05 level of significance set for this study.

In Table 6, the information for the Analysis of Covariance for Part IV is shown. This part of the test was the measure of intentions in regard to future drinking and driving behavior.
TABLE 6

ANCOVA Among the Eight Time Spans for Part IV of the Test Battery

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>Sum of Square</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>1</td>
<td>696.92</td>
<td>696.92</td>
<td>96.02</td>
<td>.0000**</td>
</tr>
<tr>
<td>Among Groups</td>
<td>7</td>
<td>105.17</td>
<td>15.02</td>
<td>2.07</td>
<td>.0475*</td>
</tr>
<tr>
<td>Error</td>
<td>239</td>
<td>1734.60</td>
<td>7.26</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at .01 level
* Significant at .05 level

Discussion: For this analysis the computed F was greater than the tabular F of 2.048. Therefore, the null hypothesis for Part IV of the test can be rejected. Part IV of the test was a measure of behavioral intention. It is designed to predict future behavior in regard to driving after drinking alcohol. The F value of 96.02 reveals that a significant difference exists between the pretest and the posttest scores. The p value of .0000 indicates a level of significance which exceeded the .05 level established for this study. The F value of 2.07 signifies that a significant difference exists among the eight time span groups. The p value of .0475 exceeded the .05 level of significance established for this study.

Since significant differences were found to exist among the eight groups for Parts I, II and IV of the test, a multiple comparisons test of the means was computed to discover where the
differences existed. The Bonferroni Multiple Comparisons Test was the test of choice since 28 comparisons were required. When a large number of comparisons have to be made, there is a greater chance of Type I error. Therefore, in order to maintain a 95 percent confidence coefficient in this analysis, the significance level was lowered to the .0015 level for these comparisons. (Neter and Wasserman, 1974). Using this conservative significance level, Part I, Part II, and Part IV of the test revealed significant differences. Each part will be discussed separately.

Table 7 presents the posttest scores for Part I with the group means and standard error for each time span group. The time span groups are ranked to show the highest to the lowest mean.

TABLE 7
Part I Posttest Scores With Ranked Means and Standard Error for the Eight Time Spans

<table>
<thead>
<tr>
<th>Rank Order</th>
<th>Time Span Number</th>
<th>Group Mean ± Std. Error</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>24.15* ± 0.60</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>23.84 ± 0.75</td>
<td>26</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>22.48 ± 0.60</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>22.27 ± 1.15</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>21.95 ± 0.60</td>
<td>40</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td>21.95 ± 0.60</td>
<td>40</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>21.78* ± 0.60</td>
<td>40</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>20.55 ± 1.15</td>
<td>11</td>
</tr>
</tbody>
</table>

* Significant at the .0015
Discussion: The mean of time span one (two hour sessions once a week for six weeks) was significantly different from the mean of time span seven (two and one-half hour sessions once a week for five weeks) at the .0015 level of confidence chosen for this analysis. (See Table 17, p.80 for description of all time span schedule configurations.)

The information in Table 8 presents the posttest scores for Part II with the group means and standard error for each time span group. The time span groups are ranked to show the highest to the lowest mean.

**TABLE 8**

PART II Posttest Scores With Ranked Means and Standard Error for the Eight Time Spans

<table>
<thead>
<tr>
<th>Rank Order</th>
<th>Time Span Number</th>
<th>Group Mean ± Std. Error</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>7.03* ± 0.13</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>6.92 ± 0.25</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>6.79 ± 0.13</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>6.70 ± 0.13</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>6.64 ± 0.25</td>
<td>11</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>6.62 ± 0.13</td>
<td>40</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>6.53 ± 0.16</td>
<td>26</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>6.23* ± 0.13</td>
<td>40</td>
</tr>
</tbody>
</table>

* Significant at .0015 level
Discussion: The possible score range for this dependent variable was 2.10 to 8.93 with the low end being in favor of driving after drinking and the high end being opposed to driving after drinking. In this analysis the difference in the means was significant with group two being significantly lower than group seven using a .0015 level of confidence. The statistically significant means are distinguished with asterisks.

The information in Table 9 shows the posttest scores for Part III with the group means and standard error ranked for each time span.

**TABLE 9**

Part III Posttest Scores With Ranked Means and Standard Error for the Eight Time Spans

<table>
<thead>
<tr>
<th>Rank Order</th>
<th>Time Span Number</th>
<th>Group Mean ± Std. Error</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>23.15 ± 0.52</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
<td>22.90 ± 0.99</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>22.87 ± 0.52</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
<td>22.46 ± 0.65</td>
<td>26</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>22.45 ± 0.99</td>
<td>11</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>22.10 ± 0.52</td>
<td>40</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>21.80 ± 0.52</td>
<td>40</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>20.70 ± 0.52</td>
<td>40</td>
</tr>
</tbody>
</table>
Discussion: Since the F score was not significant for Part III (See Table 5), a multiple comparisons test was not computed. Although there were no significant differences between the means in Part III, the ranked means are presented in Table 9 for comparison with other part score means shown in Tables 7, 8 and 10.

The information in Table 10 shows the posttest scores for Part IV with the group means and standard error ranked for each time span.

**TABLE 10**

Part IV Posttest Scores With Ranked Means and Standard Error for the Eight Time Spans

<table>
<thead>
<tr>
<th>Rank Order</th>
<th>Time Span Number</th>
<th>Group Mean ± Std. Error</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7</td>
<td>28.90* ± 0.81</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>28.12 ± 0.43</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>28.10 ± 0.43</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>28.00 ± 0.81</td>
<td>11</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>27.70 ± 0.43</td>
<td>40</td>
</tr>
<tr>
<td>6</td>
<td>8</td>
<td>27.69 ± 0.53</td>
<td>26</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>26.85 ± 0.43</td>
<td>40</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>26.10* ± 0.43</td>
<td>40</td>
</tr>
</tbody>
</table>

* Significant at .05 level
Discussion: In this analysis the mean score of time span number seven (two hour sessions once a week for six weeks) differed significantly higher from the mean score of group one (two and one-half hour sessions once a week for five weeks). The significant means are distinguished with asterisks.

HO 3: There is no significant difference between the gain in knowledge scores and the gain in behavioral intention scores for the DUII clients participating in the eight different time schedule configurations for the 12 hour curriculum.

For this analysis a random sample of 40 observations was taken from each time format. Three of the eight time schedules had fewer than 40 clients, hence the maximum number available in these three groups was used. The gain between the knowledge pretest score and the knowledge posttest score was used as the covariate and the eight different time schedule configurations were treated as separate groups in an Analysis of Covariance for behavioral intention gain scores. The information from the Analysis of Covariance for this hypothesis is depicted in Table 11.

**TABLE 11**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F-Value</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Covariate</td>
<td>1</td>
<td>15.06</td>
<td>1.095</td>
<td>.2964</td>
</tr>
<tr>
<td>Among Groups</td>
<td>7</td>
<td>18.71</td>
<td>1.360</td>
<td>.2229</td>
</tr>
<tr>
<td>Error</td>
<td>239</td>
<td>13.75</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Discussion: From the Analysis of Covariance, using an F test for equality of adjusted group means, there was no significant difference found at the .05 level of significance. Therefore, H03 was retained.

It was anticipated that there would be a significant difference between the gain in knowledge score and the gain in behavioral intention score. It was felt that persons who gained new factual information would apply that information and show a change in their behavioral intention as well. However, the F value of 1.095 revealed that there was no significant difference between the change in knowledge score and the change in behavioral intention score. Moreover, the F value of 1.360 indicated no significant differences were found to exist among the eight different time spans.

HO 4: There is no significant correlation between the gain in knowledge scores of DUII clients and selected instructional variables.

Data for the analysis of this hypothesis were generated by responses to the questionnaire which was mailed to the 71 approved Diversion Programs in Oregon in 1982. The questions selected for analysis were:

<table>
<thead>
<tr>
<th>Question #</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>How many classes have you taught to date?</td>
</tr>
<tr>
<td>3</td>
<td>What has been your average class size?</td>
</tr>
<tr>
<td>8</td>
<td>What percentage of your instructional time is spent using each of the following techniques?</td>
</tr>
<tr>
<td></td>
<td>a. Lecture by instructor</td>
</tr>
<tr>
<td></td>
<td>b. Group discussion</td>
</tr>
</tbody>
</table>
c. Guest speaker
d. Films

9 Rank five teaching aids from the list below in order of frequency used. A (one) 1 would indicate used most frequently and a (five) 5 would be used least frequently.
   ___ Visual aids
   ___ Slides, projector
   ___ Overhead projector
   ___ Films, film projector
   ___ Video tape
   ___ Audio tape
   ___ Filmstrip projector
   ___ Record player
   ___ Other
   ___ None of the above

10 Do you feel changes need to be made in the pretest or its administration?
   ___ Yes   ___ No

11 Do you feel changes need to be made in the posttest or its administration?
   ___ Yes   ___ No

12 Do you feel changes need to be made in the curriculum?
   ___ Yes   ___ No

13 Did you attend an orientation session before teaching these classes?
   ___ Yes   ___ No

17 If you had no orientation do you think it would be helpful to have one?
   ___ Yes   ___ No

19 This question intends to get at the items that cause you the greatest difficulty as a teacher. Rank order the least difficult (#1) to the most difficult (#9).
   ___ Student resentment
   ___ Class size
   ___ Class site
   ___ Student age differences
   ___ Availability of resources
   ___ Student cultural differences
   ___ Student educational differences
   ___ Curriculum
   ___ Teaching strategies
It was the goal of this researcher to determine which responses to these questions might correlate with a gain in the knowledge score from Part I of the test. The discovery of any positive correlations would provide useful information regarding individual program characteristics that appear helpful for increasing knowledge gain.

The Pearson r was computed for responses to Questions 2 and 3 since these were interval data responses. Table 12 summarizes the correlations between the responses to the two questions and the gain in knowledge.

**TABLE 12**

Correlation Coefficients and Levels of Significance for Congruence in Responses to Questions 2 and 3 and Gain in Knowledge

<table>
<thead>
<tr>
<th>Correlation Coefficient</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Classes</td>
<td>-.348</td>
</tr>
<tr>
<td>Average Class Size</td>
<td>-.3205</td>
</tr>
</tbody>
</table>

**Discussion:** Neither of the correlations were statistically significant at the .05 level of confidence. Therefore, for these two responses, the null hypothesis was retained.

Since the responses to question 9 were given in rankings, the Spearman rho was utilized to compute the correlations between the responses and the gain in knowledge scores. Table 13 presents the results of the various correlations for question 9 and gain in knowledge.
TABLE 13

Correlation Coefficients and Levels of Significance for Congruence in Responses to Question 9 and Gain in Knowledge

<table>
<thead>
<tr>
<th>Item</th>
<th>Correlation Coefficient</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Aids</td>
<td>.322</td>
<td>.090</td>
</tr>
<tr>
<td>Slides</td>
<td>-.293</td>
<td>.112</td>
</tr>
<tr>
<td>Overhead Projector</td>
<td>.093</td>
<td>.352</td>
</tr>
<tr>
<td>Films</td>
<td>-.088</td>
<td>.360</td>
</tr>
<tr>
<td>Video Tape</td>
<td>-.288</td>
<td>.116</td>
</tr>
<tr>
<td>Audio Tape</td>
<td>-.289</td>
<td>.115</td>
</tr>
<tr>
<td>Filmstrip Projector</td>
<td>No Response</td>
<td></td>
</tr>
<tr>
<td>Record Player</td>
<td>No Response</td>
<td></td>
</tr>
<tr>
<td>None of the Above</td>
<td>No Response</td>
<td></td>
</tr>
</tbody>
</table>

Discussion: None of the correlations for Question 9 were statistically significant at the .05 level of confidence, therefore the HO 4 was retained for this question.

It was felt that teaching aids are important expedients for instructors and their use should correlate with the gain in knowledge. Although some correlation was discovered with visual aids and gain in knowledge, the correlation was not statistically significant.

The responses to questions 10, 11, 12, 13 and 17 were analyzed using the Spearman rho correlation coefficient. The results of that analysis for questions 10 through 17 are presented in Table 14.
TABLE 14

Correlation Coefficients and Levels of Significance for Congruence in Responses to Questions 10, 11, 12, 13, and 17 and Gain in Knowledge

<table>
<thead>
<tr>
<th>Question Number</th>
<th>Correlation Coefficient</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 Pretest change</td>
<td>-.3824</td>
<td>.054</td>
</tr>
<tr>
<td>11 Posttest change</td>
<td>-.4308</td>
<td>.055</td>
</tr>
<tr>
<td>12 Curricular change</td>
<td>.2050</td>
<td>.215</td>
</tr>
<tr>
<td>13 Orientation attended</td>
<td>-.1726</td>
<td>.247</td>
</tr>
<tr>
<td>17 Orientation helpful</td>
<td>.0977</td>
<td>.376</td>
</tr>
</tbody>
</table>

Discussion: Respondents were asked to indicate if they believed changes were needed in the pretest, posttest or in the curriculum. It was anticipated that if instructors indicated dissatisfaction with the tests and/or the curriculum that such dissatisfaction would affect their performance and decrease the gain in knowledge achieved by their students. However, no statistically significant positive or negative correlations were found to exist between their responses and their students' gain in knowledge.

The negative correlation coefficients on questions 10 and 11 show some negative correlation with gain in knowledge. Although the correlations were not significant at the .05 level, their close approximation to a .05 level reveals a trend of dissatisfaction with
the pretest and posttest. The responses on questions 12, 13, and 17 were statistically indistinguishable. Since there were no significant correlations at the .05 level, HO 4 is retained for questions 10, 11, 12, 13 and 17.

Table 15 presents the average ranking of each of the nine items in Question 19. Teachers were asked to rank order these items from the least difficult (#1) to the most difficult (#9).

**TABLE 15**

Instructors' Ranking of Items Causing Greatest Difficulty

<table>
<thead>
<tr>
<th>Item</th>
<th>Average Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Differences</td>
<td>5.55</td>
</tr>
<tr>
<td>Student Resentment</td>
<td>5.48</td>
</tr>
<tr>
<td>Availability of Resources</td>
<td>4.65</td>
</tr>
<tr>
<td>Cultural Differences</td>
<td>4.39</td>
</tr>
<tr>
<td>Age Differences</td>
<td>4.32</td>
</tr>
<tr>
<td>Class Size</td>
<td>3.89</td>
</tr>
<tr>
<td>Teaching Strategies</td>
<td>3.80</td>
</tr>
<tr>
<td>Curriculum</td>
<td>3.64</td>
</tr>
<tr>
<td>Class Site</td>
<td>3.39</td>
</tr>
</tbody>
</table>

**Discussion:** It was expected that Student Resentment would be ranked by teachers as one of the most difficult items in this
program since students were not attending voluntarily. Table 15 shows that Student Resentment was ranked as the second most difficult item while Educational Differences was ranked as the most difficult. Even though Student Resentment was ranked as the second most difficult item, it did not correlate significantly with students' gains in scores. (Table 16) Therefore, although teachers identified student resentment as an item causing them difficulty in their classes, evidently the resentment did not interfere with students' achievement.

In Table 16, the results of the Spearman rho correlation technique for question 19 are presented in ranked order by the level of significance.

**TABLE 16**

Correlation Coefficients and Levels of Significance for Congruence in Responses to Question 19 and Gain in Knowledge

<table>
<thead>
<tr>
<th>Question Number</th>
<th>GAIN IN KNOWLEDGE</th>
<th>Correlation Coefficient</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>19 Greatest difficulty</td>
<td>Cultural Diff.</td>
<td>-.5922</td>
<td>.013*</td>
</tr>
<tr>
<td></td>
<td>Age Differences</td>
<td>-.2175</td>
<td>.228</td>
</tr>
<tr>
<td></td>
<td>Class site</td>
<td>-.1913</td>
<td>.266</td>
</tr>
<tr>
<td></td>
<td>Class size</td>
<td>.1117</td>
<td>.352</td>
</tr>
<tr>
<td></td>
<td>Educational Diff.</td>
<td>.0690</td>
<td>.404</td>
</tr>
<tr>
<td></td>
<td>Teaching Strategies</td>
<td>.0736</td>
<td>.418</td>
</tr>
<tr>
<td></td>
<td>Resources</td>
<td>.0583</td>
<td>.425</td>
</tr>
<tr>
<td></td>
<td>Std. Resentment</td>
<td>.0313</td>
<td>.458</td>
</tr>
<tr>
<td></td>
<td>Curriculum</td>
<td>.0227</td>
<td>.471</td>
</tr>
</tbody>
</table>

* Significant at the .05 level
Discussion: In this analysis one correlation coefficient was statistically significant at the .05 level of significance. The item of Cultural Differences has a negative correlation coefficient of -.5922 and a .013 level of significance. In other words teachers who ranked Cultural Differences as an item of little difficulty, had students who made gains in their knowledge scores.

In the correlation of the various instructional variables with gain in knowledge scores, only one item was determined statistically significant, therefore, HO 4 must be retained for all items except Cultural Differences.

Rate of Recidivism

The rate of recidivism was determined by reviewing the records of re-arrests from the Oregon Department of Motor Vehicles.

During the time of this study from November 1, 1981, through December 31, 1982, 2,138 persons enrolled in the Diversion Level I program. Of this number, 93 percent completed the program. Of the 1,988 clients completing the program, only 24 were re-arrested for drunk driving, which is slightly less than two percent. These arrests took place during the first 12 months following the diversion clients' enrollment into the program (Department of Motor Vehicles, 1983).

During this same time period 4,504 persons were arrested for drunk driving and chose not to enter the Diversion Level I
program. These first time offenders chose either to plead guilty or chose to request a trial. Of this number, 214 or 4.8 percent were re-arrested for drunk driving.

Summary of Findings

The first null hypothesis was rejected indicating that the treatment was effective across the entire population. A Paired T test was computed using the pretest and posttest scores of 965 individuals who completed the 12 hours of adult education classes. All four dependent variables (the four parts of the test) were found to be significantly different at the .05 level of confidence.

The second null hypothesis was also rejected for three of the four dependent variables. The statistical data for the second hypothesis was assessed using an Analysis of Covariance. This analysis revealed that test scores from Part I, Part II, and Part IV of the test differed significantly according to time span. No significant difference was found in Part III, one of the two measures of attitude. The Bonferroni Test of Multiple Comparisons was conducted to determine where the differences occurred in Parts I, II and IV. A .0015 level of confidence was used for these 28 comparisons for each dependent variable. The results of the multiple comparisons analysis revealed that the class-time schedule of two hours (number one) and the schedule of two and one-half hours
(number five) were more effective in terms of change in knowledge scores (Part I) and attitude scores (Part II) for students in those class-time configurations.

There was no significant difference between the gain in knowledge and gain in behavioral intention scores across the eight class-time schedules, therefore, the third null hypothesis was retained.

In the analysis of the fourth hypothesis, the determination of correlation between gain in knowledge and various instructional variables, one item proved to be statistically significant. Where the item of students' Cultural Differences was ranked low as a problem by teachers, the students' gains in knowledge increased. This negative correlation was significant at the .05 level. The other instructional variables were found to be statistically indistinguishable. The insignificance of the other variables was unexpected, particularly in regard to audio-visual teaching aids. Slides, films, video tape and visual aids which many teachers identify as necessary aids for effective teaching appear to be unimportant. Perhaps teachers use of audio-visual aids facilitates the teaching process which is given considerable emphasis in educational settings. This finding would tend to support the growing concern of some educational critics who suggest that emphasis be placed on the learning process rather than on the teaching process.
The recidivism rate was considerably lower for those clients who completed the DUII Diversion program than for those who chose to be processed through the courts.
V. SUMMARY, DISCUSSION OF FINDINGS
WITH CONCLUSIONS, AND RECOMMENDATIONS

The final chapter in this study is designed to present in sequence:

1) a summary of the research,
2) the findings of the study,
3) the discussion of findings with conclusions,
4) the recommendations for action, and
5) the suggestions for further study.

SUMMARY

An increasing state and national awareness of the contribution of alcohol consumption to traffic accidents has resulted in numerous drunk driving countermeasures. The Oregon Diversion Program was developed in an attempt to alleviate the drunk driving problem in Oregon. This educational program for adults is mandated by state law. The focus of this study was to determine if the Level I Diversion program was effective in changing knowledge about alcohol and its effects on driving, changing attitudes related to drinking and driving and changing behavior which would positively affect rate of recidivism.
Restatement of the Problem

The primary purpose of this study was to examine differences in pretest and posttest scores of Level I Diversion Program clients. Secondly, posttest scores for the eight time schedule configurations used to teach the curriculum were contrasted to determine if time schedule had any effect on the change in knowledge and attitude. Thirdly, gains in knowledge scores were contrasted with gain in behavioral intention scores. Fourthly, the gain in knowledge scores was correlated with selected instructional variables to determine if a relationship existed. Finally, the recidivism rate was obtained for those persons who completed the Level I Diversion program during the time of this study.

Instrumentation and Curriculum

The instrument used for this study was the 61 Item Drinking and Driving Inventory. The test consisted of four parts: Part I - 30 knowledge items, Part II - 20 item attitude measure, Part III - 5 item attitude score, Part IV - 6 item behavioral intentions measure.

Pretest and posttest scores from each part were analyzed using a Paired T-test on the entire population of 965. For the second and third analyses a random sample of 40 observations was taken from each of the eight time schedule configurations used to teach the curriculum. An Analysis of Covariance was completed using the
pretest scores as the covariate for the second analysis. Since significant differences were found, the Bonferroni Multiple Comparisons technique was conducted to determine where the differences were located. An Analysis of Covariance was completed for the third analysis using the gain in the pretest knowledge score as the covariate. The fourth analysis utilized the Pearson r and the Spearman rho coefficient correlations.

The distribution of the population and the arrangement of the required 12 hours of instruction is given in Table 17.

**TABLE 17**

Population Distribution in Each Class-Time Schedule Configuration

<table>
<thead>
<tr>
<th>Class Time Schedule</th>
<th>Group Number</th>
<th>N</th>
<th>Time Configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>426</td>
<td></td>
<td>Two hour sessions once a week for six weeks</td>
</tr>
<tr>
<td>2</td>
<td>175</td>
<td></td>
<td>Three hour sessions once a week for four weeks</td>
</tr>
<tr>
<td>3</td>
<td>11</td>
<td></td>
<td>Three hour sessions twice a week for two weeks</td>
</tr>
<tr>
<td>4</td>
<td>189</td>
<td></td>
<td>Four hour sessions once Friday night, eight hours the next day</td>
</tr>
<tr>
<td>5</td>
<td>11</td>
<td></td>
<td>Two hour sessions once a week for seven weeks</td>
</tr>
<tr>
<td>6</td>
<td>74</td>
<td></td>
<td>Two hour sessions twice a week for three weeks</td>
</tr>
<tr>
<td>7</td>
<td>51</td>
<td></td>
<td>Two and one-half hour sessions once a week for five weeks</td>
</tr>
<tr>
<td>8</td>
<td>26</td>
<td></td>
<td>Two consecutive Saturdays, six hours each day</td>
</tr>
</tbody>
</table>
Objectives of the Study

The data for this study were collected and analyzed to address the following objectives:

1) to determine whether mandated adult education as prescribed by Oregon's House Bill 2010 was effective for persons arrested for driving while intoxicated.

2) To determine if there was an effect of the time schedule configuration used to teach the required curriculum on the differences in pretest and posttest scores.

3) To determine if there was correlation between the gain in knowledge scores and selected instructional techniques.

4) To determine the recidivism rate for participants who completed the Level I program during the year of the study.

Hypotheses of the Study

The following hypotheses were proposed in an attempt to determine the effectiveness of the Level I Diversion Program:

HO 1: There is no significant difference between the pretest and posttest achievement scores for the 965 clients in the Oregon DUII Diversion Program.

HO 2: There is no significant difference between the pretest scores and the posttest scores for the clients participating in the eight different class time schedule configurations for the required 12 hour curriculum.
HO 3: There is no significant difference between the gain in knowledge scores and the gain in behavioral intention scores for the DUII clients participating in the eight different time schedule configurations.

HO 4: There is no significant relationship between the gain in knowledge scores of DUII clients and selected instructional variables.

Treatment of the Data

The data for this study were processed by the Oregon State University Computer Center. A Paired T-test and Analysis of Covariance (ANCOVA) were applied in testing HO 1, HO 2 and HO 3. Correlation coefficients were applied to the data for HO 4. A .05 level of significance was used throughout the analyses.

Findings

Findings one through three were founded on the results of the Paired T-test and ANCOVA tabulations calculated at the .05 confidence level:

1. There was a significant difference in the pretest and posttest scores for all four dependent variables across the entire population.

2. There was a significant difference in the adjusted means among the eight time span groups for Part I, Part II and Part IV of the test battery, but not for Part III.
3. There was no significant difference in the adjusted means among the eight time schedules for the contrasted gains in knowledge and attitude scores.

4. Correlation coefficients were applied to the questionnaire data and a .05 level of confidence was used throughout the analysis. There was one instructional variable from the questionnaire that correlated significantly with gain in knowledge scores. Cultural Differences correlated negatively with students' gains in knowledge.

5. The fifth finding of this study was founded on data gathered by the Oregon Department of Motor Vehicles. There was a lower recidivism rate for the clients who completed the Level I DUII program than for the persons who chose to be processed through the court system.

**DISCUSSION OF THE FINDINGS WITH CONCLUSIONS**

The following discussion is presented according to the objectives as originally outlined in the research:

**OBJECTIVE 1.** To determine whether mandated adult education as prescribed by Oregon's House Bill 2010 was effective for persons arrested for driving while intoxicated.

Based on the statistical analysis applied to the data, there was a significant difference in the pretest and posttest scores of
all four parts of the 61 Item Drinking and Driving Inventory for the clients who completed the DUII program as outlined in House Bill 2010. Since educators use gains in test scores to measure changes in knowledge, these results indicate that the treatment was effective. These results are of particular interest to adult educators who are involved in examining the concept of mandatory continuing education. The idea that adults can demonstrate significant growth in a mandated educational setting is antithetical to those adult educators who believe that adults function well only in voluntary learning settings. If a gain in test scores is an acceptable measure of learning then the Diversion Program is an effective mandated educational program.

OBJECTIVE 2. To determine if there was an effect of the class time schedule configuration used to teach the required curriculum on the differences in pretest and posttest scores.

The results of the Analysis of Covariance revealed that three of the four part scores differed significantly by class-time schedule. Part III did not differ significantly, therefore, time schedule had no effect on that five item attitude score.

The Bonferroni Multiple Comparisons Test revealed that in Part I and Part IV, time schedule one (two hour sessions once a week for 6 weeks) differed significantly from time schedule seven (two and one-half hours a week for five weeks). In Part II, time schedule two (three hours once a week for four weeks) was different from time schedule seven (two and one-half hour sessions once a week for five
weeks).

An analysis of the mean scores for time schedule one contrasted with time span seven reveals that the scores for time span one are significantly higher than time span seven. Therefore the individuals in time span one (two hours a week for six weeks) achieved more gain than the other groups on Part I of the test. (See Table 17 p. 80 for all time schedule configurations.) It appears that this time span was the best one for teaching factual information. Time span two was the poorest.

The ranked means for all the time spans in Table 7 shows that time span five (two hour sessions once a week for seven weeks) ranked second. Groups one and five both met for two hour sessions once a week. This finding suggests that the students achieve higher scores in a two hour, once a week time span than in the longer three hour sessions or the condensed weekend sessions.

An analysis of the mean scores for Part II, an attitude measure, reveals that group two (three hour sessions once a week for four weeks) was significantly lower than group seven (two and one-half hour sessions once a week for five weeks). Table 8 reveals that the mean for group seven also ranked highest on Part II. This suggests that the time span of the two and one-half hour session once a week proved to be most desirable for change in attitude.

A review of the mean scores for Part IV reveals that the mean score for group one (two hours once a week for six weeks) was
significantly lower than the mean score for group seven (two and one-half hour sessions once a week for five weeks). This suggests that time span seven is best for changing behavioral intentions in regard to driving after drinking. Since time span seven is the two and one-half hour sessions once a week, it could be theorized that the extra half hour gives more time for group involvement which could facilitate attitude change and behavioral intentions.

The standard error, as shown in Tables 7, 8, 9 and 10, was very similar for the pretest and posttest scores. This indicates that there is little within group variation. Even though group one is different significantly from the others, the within group variation is the same. Homogeneity within groups denotes that the response of the clients to the instruction is similar. This strongly supports the instructional technique being used and attests to the reliability of the instrument. Thus, the differences detected between groups is more likely due to a difference in time span rather than some other difference.

Since the pretest scores of people within the groups were so similar it can be theorized that the clients who attend the Level I Diversion Program have similar knowledge and attitude profiles. This is confirmed by viewing Table 1, the demographic profile. Most of the clients were white males with a mean age of 33.

HO 3 was tested for objective two also. Based on the analysis of differences among time spans for the relationship in gains of
knowledge scores and behavioral intention scores, there was no significant difference. In other words the eight class-time schedules did not differ in their relationship between the change in knowledge and change in behavioral intention.

Since a major goal of the Diversion Program is to effect change in behavior it was valuable to compare the gain in behavioral intention scores with the gain in knowledge scores. Table 11 indicates that there was no significant difference between the gain in knowledge and the gain in behavioral intention. Therefore, according to this analysis, persons who learn more facts do not necessarily change their behavior - at least their behavioral intention. Although a cursory interpretation of this finding would suggest that an increase in knowledge does not affect behavior, it must be kept in mind that this analysis was contrasting two test scores and not examining actual behavior change. The re-arrest rate for these same individuals who completed this course was lower than for individuals who did not take the class. Therefore, their actual behavior was affected by their change in knowledge.

OBJECTIVE 3. To determine if there was a significant relationship between the gain in knowledge scores and selected instructional variables.

Data from the returned questionnaires were used for this analysis. Ten questions from the questionnaires were selected for correlation with the gain in knowledge. (See page 68) It was
anticipated that many of the instructors' responses would be related significantly to the gain in their students' knowledge. However, only one item in Question 19 was statistically significant. The correlation coefficient of Cultural Differences was significant at the .05 level of significance.

Teachers were asked to rank order nine items that caused them the most difficulty in teaching their classes. (See Table 15, p. 72.) A rank of 1 (one) was for least difficult and a rank of 9 (nine) was for most difficult. The teachers who ranked Cultural Differences as causing the least difficulty had students with high gain in knowledge scores. Therefore, the correlation for this item was a negative correlation.

Several things are unknown which may limit any conclusions to be made. It is not known if the teacher had any minority students in the class. It is not known whether or not the teacher was himself or herself culturally different from the class. What can be said is that the performance of the students revealed that cultural differences were not a problem.

**OBJECTIVE 4.** To determine the recidivism rate for participants who completed the Level I Diversion Program during the year of the study.

The recidivism rate during the first year for the clients in this study was less than two percent. This low percentage is strong evidence to support the effectiveness of the DUII program. A low
Recidivism rate is an important measure of the effectiveness of any treatment program. Since a major goal of the Diversion Program is to change drinking and driving behavior, the recidivism rate should be low to indicate that a behavior change has occurred. Historically, change in persons who smoke cigarettes or drink alcohol has been difficult to achieve. (Hunt, Barnett and Branch, 1971). Moreover, it was believed that the change in such behavior must be initiated by the drinker, not by an outside force. The Diversion Program can be categorized as an 'outside force' since it is mandated by law.

Although the recidivism rate is recorded here for only one year, previous studies (Hunt, Barnett and Branch, 1971) have reported that the highest incidence of recidivism occurred during the first three months following treatment. Based on their findings, it would follow that the highest recidivism rate would occur within the one year time frame given for this Diversion Program recidivism statistic. However, due to differences in the population composition, no valid comparison to the Hunt studies can be made. Moreover, the Oregon Department of Motor Vehicles has no method designed to provide demographic information on re-arrests to the Alcohol and Drug Program who administers the Diversion Program. Without this specific information, a thorough study of recidivism cannot be made.
RECOMMENDATIONS FOR ACTION

Program Recommendations

The State of Oregon through the Alcohol and Drug Program has shown considerable leadership in organizing and implementing a Diversion Program for persons found driving while intoxicated. The personnel in the Oregon Alcohol and Drug Program have encouraged an ongoing evaluation of the Diversion Program and have, in fact, supported this research in an attempt to improve and better focus their efforts. In view of this, a careful review of the findings of this study supports the following program recommendations.

1. The Level I Diversion Program is effective as an educational program in changing knowledge, attitude and behavior regarding driving after drinking alcohol. Every aspect of this study supports the continuation of the existing program. The significant difference in pretest and posttest scores across the entire sample attests to the effectiveness of this adult educational program.

2. Time span one (two hour sessions once a week for six weeks) and time span seven (two and one-half hours once a week for five weeks) should be encouraged as effective class time schedules for presentation of the curriculum. The data relative to class-time spans
clearly support the use of the two hour sessions for effective change in knowledge and the use of the two and one-half hour sessions for effective change in attitude.

3. Time span two (three hour sessions twice a week for two weeks) should be considered for elimination. The data from this study found this class-time schedule produced lower gains in clients' scores for factual information. Although this schedule change may pose a hardship on some programs, the data from the Analysis of Covariance supports this recommendation.

4. Time span three (three hour sessions twice a week for two weeks) should be considered for elimination. This time span meets for three hour sessions twice a week for two weeks. The group mean from this time span ranked lowest in the eight groups.

5. A method should be designed for collecting the test scores with the other demographic information of the clients. If test scores were included on the client information sheet which is sent to the Alcohol and Drug Department of the Mental Health Division, the test scores could be studied in detail with other demographics. Patterns from regions may emerge relative to a variety of demographic characteristics.
Moreover, many of the educational sites throughout the state need a consistent numbering of their files to match the client information sheets which are sent to the Salem office. If the educational sites used a consistent numbering system, demographics could be obtained for every client by way of the client's monitoring sheet and computer records kept in the Salem Mental Health Division office.

6. A method for machine grading of the tests should be found to reduce the chance of error that can now occur in the manual scoring and the manual transcription of the scores.

7. A method should be designed for obtaining demographic information on re-arrests from the Oregon Motor Vehicles Department in order to do more complete recidivism studies. It would be desirable to do individual case studies on those who are arrested. Perhaps some individuals who are re-arrested were inappropriately evaluated for the Level I Program. Since the majority of the Division clients are young males, it may prove worthwhile to check case histories for adolescent alcohol problems.
Recommendations for Adult Educators Including Those Specializing in Alcohol Education

1. Mandated education for adults can be effective. In spite of the widely accepted claim by many adult educators that adult learners should be voluntary learners, this study has shown that adults may not have to volunteer in order for learning to take place. The adults in this study showed a significant change in knowledge and attitudes about alcohol and they did not voluntarily select this educational program. Since these classes were mandated by law, it was anticipated that the instructors would encounter numerous problems including student resentment. In fact, it was expected in this study that student resentment would be a major hindrance to the learning process. However, although teachers ranked student resentment high as a problem (see Table 15, p. 72 for Instructors Rankings) there was no significant positive or negative correlation between the instructor's ranking of student resentment and their students' gains in knowledge. This finding is important. The instructors perceived student resentment as a problem but there was no evidence that that perception affected student learning. This particular finding is contrary to the "pygmalion
effect' which has been researched in contemporary elementary classrooms. This study seems to suggest that teachers' perceptions of their students do not, in fact, affect learning. This interesting finding may be a contribution to the differentiation of pedagogy and andragogy.

2. Adults with alcohol problems do not have to initiate their own treatment in order to achieve behavior change. The commonly held belief by many professionals in the alcohol treatment field has been that only persons who voluntarily asked for help with their drinking problem could be helped. The Diversion Program in the State of Oregon is a rehabilitative countermeasure for those persons who combined drinking and driving. As an 'involuntary' treatment the Diversion Program has fewer recidivists than the 'voluntary' court approach.

**Recommendations for Further Study**

In regard to the recommendations for further study a number of research approaches could be examined:

1. This study indicates that the curriculum used for the Oregon Diversion Program is effective when used with adults who have been arrested for drunk driving. Could
this curriculum be effective with young persons who have had alcohol offenses? A longitudinal study using this curriculum with adolescents arrested for "minor-in-possession" or other alcohol related offenses is suggested. The researcher could control the study by limiting the participants to youth arrested on alcohol offenses only. Another control could be the number of offenses with alcohol. The requirements currently used for Level I Diversion Program could be applied to the young people involved in the study.

2. Could this curriculum be as effective with an adult population that was not preselected due to an alcohol offense? Many adults drink and drive but have not been arrested. There is a great need for the general population to receive alcohol information. A researcher could draw on a cross section of adults and present the information on alcohol. It would be important to determine how a curriculum of this nature would affect the adult students' drinking and driving behavior.

3. In this era of cost-effective studies, it would be worthwhile to design a study using a programmed learning presentation of this curriculum. The material could be videotaped for educational television. The
pretest and posttest could be utilized to measure change in knowledge and attitudes.

4. Using this curriculum with the same population in the future is recommended. A study designed to add correlations of personal and demographic variables to course performance (knowledge and attitude posttest scores) and improvement (pretest change in knowledge and attitude scores) would provide an exploration of possible differential effectiveness of the curriculum.

5. Using this curriculum with the same population is recommended. However, design the study to analyze demographics of the instructors and compare to demographics of clients with their course performance. Recidivism rates of clients related to instructors' backgrounds would be important to research. The instructors' educational background and the instructors' use of alcohol would be two valuable variables to study with re-arrests of clients.

6. A significant finding in this study was in regard to the class-time scheduling. The two hour time span for six weeks proved more effective for learning than the three hour time spans or weekends. Currently, the three hour class-time schedule is the most common class-time used in adult education programs.
Therefore, this finding is an important consideration for adult educators who plan educational experiences for adults. It is recommended that a study be designed contrasting the difference in effectiveness of a two-hour class schedule and a three-hour class schedule. Two other considerations must be taken into account: 1) the type of subject matter, and 2) whether the class were mandated or voluntary. Perhaps the three-hour schedule would be effective for regular classes whereas for mandated classes it would not. Likewise, the three hour class-time may prove effective for leisure-time subject matter but not for regular college subject matter.

7. Research designed to study rapport of instructor with students should be undertaken. A measurement of interaction analysis would add important information for program planners. A certain teaching style may be found to affect students' learning. An important consideration in this study would be the class-time schedule. A teacher who follows the two hour or two and one-half hour class time schedule over a period of five or six weeks has a longer time to establish rapport. Although the contact time of 12 hours of instruction would be the same in the weekend class
schedule, the five or six week class schedule would offer a longer span of time to allow for more rapport to occur.

8. Long-range recidivism studies need to be conducted. This study presented a short term cross sectional view. A longitudinal view using client demographics would be important. For example, a client arrested initially at age 16 may behave differently over a period of time than a person first arrested at age 30.

In closing it is this researcher's opinion that the state of Oregon can best serve its citizens by mandating that all drivers arrested for driving while intoxicated should complete the Level I Diversion Program. The evidence presented in this paper coupled with the severity of the DUII problem support this opinion. The data analyzed in this study show that offenders completing this course have an increase in knowledge about alcohol and its effects on the driving task, a change in attitude about driving after drinking, and a change in behavioral intention with regard to future driving after drinking. In addition, the adults completing this course had a lower rate of recidivism than those offenders who did not complete it. The Level I program is effective and should be supported as a rehabilitative countermeasure for drunk drivers.

Just as John Volpe pointed out:

Americans everywhere are fed up with the toll the drunk driver exacts from us every year. ...it is time to bring this under control. (Volpe, cited in Johnson, 1982, p.2)


70. Moore, Donald E., Jr., Ed. Proceedings: Mandatory Continuing Education. Prospects and Dilemmas for Professionals. (University of Illinois at Urbana-Champaign, February 26-27, 1976).


95. Ross, Laurence H. Prevention and Deterrence, the International Experience, Alcohol Health and Research World, Fall, 1982.


106. Vejnoskia, Jill, Staffwriter. NHTSA Launches Comprehensive Effort to Address DWI Alcohol Health & Research World, Fall, 1982.


APPENDICES
APPENDIX A

DRINKING AND DRIVING

Inventory Test Battery

Instructions: Read each question carefully. Decide which response is most correct and place a check ( ) in the appropriate space. Some of the questions contain terms with which you may not be familiar. This is understandable as the material may not yet have been covered in the course. Do not ask the instructor to define terms or answer questions relating to specific terms. Just do as well as you can with your present understanding. Answer every question to the best of your ability and as honestly as possible.

Teacher Note: See the scoring key to obtain the correct answers to the test questions.

Test questions can be mimeographed for class use by removing the appropriate pages from the guide and using them to prepare a thermal master.

The same test is used for both pre and post-course evaluation.
PART I

1. Alcohol is associated with approximately how many traffic fatalities annually?

(a) 5,000
(b) 8,000
(c) 25,000
(d) 95,000
(e) 150,000

2. Alcohol is a factor in approximately what percentage of fatal automobile crashes?

(a) 10%
(b) 20%
(c) 30%
(d) 40%
(e) 50%

3. Twelve ounces of beer, 5 ounces of wine and 1 1/2 ounces of whiskey all contain:

(a) different kinds of alcohol
(b) about the same amount of alcohol
(c) different amounts of alcohol
(d) 40% alcohol
(e) a and c

4. Which of the following statements is/are true?

(a) 12 ounces of beer contain the same amount of alcohol as 1 1/2 ounces of whiskey
(b) 5 ounces of wine contain the same amount of alcohol as 12 ounces of beer
(c) 1 1/2 ounces of whiskey contain the same amount of alcohol as 5 ounces of wine
(d) all of the above
(e) none of the above
5. Three to five ounces of whiskey on an empty stomach will make the average person:

(a) think he can do things that he cannot actually do (a) ( )
(b) believe he is performing better than he really is (b) ( )
(c) less sure of himself (c) ( )
(d) a and b (d) ( )
(e) all of the above (e) ( )

6. The effects of alcohol are most dangerous for:

(a) unexpected emergencies (a) ( )
(b) driving backwards (b) ( )
(c) speeding (c) ( )
(d) driving at night (d) ( )
(e) driving on a crowded road (e) ( )

7. Which of the following functions is likely to be affected first by alcohol intake?

(a) muscular coordination (a) ( )
(b) judgment (b) ( )
(c) breathing (c) ( )
(d) speech (d) ( )
(e) balance (e) ( )

8. A serious effect of alcohol is to increase a driver's self-confidence while reducing:

(a) his sensing ability (a) ( )
(b) his ability to make accurate judgments (b) ( )
(c) his decision-making ability (c) ( )
(d) all of the above (d) ( )
(e) none of the above (e) ( )

9. Which of the following may affect the influence of a given dose?

(a) previous experience with alcohol (a) ( )
(b) emotional state (b) ( )
(c) intelligence (c) ( )
(d) a and b (d) ( )
(e) all of the above (e) ( )
10. Which of the following influences the effects of alcohol?

(a) the amount of food in the stomach  (a)  
(b) the body weight of the individual (b)  
(c) the height of the individual  (c)  
(d) a and b  (d)  
(e) all of the above  (e)  

11. Which of the following is least often the reason for teenage drinking of alcohol?

(a) to get high  (a)  
(b) to be sociable  (b)  
(c) to feel good  (c)  
(d) taste  (d)  
(e) for "kicks"  (e)  

12. Teenagers consume alcoholic beverages:

(a) to escape from problems  (a)  
(b) to be accepted by peers  (b)  
(c) to have fun  (c)  
(d) all of the above  (d)  
(e) none of the above  (e)  

13. In our society which of the following appear to be acceptable reasons for teenagers to drink?

(a) family celebration  (a)  
(b) religious ceremonies  (b)  
(c) to cope with problems  (c)  
(d) a and b  (d)  
(e) all of the above  (e)  

14. Which of the following is not consistent with responsible use of alcohol?

(a) not drinking at all  (a)  
(b) drinking to be sociable  (b)  
(c) drinking to cope with problems  (c)  
(d) drinking without trying to prove something  (d)  
(e) drinking for pleasure  (e)  

112
15. How do teenagers compare with others in rates of alcohol-related driving accidents?

(a) less than others, but only for females  
(b) less than others  
(c) about the same as others  
(d) more than others, but only for males  
(e) more than others  

16. Which of the following statements is/are true of those who drive after drinking? Teenagers are more likely than others to:

(a) crash  
(b) be killed if they crash  
(c) crash with less alcohol  
(d) have passengers killed in crashes  
(e) all of the above  

17. Why is driving after drinking more risky for teenagers than for adults?

(a) Alcohol affects the brain differently for teenagers than for adults  
(b) Teenagers usually have not yet learned to compensate for some of alcohol's effects  
(c) Teenagers are more likely to forget how much they have had to drink  
(d) All of the above  
(e) None of the above  

18. Why are teenagers more likely than adults to have difficulty driving safely after drinking?

(a) Driving is a comparatively new skill for them  
(b) They have had less experience with alcohol's effects  
(c) They often weigh less than adults  
(d) All of the above  
(e) None of the above
19. Which of the following is/are true concerning use of alcohol in this country?

(a) The large majority of adults drink alcohol
(b) Many adults drink in order to be sociable
(c) Billions of dollars are spent every year for alcoholic beverages
(d) All of the above
(e) None of the above

20. Which of the following is/are true concerning teenage use of alcohol in this country?

(a) Almost all teenagers have drunk alcohol by their high school graduation
(b) Most teenagers are given their first drink by their parents at home
(c) While beer is still the most common choice, the sale of "pop" wines has increased 1000% in the last four years
(d) All of the above
(e) None of the above

21. What does "blood alcohol concentration" mean?

(a) percentage of alcohol in a person's blood stream
(b) ounces of alcohol in a given time period
(c) a level of alcohol in the blood which causes intoxication
(d) all of the above
(e) none of the above

22. What does "presumptive level of intoxication" mean?

(a) the number of drinks at which a driver may be presumed to be drunk
(b) failing tests of coordination and balance which presume intoxication
(c) both of the above
(d) behavior of a driver which a police officer considers impaired
(e) a blood alcohol concentration at which a driver may be presumed to be drunk
23. The Implied Consent Law requires drivers to:

(a) submit to a blood alcohol content test or lose his license if arrested for driving under the influence of alcohol (a) 
(b) consent in writing not to drink alcohol before driving in exchange for getting a license (b) 
(c) plead guilty if arrested for driving under the influence of alcohol (c) 
(d) all of the above (d) 
(e) none of the above (e)

24. In this state, what blood alcohol concentration constitutes a presumptive level of intoxication?

(a) 0.05 percent (a) 
(b) 0.08 percent (b) 
(c) 0.10 percent (c) 
(d) 0.15 percent (d) 
(e) 0.20 percent (e)

25. Which of the following is of most value in determining how drunk a driver is?

(a) opinion of the arresting policeman (a) 
(b) opinion of witness (b) 
(c) speech test (c) 
(d) breath analysis (d) 
(e) walking a straight line (e)

26. Which will "sober you up" if you want to drive?

(a) black coffee (a) 
(b) a cold shower (b) 
(c) time (c) 
(d) vigorous exercise (d) 
(e) all of the above (e)

27. For each one-ounce drink of whiskey, a 150 pound person should wait before driving:

(a) 15 minutes (a) 
(b) 30 minutes (b) 
(c) 1 hour (c) 
(d) 2 hours (d) 
(e) 3 hours (e)
28. The responsible course of action in regard to drinking and driving is to:

(a) acquire accurate information about the effects of alcohol (a)  
(b) analyze one's attitude and feelings concerning the matter (b)  
(c) develop plans for handling interpersonal situations where drinking and driving are or could be involved (c)  
(d) all of the above (d)  
(e) a and c (e)  

29. Which of the following statements is/are true?

(a) Almost all drinking situations become potential DWI situations unless you plan ahead (a)  
(b) Most persons will be involved in potential DWI situations unless they plan ahead (b)  
(c) Persons who do not drink need not plan ahead (c)  
(d) a and b (d)  
(e) It is not necessary for anyone to plan ahead (e)  

30. Which of the following statements is/are true?

(a) Some persons cannot stop drinking once they start (a)  
(b) Limiting quantity of intake is easier if decided when sober (b)  
(c) Since judgment is impaired after drinking small amounts of alcohol, plans about driving should be made ahead of time (c)  
(d) All of the above (d)  
(e) None of the above (e)  
PART II

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<th>AGREE</th>
<th>DISAGREE</th>
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<tr>
<td>31. If you have one or two drinks, you can drive just as well as you can without anything to drink.</td>
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<td>32. The experienced driver is rarely bothered by a few drinks.</td>
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<td>33. I would not feel safe riding with a driver who had eight drinks.</td>
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<td>34. There is little harm in a drink before driving</td>
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<td>35. The law should limit the amount of alcohol served to a person who drives a car.</td>
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<td>36. I would feel safe riding with a driver who had recovered from alcoholism.</td>
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<td>37. Doctors should be required to report alcoholic drivers to the Motor Vehicle Bureau.</td>
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<td>38. No one should drink and then drive.</td>
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<td>39. Often the relaxing effect of a drink can improve driving.</td>
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<td>40. Most books on the relationship between alcohol and driving exaggerate the effects of alcohol.</td>
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<td>41. Some people can drink and then drive safely.</td>
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<td>42. It's okay to drive after a few drinks, but it's not okay to drive after many drinks.</td>
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<td>43. Some people can handle emergencies better while driving after a few drinks.</td>
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<td>44. A person convicted of driving while intoxicated should have his license revoked.</td>
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<tr>
<td>45. Tests to determine the alcoholic content of the body should be required of suspected drinking drivers.</td>
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</table>
46. After four drinks, some people drive worse, but some people can drive just as well as if they had nothing to drink. 

47. Not enough arrests are made for driving while intoxicated. 

48. Arrest for driving under the influence of alcohol should carry a stiff fine. 

49. Most people are more cautious behind the wheel after drinking. 

50. Hosts and hostesses should limit the amount of alcoholic beverages served to driving guests.
### PART III

<table>
<thead>
<tr>
<th>Statement</th>
<th>STRONGLY DISAGREE</th>
<th>DISAGREE</th>
<th>NOT SURE</th>
<th>AGREE</th>
<th>STRONGLY AGREE</th>
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<tbody>
<tr>
<td>51. Not driving after drinking is the most desirable behavior.</td>
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<td>52. Drinking to the level of impairment and then driving is dangerous, unacceptable behavior</td>
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<td>53. DWI is a community as well as an individual program.</td>
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<td>54. I am committed to the seriousness and importance of developing personal and social countermeasures for DWI.</td>
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<td>55. One should not make fun of or pressure a person who chooses not to drink.</td>
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<td>56. I will drive when my ability has been impaired by alcohol.</td>
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<td>57. I will ride with drivers whose ability has been impaired by alcohol.</td>
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<td>58. If it is practical, I will attempt to prevent others from driving if their driving ability has been impaired by alcohol.</td>
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</table>
59. If it is practical, I will attempt to prevent others from riding as passengers with a driver whose ability has been impaired by alcohol.

60. If I use alcoholic beverages I will do so in a responsible manner.

61. I will support promising measures (e.g., legislation, enforcement, education, engineering) for reducing the alcohol-traffic safety problem.
Acknowledgments

The Office of Programs for Alcohol and Drug Problems wishes to acknowledge that sections of this material were initially prepared by David S. Timken, Ph.D., and the Alcohol-Driving Countermeasures staff, Colorado Division of Highway Safety and were reproduced with their permission.
APPENDIX B

DUII DIVERSION QUESTIONNAIRE

Program #___________

In an attempt to determine the impact of alcohol education on DUII diversion clients, the Mental Health Division is conducting this survey of all Level I and Level II treatment providers. At the same time, we are requesting the pre and posttest scores that you have been collecting since the beginning of the diversion program. The information requested will enhance our ability to evaluate the program throughout the state. Your participation in this effort is essential and your cooperation is greatly appreciated. Please take time to respond to the questionnaire and data sheets and return them to the Alcohol and Drug Program Office, 2575 Bittern Street, N.E., Salem, Oregon 97310, by November 15, 1982.

1. What time span do you use to teach the required curriculum?

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 sessions for 6 weeks</td>
<td></td>
</tr>
<tr>
<td>3 hour sessions for 4 weeks</td>
<td></td>
</tr>
<tr>
<td>6 hour day for 2 day weekend</td>
<td></td>
</tr>
<tr>
<td>Incorporated throughout the 24 hours</td>
<td></td>
</tr>
<tr>
<td>Other Please explain</td>
<td></td>
</tr>
</tbody>
</table>

2. How many classes have you taught to date?

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. What has been your average class size?

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Who administers the pretest?

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Instructor for the class</td>
<td></td>
</tr>
<tr>
<td>b. Colleague</td>
<td></td>
</tr>
<tr>
<td>c. Secretary</td>
<td></td>
</tr>
<tr>
<td>d. Other Please explain</td>
<td></td>
</tr>
</tbody>
</table>
5. When is the pretest administered?

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 1st hour of 1st class</td>
<td></td>
</tr>
<tr>
<td>b. 2nd hour of 1st class</td>
<td></td>
</tr>
<tr>
<td>c. Intake or orientation</td>
<td></td>
</tr>
<tr>
<td>d. Other</td>
<td>Please explain</td>
</tr>
</tbody>
</table>

6. Who administers the posttest?

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Instructor for the class</td>
<td></td>
</tr>
<tr>
<td>b. Colleague</td>
<td></td>
</tr>
<tr>
<td>c. Secretary</td>
<td></td>
</tr>
<tr>
<td>d. Other</td>
<td>Please explain</td>
</tr>
</tbody>
</table>

7. When is posttest administered?

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. 1st hour of last session</td>
<td></td>
</tr>
<tr>
<td>b. 2nd hour of last session</td>
<td></td>
</tr>
<tr>
<td>c. 3rd hour of last session</td>
<td></td>
</tr>
<tr>
<td>d. Other</td>
<td>Please explain</td>
</tr>
</tbody>
</table>

8. What % of your instructional time is spent using each of the following techniques?

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Lecture by instructor</td>
<td></td>
</tr>
<tr>
<td>b. Group discussion</td>
<td></td>
</tr>
<tr>
<td>c. Guest speaker</td>
<td></td>
</tr>
<tr>
<td>d. Films</td>
<td></td>
</tr>
<tr>
<td>e. Other</td>
<td>Please explain</td>
</tr>
</tbody>
</table>

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9. Rank five teaching aids from the list below in order of frequency used.

(A one (1) would indicate used most frequently and a five (5) would be used least frequently. Use a zero (0) if you never use the aid.)

___ Visual aids (i.e., charts, posters, graphs, pictures, diagrams)
___ Slides, projector
___ Overhead projector
___ Films, film projector
___ Video tape
___ Audio tape
___ Filmstrip projector
___ Record player
___ Other Please explain___________________________________________
___ None of the above

10. Do you feel changes need to be made in the pretest or its administration?

   ____ Yes    ____ No

   If yes, please list suggestions:
   1.
   2.
   3.

11. Do you feel changes need to be made in the posttest or its administration?

   ____ Yes    ____ No

   If yes, please list suggestions:
   1.
   2.
   3.

12. Do you feel that changes need to be made in the curriculum?

   ____ Yes    ____ No

   If yes, please list suggestions:
   1.
   2.
   3.
13. Did you attend an orientation session before teaching these classes?  
  ___Yes  ___No. If no, skip to question #17.

14. If yes, who conducted the orientation?____________________________________

15. How long was it? ___hours

16. a. If you answered yes on question 13, did the orientation include at least some information on the following? Place a check by the areas that were included.

   Required curriculum:
   ___Physical affects of alcohol
   ___Alcoholism is a disease
   ___History, use and definition of alcohol
   ___Alcohol as a drug
   ___Other drugs
   ___Psychological and sociological consequence of drug abuse
   ___Blood alcohol concentration and driving performance
   ___Court penalties
   ___DMV laws and penalties
   ___Alternatives to drinking and driving

     b. If you answered yes on question 13, did the orientation include any information on the following? Place a check by the areas that were included.

     ___Teaching techniques
     ___Explanation of the diversion program requirements
        for all clients
     ___Administration of pre-test and post-test
     ___Characteristics of adult learners
     ___Other  Please explain _____________________________________________

         (use back if necessary)

17. If you had no orientation, do you think it would be helpful to have one for DUII instructors?  ___Yes  ___No

If yes, list topics that you feel ought to be included.
1. 
2. 
3. 
18. Are there any areas you have indicated above that you would like to have some immediate assistance with? ___Yes ___No

If yes, please list areas.

1. 

2. 

3. 

19. This question intends to get at the items that cause the greatest difficulty for you as a teacher. Rank order the least difficult (#1) to the most difficult (#9). Add items and numbers if you feel others need to be added.

____ Student resentment ____ Student cultural differences
____ Class size ____ Student educational differences
____ Class site ____ Student age differences
____ Student age differences ____ Availability of resources
____ Availability of resources ____ Curriculum
____ Availability of resources ____ Teaching Strategies

20. Please describe below any unique characteristics of your particular student groups. (For example, reading difficulties, non-fluency in English, hearing problems or other physical limitations.)
21. Please submit the raw scores for all students to whom you have administered the pre and posttest. The information may be sent to the MHD on the attached form or in an alternative format which reflects individual scores, i.e., a pre and post score for each person. Please list the Level I clients separate from the Level II clients. If both scores were not collected on an individual, please supply that information as well. If you have any questions about the questionnaire or reporting the scores, please direct them to Judy Conkey, 838-1220, Ext. 408, or the A & D program office, 378-2163.