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Assessment of the Safety Education Program at Iowa State University

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Assessment of the Safety Education Program at Iowa State University

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INTRODUCTION

Need for the Study

The literature documents an early need for establishment of and subsequent improvement of teacher preparation in safety and driver education. Brody and Stack reported that as early as 1932 a White House Conference recommended ". . . the training and certification of teachers in safety education" (8, p. 340). The yearbook of the American Association of School Administrators published in 1940 and entitled Safety Education (3) proved an important step in the beginning of an upgrading process. Although not designed as a text, it ". . . was adopted by some schools and colleges as a textbook for use in safety education instruction" (62, p. 68). The Proceedings of four national conferences on policies and practices of driver education (33, 34, 35, 36) all contain resolutions and recommendations for improving both quality and quantity of preparation. A conference of Western States concerning teacher preparation in safety and driver education held in 1958 produced a number of noteworthy suggestions. Stack (53, p. 22) suggested that

> Since every teacher should be a teacher of safety education, it is necessary to provide safety instruction to every teacher in training. Colleges should meet this need by providing properly integrated safety instruction as well as regular courses to meet specific needs. Interested teachers should be able to take teaching minors and work toward advanced degrees in safety education.

Zaun (64, p. 28) expressed a desire that ". . . instruction in Safety and Driver Education . . . become a part of the Department of Education within the various teacher training institutions". Vasche (61, p. 30) suggested that

> A strong program in teacher education must first be developed, with credential standards based upon what are found to be the essential needs and experiences for the effective classroom teacher in the safety field.

and

> All aspects in the program must be subject to continued review and evaluation with adjustments made in content and approved as modifications are found desirable.

Neyhart (37, p. 169) stated that "There is no school subject taught in our schools today without properly prepared and certified teachers except driver education." It was concern over this area that prompted Schwenk (52) to perform an exhaustive survey of teacher certification requirements in driver education in 1962. Based on the findings she recommended that requirements be raised to a ". . . minimum of a college degree . . . with a minor or its equivalent in safety and driver education" (52, p. 83). She also suggested additional research to ". . . determine the exact number of credit hours of preparation driver education teachers have had, and what courses were taken to earn these credentials" (52, p. 83).

Key (20) and Hartman (in 11) added a new dimension to the pressures for improvement of teacher preparation -- that of the preparation of the college teacher. Key surveyed state departments of education and 585 selected high school systems in the United States. He found state requirements for college teachers in the area of safety and driver education to be very minimal. For example, 21 states reported no requirements and only two states had the stipulation of a Master's degree in safety and driver education although it should be noted that these were state and not necessarily institutional requirements. Hartman pursued a similar topic but queried higher education institutions to obtain his

information. He found formal preparation of college teachers of safety and driver education to be quite limited. Less than 19 percent reported having at least a minor in the subject matter area. Based on the findings Hartman offered eight comprehensive recommendations for improving teacher preparation programs (11, p. 56-58):

1. Recommended standards for all major aspects of college and university teacher preparation programs in driver education need to be developed and articulated.

2. College and university personnel should take steps to upgrade their teacher preparation programs in driver education in accordance with the general standards and guidelines developed through implementation of the former recommendation.

3. State teacher certification agencies and other groups responsible for or influential in matters pertaining to certification, should be apprised of the recommended minimum standards for certification of high school driver education teachers and of the need to take steps that will lead to compliance with these minimum standards.

4. Consideration should be given to providing a greater measure of assistance to in-service driver education teachers on both the high school and the college and university levels in terms of strengthening the educational background of these teachers relative to safety education, driver education, and specifically related areas.

5. A thoughtful effort needs to be made by way of presenting college and university faculty members and administrators with factual information that offers convincing evidence of the need and value of teacher preparation in driver education.

6. Consideration should be given to placing the laboratory experience now typically provided as a part of the introductory teacher preparation course in driver education within a subsequent course in driver education.

7. Research and experimentation should be undertaken with the purpose of determining the most appropriate administrative and instructional techniques and practices for teacher preparation in driver education.

8. Consideration should be given to plans that would enable at least one college or university in each state to assume

> primary responsibility for teaching, research, publication, and allied services in driver education and traffic safety for that state.

Upgrading teacher preparation programs implies course expansion to provide minor and major course work in safety education. Aaron and Strasser (1) suggested a need for more graduate programs that lead to a Master's degree in driver and traffic safety education. They recommended at least a one semester hour credit course in simulation methodology and a similar requirement for multiple-car driving range methodology.

Schultz (43) emphasized the importance of staffing when considering the offering of a minor or major. He suggested that college or university personnel hold at least a Master's degree ". . . with a major in safety education and should have had administrative or instructional duties, preferably in a secondary school" (43, p. 90). In summary he said that success of preparation programs ". . . will depend on how institutions select their staff, how they organize and gather educational references, how they identify courses and content, and how they employ methodology in the courses taught" (43, p. 91).

According to Schwenk (52, p. 4) "Upgrading is usually preceded by an evaluation of past procedure, based on complete information from the proper sources." Sub-sections of this chapter entitled "Historical Background of the Safety Education Program" and "Growth of the Safety Education Program" present evidence of the involvement of Iowa State College, currently known as Iowa State University, in safety education activities as early as 1914 (50). Also revealed are steady growth patterns to meet the recommendations for upgrading and improving preparation programs for teachers of driver and safety education. A missing ingredient seemed to be that of formal

input from former students. The only previous follow-up activity apparently occurred in 1955 and was very limited in scope (22). Thus it appeared that a need existed to involve former students in a formalized assessment process to collect pertinent demographic data and opinions vital to future program development.

Statement of the Problem

The study was concerned with the assessment of the Safety Education Program at Iowa State University utilizing responses gained from former students through a survey instrument.

The specific objectives of the investigation were:

1. To ascertain personal, educational, occupational, and professional characteristics of former students.
2. To obtain information and opinions relating specifically to driver education from former students currently involved with driver education.
3. To obtain "Actual" and "Potential" value ratings, comments, and suggestions concerning courses currently applicable to the safety education minor from former students having current or past safety-related employment to test five hypotheses.

Analysis of the value ratings of the courses involved the testing of five hypotheses for each of the basic preparation courses in which a sufficient number of students had been enrolled. The hypotheses stated in null form were as follows:

1. No significant difference exists in the value rating of basic preparation courses between group means of regular university students and in-service teachers, as measured by the survey instrument.

2. No significant difference exists in the value rating of basic preparation courses between group means of those employed in education and those not employed in education, as measured by the survey instrument.

3. No significant difference exists in the value rating of basic preparation courses between group means of those teaching safety education full-time and those teaching part-time, as measured by the survey instrument.

4. No significant difference exists in the value rating of basic preparation courses between group means of those teaching driver education exclusively and those teaching a broader spectrum of safety education, as measured by the survey instrument.

5. No significant difference exists in the value rating of basic preparation courses between group means of those with minimal preparation and those with maximal preparation, as measured by the survey instrument.

The basic assumptions were as follows:

1. Responses will be indicative of true attitudes and opinions.

2. Opinions and ideas of former students concerning safety oriented courses will provide information useful in program evaluation and improvement.

3. The opinions of the respondents will not be biased by the shift in program emphasis from driver education to safety education.

4. Course titles are sufficiently indicative of course content to allow respondents to reply objectively.

Historical Background of the Safety Education Program

The history of safety education activities at Iowa State University dates back to 1914 (50). Dr. J. E. Evans, former head of the Department of Psychology, did considerable research prior to 1928 related to accidents involving streetcar motormen (27). In 1925, Alvhh R. Lauer came to Iowa

State College, and although not realized at the time, Lauer's activities were destined to have a major impact on safety education at Iowa State. Following completion of his Ph.D. degree program at Ohio State University in 1927, his research project was transferred to Iowa State College (27). The college provided facilities for a laboratory and $500 worth of equipment including a pursuitmeter, a Weiss-Renshaw polygraph and several other pieces of research equipment (24). Mobile units were constructed and standardized while outdoor fields were devised and used for evaluating driving. The birth of what later was to become the Driving Research Laboratory is considered to have taken place at this time (27).

Since subjects available for study in a university setting would not be representative of the general driving population, it was concluded that research activities would have to be taken into the field. Industry proved most cooperative and drivers from Illinois Bell Telephone Company; the Lazarus Company, Columbus, Ohio; the Dayton Power and Electric Company, Dayton, Ohio; and others provided subjects for research (32).

The years immediately following the depression saw research funds, and consequently related activities, largely curtailed. Efforts during this period were devoted mainly to developing measuring devices for complex driving performance (32). For example, Earl Allgaier designed and built a device for measuring distance judgment abilities as a part of his Master's thesis project (2). He subsequently spent 38 years developing and manufacturing equipment for the American Automobile Association.

During the early thirties a more or less consistent and quite well organized program in safety was developing in Iowa (28). The Iowa State College catalogue for 1932-33 lists a course, "Psychology of Safety",

Psychology 39 (14). The department also maintained special problems courses in safety for many years. Many students took advantage of these courses to write reports and make minor studies in the field of safety. Several Master's theses were produced in safety during this period (29).

During the summer of 1935, the mobile Driving Clinic, under a cooperative arrangement with the Electric Bond and Share Company of New York City, was taken to their properties in Tennessee, Kentucky, Virginia, and West Virginia and data were collected on drivers relative to vision, nervous state, attitudes, sleep loss, intelligence, and other factors which might affect driver performance (27).

In 1936, a request came from the Bureau of Public Roads to bring the Driving Clinic to Hartford, Connecticut, to assist Harvard University in an evaluation procedure. A primary purpose was to evaluate some testing equipment which it was felt was being recommended prematurely to the public (24). During the same summer, the mobile Clinic also was used throughout the State of Iowa in cooperation with the Motor Vehicle Department. In November, arrangements were made for the Clinic to be demonstrated before the American Association of Motor Vehicle Administrators at Hot Springs, Arkansas. Other work was done with the Chrysler Corporation, the Bell Telephone Company in Des Moines, and the Army Corps of Engineers (27).

In 1937, Lauer cooperated in a study involving the Highway Research Board, the Harvard Bureau for Street Traffic Research, and the Motor Vehicle Department of Connecticut. The project dealt with the detection of accident-prone drivers and involved 3,600 drivers (19).

According to Lauer, the Driving Research Laboratory was founded formally "about 1937" (27, p. 3) in conjunction with the Engineering

Experiment Station. Half of Dr. Lauer's assignment involved research and the other half a new phase of safety, that of training drivers. The testing fields developed 10 years earlier now were adapted as training fields. Off-campus work essentially was suspended with emphasis being placed on laboratory research. Activities of the Clinic were not curtailed completely however, for in 1940, it was taken to the World's Fair in New York for two weeks to aid in the final examinations for the state winners of the Ford Good Driver's League. In 1941, the Clinic was taken to Detroit for a similar purpose. For several years the Clinic also was available at the Iowa State Fair (27).

Beginning in 1938, a teacher education program for driver educators was initiated in cooperation with the Department of Public Instruction, the Department of Motor Vehicles, and the Iowa State Safety Council. Thirty-five were enrolled in the initial course and they undertook to teach 120 persons how to drive an automobile. The "instructors" taking the course were high school teachers, principals, and superintendents. The "learners" were volunteers ranging in age from 11 to 65. During the course each student had three 90-minute sessions each week in groups of three to five. Half of the time-periods was spent in dual-control cars. In the latter stages of the course, advanced students were allowed to bring their own cars to practice on the training field. Heavy emphasis was placed on evaluation (31).

From 1941 to 1946, most of the research studies were confined to ". . . specific problems of night driving, the effects of flooding the eye with red light, visibility under low illumination, development of

better highway signs, and the improved legibility of letters used on signs and markers" (32, p. 47).

In 1947, the Department of Public Instruction in Iowa became aware of the establishment of a large number of training schools designed to obtain maximum financial benefits from government assistance programs to veterans. Evidence indicating that a driver education school to prepare teachers for the high schools might be in the offing, spurred the department into setting up a committee to investigate the problem and make recommendations. The committee was asked to formulate the basic requirements which should go into a course for teachers of high school driver education. Membership included representatives from the high schools, the colleges, and the Department of Public Instruction. During deliberations it was agreed that since driving was a ". . . hazardous type of pursuit . . ." (30, p. 190) and motor vehicles were becoming more numerous as well as more powerful, the amount of specialized training for teachers of driving should be commensurate with that required for other subject matter areas. The minimum number of credits for approval in most such areas was 10 semester hours or 15 quarter hours. The committee recommended to the State Department of Public Instruction that this amount of specialized subject matter also be set as a minimum requirement for approval of teachers of driver education in Iowa. Since no new statutes were needed to launch such a program, the up-grading began in 1948 with five credit-hours being required for the first year. The requirements were raised five quarter-credit hours each year until the recommended approval standards had been reached (30).

Only two colleges in the state previously had shown an active interest in the preparation program or had sufficient facilities to implement a program requiring 15 hours of instruction in the specific area of safety. Hence, Iowa State College and Iowa State Teachers College were invited to expand their curricula to prepare teachers for driver education. Programs were set up at these two institutions to provide teacher preparation and, although slightly different in title because of administrative direction, the initial subject matter of the courses was similar (30).

Following a brief period in an administrative capacity in California, Lauer returned to Iowa State in 1948 as Director of the Research Laboratory and was transferred from the Engineering Experiment Station to the Industrial Science Research Institute. He was given authority to secure and expend monies on a research program (32).

Grants from insurance companies and other organizations as well as contract research for the Armed Forces necessitated the availability of approximately 4,800 square feet of floor space. The laboratory was provided with some of the finest equipment available including such devices as: a Stoelting Precision Chronoscope, a Radar Speed Meter, a Tapley Decelerometer, a Densichron, a Tycos Self-Recording Sphygmonanometer, a Sight-Screener, a Cheiroscope, and various other specially built devices such as the Drivometer, Scotometer, Comparometer, Glareometer, and Night Vision Meter. Also included was a complete set of equipment for measuring vision, reaction time, certain physiological and electro-dermal responses, driver qualifications, and fatigue factors. As the need arose, other equipment was designed and built in a small shop located in the building (25).

Beginning in 1950, a grant was obtained from the Allstate Insurance Company for research purposes. Smaller grants for specific projects were obtained from the Minnesota Mining and Manufacturing Company, the Outdoor Advertising Association, and the Allied Mutual Insurance Company. The Allstate grant provided five research fellowships and was adequate to support an assistant director for the Laboratory. During the 1950 to 1953 period several studies were undertaken essentially concerned with the three areas of ". . . visibility at night, the effects of distracting influences, and factors of age and sex as they relate to driving and accident involvement" (32, p. 14).

An experiment in pre-driver education was conducted in the summer of 1955. Seventeen boys and girls between the ages of 10 and 14 were involved as subjects. They were given a total of five classroom hours and five practical laboratory periods of instruction. Their "driving" was done on an Auto-Trainer. Results from the evaluation procedures indicated that these younger age students could learn the fundamentals of driving as quickly or more quickly than high school age students or adults. Enthusiasm of the students was found to be a very positive factor in the rapid learning, thereby suggesting that at least some of the driver educating process could be done effectively at this level (26).

The career of A. R. Lauer at Iowa State was continuous from 1925 until the time of his retirement in 1958 with the exception of one year spent at Ohio State University earning the doctorate, one year as a National Research Fellow, and one year spent as Executive Vice President of the Los Angeles College of Optometry. He, along with his students and colleagues, produced some 200 papers, articles, and theses concerned

mainly with the human element in driving (23). See Appendix for listings.

Dr. Lillian C. Schwenk, current Head of the Safety Education and Research Program at Iowa State University, joined the Iowa State faculty early in 1955. She completed her Master's degree in 1962 and the Ph.D. degree in 1966 at Iowa State. Her Master's thesis (52) was the first study done on teacher certification requirements in the area of driver education and subsequently was published as National Safety Council Monograph No. 17 (11). Her doctoral dissertation (49) dealt with personality correlates related to accident involvement. Nurture and growth of the program from the time of the retirement of Dr. Lauer largely has been the result of her efforts. She was involved in the age and sex studies as related to motor vehicle accidents (46, 47, 48, 55, 56) in the 1956-1959 period.

As a result of lack of funds, the demolition of the original laboratory buildings, and heavy demand for driver education teachers, a decision was made in 1960 to change program emphasis almost entirely to teacher preparation specifically in driver education. This action resulted in Dr. Schwenk teaching all of the core courses. Since it was deemed desirable to have some laboratory experience for potential teachers she selected the better candidates from the "methods" course to teach the succeeding year's candidates some of the practical fundamentals on a one-to-one basis. Activities included learning the mechanics of psychophysical testing, in-car techniques, classroom techniques, and general operational procedures involved in student teaching which subsequently was required of all candidates wishing to enter the teaching profession.

This served to reinforce the learning experience for all concerned, and served as the foundation for the current laboratory phase of the "methods" course.

The need for coordinating this effort resulted in the addition of an associate to the staff who was assigned the task of teaching the laboratory phase of "methods" involving the activities previously mentioned, maintenance of cars and equipment, and supervision of at least part of the student teaching program.

With the advent of the College of Education in 1968, the Safety Education Program was transferred administratively from the Department of Psychology to the Department of Industrial Education. The physical facilities were enhanced in 1969 with the building of a $103,000 driving range and the addition of a 12-place Link-Allstate simulation unit. Both resulted from a federal grant obtained by Dr. Schwenk from the U. S. Department of Transportation with matching funds being provided by the Iowa Department of Public Instruction. These excellent facilities are shared by the University and the local high school (40).

Financial support in the form of graduate assistantships, tuition grants, and workshops has been provided over the years by various outside agencies. The Motor Club of Iowa for many years underwrote the advanced driver education workshops taught by Amos Neyhart and others; the club also funded the alcohol education workshop conducted during the summer of 1973. The Chrysler Corporation funded a full scholarship program in cooperation with the National Education Association during the summers of 1966 and 1967; Allstate Insurance Company provided monies for a multiple-car and simulation workshop following completion of these facilities.

Federal funds provided for by the Highway Safety Act of 1966 and administered through the Iowa Department of Public Instruction provided many $200 scholarships for Iowa driver education teachers during the 1968-1972 period, as well as funds for operation of and scholarships for workshops in Methods of Teaching the Handicapped to Drive. These were offered in conjunction with the Younker Rehabilitation Center and the Des Moines schools' Special Education program. The United States Public Health Service of the Department of Health, Education, and Welfare funded individual research projects (9, 57). The Ford Motor Company also has contributed money and resources in recent years.

Growth of the Safety Education Program

The history has indicated that the Safety Education Program evolved from one which was strictly research oriented to one emphasizing teacher preparation. Course work and activities changed to meet the new thrust. The course, Psychology of Safety, originally known as Psychology 39, was revised in the late thirties so that about half of the content was devoted to driver education, and became Psychology 474 (15, 28).

In 1947, five or six quarter hours specifically in driving safety were available in the Division of Science at Iowa State College with the possibility existing to earn 30 hours or more by including related courses. The course, Automobile Driving, Psychology 78, was begun in 1947 (16). The original "methods" course, Practice of, and Supervised Teaching in, Driver Training Education, Psychology 470, was introduced in 1949 (17) and involved two hours of class and one hour of laboratory activities each week (31). In 1950, a course, Methods and Materials for Teaching Safety

and Accident Prevention, Psychology 570, was added to the curriculum to meet the requirements of the Department of Public Instruction that preparation be on a broader base than purely driver education (18, 30).

The actual teaching of people to drive has fulfilled a student teaching requirement of the Iowa Department of Public Instruction and has provided a valuable community, and even world-wide service. In the Spring quarter of 1969, for example, 27 different countries were represented among course participants, and other quarters show similar enrollment figures. Language problems become readily apparent, but have constituted no barrier to learning. Enrollment figures are in the Appendix for the driver education course, Industrial Education 18, or Psychology 78, as it was known formerly, as prepared annually by Dr. Schwenk. The total number of students enrolled to date totals 3,325. Enrollment by quarter has fluctuated considerably but overall annual totals do not vary appreciably. The 1961 summer enrollment was limited deliberately due to restriction of facilities during the move of the Laboratory to new quarters. Weather conditions and high school student demand have had definite effects on enrollments. The teaching of local area high school students was curtailed sharply following the 1969 "explosion" when 38 were enrolled. It was felt that the Iowa State program should not be doing the job legally required of the local high schools. Therefore, in conjunction with the Iowa Department of Public Instruction, a quota system of six high school students per quarter was developed and currently exists. Lack of staff and a limited supply of non-high school learners essentially determine the size of this program.

The Appendix also provides enrollment figures for graduate students who have taken safety education credit courses. Figures indicate a

sizable increase in enrollment from 1964 to 1967; the 1967-68 school year reflects a sharp drop followed by complete recovery with a slight gain being noted during the following year. This pattern parallels that of the university.

The majority of students entering the preparation program seek certification and approval to teach driver education. Others, however, seek preparation for diverse safety-related occupations. Former students have gone into motor clubs, industrial firms, safety organizations, business, insurance companies, and governmental agencies. Some have obtained employment as traffic safety consultants while others are fleet managers, or safety specialists for health organizations, public health services, the Boy Scouts, the Y.M.C.A., and automotive manufacturers (50, 58). In addition, more recent trends lead to employment as loss control engineers for insurance companies, university professors, safety research experts in state departments of public instruction, journalists, and personnel directors specializing in safety and related activities.

Offerings of courses applicable to the safety education minor have increased in number over the years. From a single course (14) in the early thirties the program has grown to include 53 courses, with 11 regularly scheduled offerings in the core program. Additional courses are offered, usually in the summer session. The current listing of course offerings as well as "Evolution of Safety Courses", a portion of a report prepared by Dr. Schwenk for the Graduate College, can be found in the Appendix.

As indicated previously, both undergraduates and graduates are enrolled in the program. Students can earn a full minor of 30 quarter hours, and many go on to accumulate what would be sufficient hours for a

major, were it available. Required levels of preparation at Iowa State University have increased from 15 quarter hours, which still is the state-wide standard of the Iowa Department of Public Instruction, to 23, to the current 30. In-service teachers with certification in other subject matter areas wishing to become certified in the area of safety education must take the legally prescribed courses even though some do not carry graduate credit. The required courses at Iowa State University as stipulated by the Iowa Department of Public Instruction include: Problems of Human Conservation, Theory and Principles of Driver Education, and Practices of Driver Education. The remaining required hours may be selected from the wide range of electives.

In general, the safety education student must meet the same requirements as those cited for all students preparing to enter the general teacher education program at Iowa State University. In addition, graduate students must meet the requirements cited for all students entering the Graduate College. Graduate students with a special interest in safety are encouraged to write a thesis relating to some aspect of safety, theoretical or applied. A considerable array of safety-related theses has been written at Iowa State, as shown by the list of titles presented in the Appendix. Further, all graduate students in safety education are encouraged to have preparation in counseling, statistics, instructional media, and psychology (51).

Curricula are developed and administered by the "safety education section" of the Graduate Professional Studies Department and in conjunction with the Industrial Education Department of the College of Education. Core professional courses must be taken either at Iowa State University or in an

approved program at another university. Individual courses of study are developed by the student and his advisor or advisory committee, in keeping with his background, career goals, and the requirements of the College of Education at both the undergraduate and graduate levels (51).

Varied laboratory and internship experiences are available including a workshop-seminar of the Iowa Association of Pupil Transportation Supervisors. Internships are available in the following areas: Iowa Department of Public Instruction (Transportation Division) in the Safety Education, Research, Pupil Transportation, and Driver Education Sections; Iowa Department of Public Safety in the Safety Education Division, Research Division, and Highway Patrol; Iowa Central Community College, Transportation and Adult Education Programs; and in the Ames Public Schools, Driver and Safety Education Programs (51). Internships also are available with the National Safety Council; Iowa Commission for the Blind; Iowa Department of Health; Iowa Bureau of Labor; American Society of Safety Engineers, Hawkeye Chapter; Des Moines Public Schools, Safety Education Division; Des Moines Engineering Department, Safety Administration; and various insurance, safety consultant, and construction companies. A seminar in pupil transportation begun in 1971 has proven very popular. Similarly, the workshop in "Methods of Teaching the Handicapped to Drive", conducted in cooperation with the Des Moines School System, Younker Rehabilitation Center, and the Department of Public Instruction has met a growing need.

The number of staff working full-time in safety education and related research at the Safety Education Laboratory has remained small. A survey by Schwenk (50) released in 1960 revealed that there were then three professional staff members devoting full-time to safety at Iowa State

University. Only two of these, however, were associated directly with the Laboratory. She reported that in addition to these three, 87 other professional staff members on campus were devoting part-time to some phase of safety education. The present full-time faculty at the Laboratory is composed of two staff members. In addition, there is a full-time secretary and student employees who work part-time. A considerable array of nationally known authorities has appeared on various programs sponsored by the Laboratory during the academic year and especially for the summer programs.

REVIEW OF LITERATURE

Literature directly pertinent to the specific area of evaluation or assessment of teacher preparation programs in safety education was found to be almost nonexistent. The review revealed that research basically has been confined to evaluation of the effectiveness of high school driver education programs. Little (5, p. 119) maintained that "Most of the information currently relates to the results of studies evaluating high school driver education".

According to the American Automobile Association (4, p. 294),

> Research in the field of driver education has been done for two major reasons: first, to determine if, in general, driver education is worthwhile, and second, to determine what should be taught and how it can be taught most effectively.

It was discovered that Michigan State University in the late 1960's did an evaluative study of the graduate program in driver and traffic safety education. Those in charge of the study invited former students back to campus to aid the staff and graduate students in the evaluation. One of the recommendations was that basic preparation should be begun at the undergraduate level and should be sufficient in depth to constitute a minor. Conferees also felt that there should be separate curricula for those entering the teaching profession as driver and traffic safety educators and for those bound for careers in traffic administration or research (59).

The only previous follow-up activity conducted at Iowa State University involving safety and driver education was done in 1955 by Lauer (22). A survey form was used and resulted in returns from about 50 former students. Respondents were divided into "recent alumni", or those who had

graduated in the four years just prior to the study, and "other alumni". The main questions concerned emphasis on course work and emphasis on research. Both groups agreed that more emphasis was needed on three phases: "safety and human conservation course work", "driver education and training courses", and "research in driver education and highway safety".

One aspect of the current study involved the rating of courses by former students. A number of studies have been completed in other fields using a course rating design. The most pertinent are reviewed.

O'Brien (38) in 1951 surveyed some 534 agricultural engineering graduates seeking information concerning employment status, evaluation of selected courses, and other data pertinent to his needs. "Education" was found to be the highest ranking occupational outlet, numerically, at the time of the study. Course evaluation essentially consisted of ranking the degree of emphasis such as: "too much", "about right", or "too little". He recommended that ". . . curriculum content [needs to] be subjected to searching criticism in the future in order to meet the needed changes in the education of agricultural engineering students."

Rhea (41) did an extensive follow-up study in 1953 of graduates in the agriculture curricula at Iowa State University. His sample included 4,439 graduates from the previous 20 year period, from which he received 3,593 usable returns. His questionnaire sought information concerning ". . . first and present occupation, advance degrees earned, value of counselor, value of course work, recommendations for curriculum changes and opinions concerning other items . . ." (41, p. 27). Heavy emphasis on salary was apparent implying that salary was considered to be an

important measure of success. Rhea stated, however, that "Rewards to the individual may accrue in the form of salary, scenery, and satisfaction" (41, p. 77). Thirteen percent were found to be employed in education with the remainder in other occupational pursuits. He also suggested that theoretical objections could be raised to a survey of former graduates, contending that their evaluation is not of the present program but rather of a past program which has been modified and changed over a given period of time. Rhea (41, p. 3), however, said that

> In spite of this theoretical objection, the vocational competency of graduates, their opinions concerning curriculum content, extracurricular activities, organizational policies, etc. are considerations for present day students, faculty and college administrators. To ignore such considerations would be financial and perhaps education suicide to a state supported institution of higher learning.

Wiltsie (63) contacted industrial education graduates from Iowa State College for the years 1945-1955. Replies indicated that 47.3 percent were in teaching with the remainder in "industry" which included farming. Most nonteaching graduates obtained their first position through direct application. For those entering teaching, the college placement service was the most used medium. Of the 129 who taught upon graduation, 18.9 percent left for a position in industry; conversely, only 9.4 percent who started in industry subsequently changed to teaching. It was found that almost 40 percent of the teaching group had completed a Master's degree as compared to slightly over 13 percent of the nonteachers. Wiltsie also asked graduates to evaluate the courses they had taken at Iowa State College ". . . with respect to the possible professional values the courses may have with their present positions" (63, p. 21). Courses were

rated separately on a 4-point scale by those in teaching and those in industry. Results were reported separately and on a composite basis.

Bear (6) did a follow-up study using agriculture engineering graduates who received the Bachelor of Science degree from Iowa State University between July 1, 1942 and July 1, 1962. He sought certain background information which it was thought might provide some insight into the agricultural engineer as a person. It was speculated that this might prove useful to engineers already employed as well as prospective students. In addition, he sought data relative to employment factors such as geographical area, job classification, areas of employment, and income potential. Graduates were asked to evaluate their courses and to make recommendations for change.

Of the 420 graduates during the period, Bear received returns from over 95 percent. He found that 54 percent of the respondents had selected their own curriculum; father, vocational agriculture instructor, college staff member, and agricultural engineering graduates were listed as other influencing factors. He found that 102 graduates had continued study beyond the Bachelor of Science degree. Students came from 22 states, with 83 percent from Iowa; dispersion at the time of the study included 32 states, with 37 percent being in Iowa. The Engineering, Science and Humanities Placement Office was credited with first employment jobs by 38 percent of the graduates; 22 percent made personal inquiries; 10 percent were contacted by employers; and 9 percent obtained employment through a friend. Course evaluation essentially resulted in a "vote of confidence" for curriculum emphasis. Methods of teaching, counseling and guidance,

journalism, foreign language, and statistics were thought to need more emphasis.

Scholten (42) in 1966 surveyed industrial education graduates from the years 1951-1961 delimiting his study to include only those who entered non-teaching positions. From a 73.5 percent return on his questionnaire he found that 42.9 percent of the graduates were living in Iowa; 63.7 percent were found to be employed in industry and 18.6 percent in business; job mobility was apparent with nearly 75 percent reporting two or more jobs since graduation. An attempt to identify the method of obtaining first and present positions was somewhat unsuccessful; of the choices offered, "engineering placement service" and "friends" ranked highest; however, the "other" category was the choice of 49 percent for the first job and over 58 percent for the present one, indicating that not enough options were offered on the questionnaire. Scholten also sought information concerning curriculum choices; safety was recommended by 6.2 percent. Influences causing entry into industrial education as a major included the "university counseling service" and "lack of success in other curricula" as most important. Courses were rated on a 3-point scale. It was suggested that ". . . the required course offering for students taking the industrial option should be different from those required for students entering the teaching profession" (42, p. 31).

In 1971, Diedrick (10) conducted a follow-up study of industrial education graduates for the years 1959-1969. He mailed 305 questionnaires soliciting opinions from graduates relative to the adequacy of course-content areas. From the 248 responses he found that 113 were employed in education and 135 in industrial occupations. Those employed in industry

reported a median salary about $1,300 higher than their counterparts in education. Most industrially employed graduates were found to be with manufacturing firms in supervisory capacities; those in the school systems were found to be employed chiefly in high schools. Course evaluation involved rating of course-content through "Essential", "Important", "Desirable", and "No Value" categories (10, p. 16). No attempt was made to evaluate individual courses or instructors. Those employed in education rated psychology-content considerably higher than did their counterparts in industry. For the industrial education core content areas, ratings of "Essential" or "Important" by those employed in education were perceived as "Desirable" or of "No Value" by those employed in industry. The latter finding reinforced the suggestion made by Scholten (42) that different course options should be available for those entering teaching and for those bound for industry.

Summaries of the preceding studies indicate that other types of follow-up information were sought in addition to course evaluation. The current study utilized a similar approach. Other related studies sought follow-up data with no attempt being made to evaluate courses, curriculum, or content-areas.

In a survey of industrial education graduates from 1921 to 1950, Udoh (60) found them to be dispersed among 27 states; most stayed in Iowa, with Illinois ranking second. Classification was made as to teaching and non-teaching occupations; of those in teaching, the vast majority was in junior high and senior high positions. Many were teaching combinations of courses; five were reported to be teaching "driver training" at least

part-time although mathematics was the subject cited as most frequently taught other than industrial education.

Stone (54) studied the status of industrial arts teachers in Iowa teaching during the 1958-1959 school year. The variables considered were: salary, number and type of subjects taught, class size, age and preparation of the teacher. He found that about one-half of the respondents were teaching in one or more areas of instruction; 39, or 26.9 percent, were found to be teaching driver education.

Lang (21), in a study of industrial education graduates of the 1954-1964 period, found that most had acquired their positions through the Iowa State University Teacher Placement Office, and that most of them remained in Iowa, with Illinois and California sharing second place. Mobility was reported as "low" with over 95 percent of the respondents having held three or fewer positions. Reasons cited for moving included: better working conditions, greater chance for advancement, and financial considerations. Of 111 respondents in their first teaching position, three were found to be teaching driver education full-time with 14 teaching a combination of industrial arts and driver education; assignments at the time of the study included four in full-time driver education and four in the combination mentioned previously. A safety and driver education minor was recommended by over 48 percent of the respondents.

Bergman (7) researched several areas with which the present study was concerned. She surveyed a group of 206 former driver education teachers in Ohio. In response to a query concerning why they decided to teach driver education initially, several reasons became apparent. About 62 percent said they felt the course was needed in the schools; almost 25

percent cited student motivation for the course; over 23 percent did so because they could see the results of their teaching; and a relatively large 13.6 percent reported that this was the only way to obtain a job in their particular school system. When asked the most important or controlling factor in causing them to leave driver education, the following list evolved, in order: "administrative position and higher salary, opportunity to teach in one's major field, salary, a better position, and assigned other duties" (7, p. 2). If belonging to professional organizations could be considered to be an indicator of professionalism, the teachers in the Bergman survey might be considered to be professional in general but rather nonprofessional in driver education; almost 73.2 percent belonged to the National Education Association, while only 32.7 percent held membership in the Ohio Driver Education Association.

The current study solicited recommendations regarding possible major status for safety education at Iowa State University. On a more general basis, the Iowa Department of Public Instruction, in 1969, conducted a survey relative to interest in a graduate degree program in safety education in Iowa. Questionnaires were sent to 1,063 Iowa driver education teachers. In addition, 50 questionnaires were sent to Iowa State University, 50 to the University of Northern Iowa, and 6 to the University of Dubuque for students who were seniors. A 47 percent return was reported. In response to the question (13, p. 3) "If a graduate degree program in safety education were offered in an Iowa University, would you enroll in it if it was comparable in quality to out-of-state programs?", 361 said "yes", 142 said "no", and 56 did not respond. The top three interest areas

were (13, p. 3): "General School Safety", "Transportation Safety", and "School Safety Supervision" in descending order.

In summary, eight of the cited follow-up studies (6, 10, 22, 38, 41, 42, 59, 63) sought some form of evaluation of courses or instructional areas suggesting a need for evaluation by former students of courses or instructional areas. Three other follow-up studies (21, 54, 60) sought basically employment-oriented data suggesting a need for this type of information. The findings of Bergman (7) suggested a need to identify reasons for driver education teachers leaving the field in the interests of counteracting the phenomenon. Statements by individuals (8, 37, 53, 64), reports on conferences (33, 34, 35, 36), a yearbook (3), and research findings (11, 20, 52) all pointed to the need for upgrading preparation programs for teachers of driver and/or safety education, including expansion of curricula (1, 11, 43). The relatively small return on a survey of interest in a graduate program in safety education in Iowa (13) suggested a need for further sampling of opinion in this area.

METHOD OF PROCEDURE

The study was concerned with the assessment of the Safety Education Program at Iowa State University utilizing responses gained from former students through a survey instrument.

Definition of Terms

The following are definitions of terms as used in this study, developed to arrive at common interpretation of meaning.

Safety education - a discipline involving all phases of safety, including driver education

In-service teacher - a certified teacher seeking preparation for approval in the area of safety education

"316L" - a fictitious course number assigned, for purposes of this study, to the laboratory phase of Industrial Education 316 to allow separate rating and analysis

Education classification - professional employment in public schools, private schools, or institutions of higher learning

Non-education classification - employment including business, industry, government, self-employment, and any other area not covered by the preceding definition

"Actual" value rating - a course-value rating based on benefits derived from having taken a given course

"Potential" value rating - a course-value rating based on envisioned benefits from taking a given course even though the course had not been taken

Population - all former students from 1955 to 1972 who had completed the driver education "methods" course and its prerequisite

Sample - all such former students who responded to the survey

Source of Data

Subjects chosen for the study were those who had taken the "methods" course for teaching driver education (Industrial Education 316, or its earlier equivalent) and its prerequisite, Industrial Education 216, or its earlier equivalent, between 1955 and 1970. The former date was dictated by the availability of records and the latter was chosen to allow for some employment experience so that evaluation of courses could be based on actual employment experience in safety or safety-related positions.

A total of 337 subjects was found to have met the criteria for inclusion in the study. Three of these were known to be deceased, thereby reducing the number to be contacted to 334. Class records at the Safety Education Laboratory afforded home addresses valid at the time the courses were taken but not all were current. Alumni records were searched for a more reliable up-to-date listing of home addresses. Records maintained by the Men's Physical Education Department were checked and coaches with considerable longevity at this institution were plied for information. The search also included the alumni file in Industrial Education as well as the file of Iowa Professional School Employee Data Sheets of the Iowa Department of Public Instruction. Personal knowledge and referrals from persons who knew where certain individuals were located completed the address check. No current address could be found for two individuals which further reduced the number to be contacted to 332.

The Instrument

A considerable number of survey instruments used previously were reviewed to ascertain appropriate items to be included in a follow-up study. Modifications were made to fit the proposed format and items pertinent to the current study were added in keeping with opinions of various faculty members. The instrument was pilot tested on ten former students. Revisions were made taking into account suggestions of the coding staff at the Iowa State University computer center relative to making data collection procedures and data processing compatible. Printing of the revised form, utilizing photo-reduction, was deemed to be the most feasible method of reproduction. A standard 3 x 5 card was utilized for collecting personal data including: name, address, date of birth, marital status, number of children, employment status, employer, employer's address, home-town, and home-state. This card was attached to the first page of the questionnaire so that it could be removed upon return to guarantee anonymity and to provide a ready-made card file for the study. See the Appendix for sample materials.

The questionnaire was divided into six sections. Section I concerned college education; Section II sought general employment information; Section III asked for more specific employment information from those employed in education; Section IV was the counterpart of Section III for those not employed in education; Section V provided opportunity for course evaluation and included, to facilitate rating, a complete listing of courses currently applicable to the Safety Education minor. Section VI allowed for some generalized evaluation of safety education preparation.

Since considerable time had elapsed since earlier students had taken the courses, the courses taken by each were indicated on each individual questionnaire. The information concerning courses taken was obtained from Safety Education Laboratory records and official transcripts. Since course ratings were sought only from those who had employment in safety, those who had no such experience were directed to skip Section V and proceed to the generalized evaluation in Section VI.

Collection of Data

The original mailing of 332 questionnaires took place on August 31, 1972, with 29 questionnaires being returned as "Addressee unknown". Other leads were checked with new addresses being found in a few instances; in these cases a second mailing was made. A 3-week period was allowed before a follow-up card was sent (See Appendix) requesting completion and return of the questionnaire. In response to the follow-up card, six questionnaires were replaced due to "loss" or nonreceipt of the original. These combined efforts resulted in receipt of 209 responses. A duplicate questionnaire including a separate cover letter (See Appendix) was sent approximately six weeks later, with 40 additional returns being realized. A third follow-up attempt involved a hand-written card mailed on December 22, 1972, which carried a personal request for assistance; an additional 20 returns were received. The final attempt was initiated in February 1973, when 40 envelopes were sent enclosing a return post card (See Appendix). This card allowed the option of checking "I do not wish to participate". A total of 11 cards was returned. Four indicated nonreceipt of previous mailings, four others said they had misplaced the

questionnaire, and one admitted to procrastination. As a result, eight duplicate questionnaires were mailed. The remaining two indicated "no desire to participate", one with no reason given and the other's reason stemming from a previous conflict with another segment of the University. This final attempt netted eight additional usable responses.

In summary, a total of 277 usable replies was realized constituting 83.4 percent of the 332 former students surveyed. However, 22 could not be located, another was found to be deceased, and one chose not to participate which actually reduced the number who could be included to 308, thus raising the final percent of returns to 89.9 of the former students contacted.

Because of the time-lag in the study, it was possible to include 48 students from the 1970 and 1971 classes. Copies of the original questionnaire were sent to these additional subjects on February 28, 1973. This mailing netted 31 replies; the same follow-up procedures were employed resulting in a total of 38 questionnaires being returned for a percent of 79.2.

Pooling the number and percent factors from both phases of the study showed a total of 356 subjects being contacted resulting in a total return of 315, or 88.5 percent.

Treatment of Data

Information from the questionnaires was recorded on custom-designed code sheets (See Appendix), and subsequently key-punched onto three separate cards for each individual who rated the courses; all other respondents required only one card. The Coding Key is shown in the

Appendix. The data were submitted to the computer utilizing a statistical program (45) which delivered raw frequency, cumulative probability, median, average, and standard deviation information for each item, which facilitated the generation of the descriptive statistics used in the study.

From a statistical analysis standpoint, the most vital portion of the questionnaire involved the value ratings of the courses necessary for testing the five hypotheses in the study. These ratings were based on a 9-point scale with 1 indicating "no value", 5 = "moderately valuable", and 9 = "extremely valuable". The directions requested a two-fold evaluation: "Actual" if they had taken the course, and "Potential" if they had not. The latter was designed to identify some thought relative to which courses might be considered valuable had they been taken or were the respondents to take additional course work. It was felt that this "Potential" rating might develop into a "Recommendation Scale" useful in counseling present and future students and in curriculum revision.

Since courses valuable for employees in education might not be the same for those not employed in education, each was asked to rate the courses separately. Those having employment experience in both areas were asked to respond twice.

The questionnaire allowed for some general evaluation of the preparation program primarily to give former students who were ineligible to rate the courses, based on their lack of safety employment, an opportunity to express their views. This information was treated on a descriptive statistics basis.

Statistical analysis

Statistical analysis was performed by the use of the *t* test applied to the differences in group means of value ratings of nine core courses for each of the five stated hypotheses in the study. For four of the five hypotheses a computer program called "Automatic *t* tests" developed by Schuster (44) was used. The general purpose program can handle several approaches to the *t* test with data in several formats. For this problem, three types of cards were read in sequentially, a parameter card for each *t* test to specify the number of cases in each group, the format card, and then individual numerical course rating values separately for the two groups being compared. The program computed the mean and standard deviation and performed the *t* test utilizing the formula for uncorrelated means. The nature of the data involved in testing the second hypothesis necessitated the use of a separate computer program to accomplish the desired results.

Testing each hypothesis involved dichotomizing the respective independent variables. The median was selected to serve as the division point between "minimal" and "maximal" preparation for testing the fifth hypothesis. Though a seemingly simple procedure, the task was complicated by the fact that information establishing the dichotomies involved was on a separate punch card from the value ratings of the courses. It thus became necessary to design a code for each dichotomy and to transfer this information to the card containing the value ratings. New cards were punched and duplicate decks were made to facilitate testing four hypotheses on a single computer run for each course. Due to a different N of value ratings for each course, each had to be analyzed separately and each

required 12 separate card sorts prior to each computer run. The hypotheses were tested at the usual .05 and .01 levels of significance using Ostle's tables (39).

It should be noted that the first hypothesis is not applicable to Industrial Education 490S since the course is for undergraduates only.

FINDINGS

Personal and Educational Characteristics

A total of 315 returns from a mailed survey supplied the data for this study. A wide variation in the amount of preparation in safety education was reported by the participants, as shown in Table 1. It can be seen that 132 or almost 42 percent had between 30 and 44 quarter hours of preparation, with the next highest category being 15-22 quarter hours. The former is significant in that the Iowa State University requirement for a minor is 30 quarter hours while the State of Iowa requires only 15 quarter hours of preparation for certification to teach driver education. Results thus indicate that over 90 percent of the respondents either met or exceeded minimal State requirements.

Table 1. Number and percent of respondents by quarter hours of preparation in safety education

Quarter Hours of Preparation in Safety Education	N	%
5-7	6	1.9
8-14	24	7.6
15-22	79	25.1
23-29	62	19.7
30-44	132	41.9
45 or more	12	3.8
Total	315	100.0

Table 2 provides a summary by year of those students who met the criteria for inclusion in the study, namely, those who had taken the "methods" course, Industrial Education 316, Theory and Principles of Driver

Education, or its earlier equivalent and its prerequisite, Industrial Education 216, Problems of Human Conservation, or its earlier equivalent. The "Eligible" column includes those who had completed the "methods" course. Those "Eliminated" included four found to be deceased, one who chose not to participate, and those who could not be located. The "Net" column was derived from the two preceding columns. The last column reflects percent of returns for individual years based on the "Net" column.

Lapse of time between the course work and time of the current follow-up study did not seem to hamper returns appreciably. The range of the percent of respondents by year was from 73.7 in 1962 to 100 percent in 1966, 1968, and 1969 with a total net return of 88.5 percent.

Table 2. Summary of respondents by year of completing the "methods" course

Year	Number					
	Eligible	Eliminated	Net	No Response	Responded	%(of Net)
1956	17	2	15	3	12	80.0
1957	27	4	23	2	21	91.3
1958	23	1	22	5	17	77.3
1959	23	0	23	4	19	82.6
1960	27	2	25	1	24	96.0
1961	16	2	14	1	13	92.9
1962	24	5	19	5	14	73.7
1963	26	1	25	1	24	96.0
1964	23	3	20	2	18	85.7
1965	22	1	21	3	18	85.7
1966	26	2	24	0	24	100.0
1967	31	2	29	4	25	86.2
1968	27	1	26	0	26	100.0
1969	25	3	22	0	22	100.0
1970	32	0	32	8	24	75.0
1971	16	0	16	2	14	87.5
Total	385	29	356	41	315	88.5

Distribution of students by age group at time of taking the "methods" course is shown in Table 3. Most students were in the 20–22 age group with only 14, or 4.5 percent, over 30 years of age at that time.

Table 3. Number and percent of respondents by age group at time of taking the "methods" course

Age Group	N	%
Under 20	36	11.4
20-22	193	61.3
23-25	42	13.3
26-30	30	9.5
31-35	4	1.3
36-40	4	1.3
Over 40	6	1.9
Total	315	100.0

The distribution based on age at survey time is shown in Table 4. The largest frequency was found to be between 31 and 40 years of age, numbering 138 and making up 43.8 percent of the total. The second largest frequency was found in the "25–30" group and contained 122, or 38.7 percent, of the respondents. The data thus revealed a relatively young population.

Table 4. Number and percent of respondents by present age group

Present Age Group	N	%
20-24	34	10.8
25-30	122	38.7
31-40	138	43.8
Over 40	21	6.7
Total	315	100.0

Respondents were separated further by sex and by race. Four females, all white, met the criteria for inclusion and replies were received from three. Of the males, 295 were white and 17 nonwhite. Separation was done primarily to determine job opportunity factors for the nonwhites.

It was found that only two were unemployed, both on a temporary basis. Slightly under 58 percent, or 182, were found to be employed in education. Those not in education numbered 118, which approximated 37.5 percent. The "Other" category included those too recently graduated to have employment experience. The seven in the "Student" category included those still in college, having not graduated, as well as those who had returned for advanced degree work. Five reported being in the "Military" which by definition included only those on a noncareer basis. Results are shown in Table 5.

Table 5. Number and percent of respondents by employment status

Employment Status	N	%
Employed (education)	182	57.8
Employed (non-education)	118	37.5
Unemployed	2	.6
Student	7	2.2
Military (noncareer)	5	1.6
Other	1	.3
Total	315	100.0

Origin and migration information contained implications for preparation since states vary in specific requirements for employment in their school systems. For example, Illinois and California require simulation and range training. As can be seen in Table 6, the vast majority, 226 of the 315

Table 6. Frequency distribution of respondents by current employment status within indicated residence classifications

State	Home State				Present State			
	Ed.	N/Ed.	Other[a]	Total	Ed.	N/Ed.	Other[a]	Total
Alabama	1	0	0	1	2	0	0	2
Alaska	0	0	0	0	1	0	0	1
Arizona	0	0	0	0	1	1	1	3
California	0	0	0	0	1	5	1	7
Colorado	0	0	0	0	1	3	0	4
Connecticut	1	0	0	1	0	0	0	0
Florida	0	1	0	1	3	2	0	5
Georgia	0	0	0	0	0	1	0	1
Hawaii	0	1	0	1	1	2	0	3
Illinois	12	8	3	23	16	11	1	28
Iowa	136	79	11	226	116	50	8	174
Indiana	1	0	0	1	1	0	0	1
Kansas	0	0	0	0	1	1	0	2
Louisiana	0	0	0	0	1	0	0	1
Maryland	0	1	0	1	0	1	0	1
Massachusetts	0	0	0	0	0	2	0	2
Michigan	5	2	0	7	5	3	0	8
Minnesota	3	2	0	5	3	2	0	5
Mississippi	0	0	0	0	1	1	0	2
Missouri	1	0	0	1	1	3	0	4
Montana	0	0	0	0	1	0	0	1
Nebraska	5	1	1	7	7	1	0	8
Nevada	0	0	0	0	1	0	0	1
New Jersey	1	1	0	2	1	2	0	3
New York	6	4	0	10	5	2	1	8
North Carolina	1	0	0	1	0	0	0	0
North Dakota	0	0	0	0	0	1	1	2
Ohio	4	11	0	15	2	6	0	8
Oklahoma	0	0	0	0	0	1	0	1
Oregon	0	0	0	0	1	0	0	1
Pennsylvania	4	4	0	8	1	3	0	4
South Dakota	0	1	0	1	0	2	0	2
Tennessee	1	0	0	1	0	0	0	0
Texas	0	0	0	0	0	2	0	2
Virginia	0	0	0	0	1	4	1	6
Washington	0	0	0	0	0	1	1	2
West Virginia	0	0	0	0	1	0	0	1
Wisconsin	2	0	0	2	8	3	0	11
Total				315				315

[a]Includes students, unemployed, and military personnel (noncareer).

respondents, were Iowans before coming to Iowa State University with the remainder coming from 19 other states. Illinois was the second largest contributor of respondents, followed by Ohio. Current respondent location indicated that considerable migration had taken place with participants being found in 35 different states. Iowa lost 52 native residents in the process; however, it should be noted that several excellent students from other states elected to make Iowa their new home. California, Colorado, Florida, Illinois, Virginia, and Wisconsin appeared to have the largest gains. Respondents were sub-divided by employment status into "Ed." (education), "N/Ed." (non-education), and "Other", which included students, those unemployed, and noncareer military personnel, to obtain a closer look at migration patterns. For the educators, Wisconsin and Illinois emerged as the largest recipients with California and Virginia sharing similar distinction for those not in education. It was found that 37 respondents returned to their home states although not necessarily directly from college.

Information was collected relating to higher education experience; Table 7 presents the results. Approximately 52.5 percent, or 165, were found to have attended Iowa State University exclusively; and 35.2 percent, or 111, attended two institutions.

Table 7. Number and percent of respondents by number of institutions attended

Number of Institutions Attended	N	%
One (Iowa State University)	165	52.5
Two	111	35.2
Three	37	11.7
Four	2	.6
Total	315	100.0

Responses indicated that not all of the respondents graduated; however, a total of 295, or 93.7 percent, did graduate with one or more degrees. Of these, 100 held two degrees and 14, three degrees; results are shown in Table 8. A further break-down revealed 7 with Doctorates (including D.V.M.), 5 with Specialist's, 98 with Master's, and 185 with Bachelor's degrees. Apparent discrepancies between earned degrees in Table 8 and actual earned degrees shown in Table 9 can be attributed to a number of Associate of Arts degrees from community colleges plus other deviations from the usual degree sequence.

Table 8. Number and percent of respondents by number of degrees held

Number of Degrees Held	N	%
None	20	6.3
One	181	57.5
Two	100	31.8
Three	14	4.4
Total	315	100.0

Table 9. Number and percent of respondents by highest degree held

Number of Degrees Held	N	%
None	20	6.3
Bachelor's	185	58.8
Master's	98	31.1
Specialist's	5	1.6
Doctorate (including D.V.M.)	7	2.2
Total	315	100.0

From a "recruitment" standpoint, information concerning what prompted a student's initial interest in safety education appeared to be important. The questionnaire requested that choices of initial interest-stimuli be limited to two with no requirement for ranking them. Most, or 234, of the respondents selected more than one factor. These were combined to generate Table 10. "Ideal combination for teaching" was the main reason cited for entering safety education; the "Adviser" also was a high motivating factor. No respondent indicated the "High school counselor" to be an influence toward entry into safety education. The "Other" category included "curiosity" and "military experience", as examples.

Table 10. Frequency distribution[a] of respondents' initial interest-stimuli in safety education

Initial Interest-stimuli	N
Ideal combination for teaching	169
Adviser	104
Good employment prospects	79
Summer employment opportunity	71
Interest in human conservation	69
Peer encouragement	32
School administration request	5
High school counselor	0
Other	20
Total	549

[a]Includes more than one choice per individual.

Attendance at other institutions to fortify or improve preparation served as an "index" of continuing interest in safety education. Attendance at one other institution was indicated by 31 of the respondents while six indicated work at two other institutions. The extent of additional preparation was predominantly in the 1-5 quarter hour bracket. The next highest grouping included 11-15 quarter hours while eight

reported 16 or more quarter hours of additional preparation. Results are presented in Table 11. In response to a request to identify the institution(s) where additional work had been done, 25 institutions other than Iowa State University were mentioned.

Table 11. Number and percent of respondents by additional hours of preparation at other institutions

Additional Hours of Preparation (q.h.)	N	%
None	278	88.2
1-5	15	4.8
6-10	4	1.3
11-15	10	3.2
16 or more	8	2.5
Total	315	100.0

A query concerning future safety education preparation plans elicited 94 "Yes" (plan to get more), 197 "No", and 17 "Perhaps" responses, while seven did not respond. Approximately one-third thus indicated an interest or possible interest in expanding their academic preparation.

Since the question concerning possible major status for safety education periodically arises, the current study offered an opportunity to solicit opinions relative to this topic. Two questions were posed -- 1) "If safety education had been available as an undergraduate major, would you have elected it over the major you chose?" and 2) "Would you <u>now</u> elect safety as an undergraduate major if you were to repeat your college education?". To the initial question, 80, or 25.4 percent, replied in the affirmative. A total of 226, or 71.8 percent, said they would not have chosen safety education as a major, seven were "undecided", and two failed

to respond. Reaction to the latter question resulted in a completely different picture. Although the "Yes" responses were not in the majority, interest for whatever the reason(s) was much improved. There were 141 "Yes" responses, or 44.8 percent, as compared to the 80 - 25.4 percent figures just cited. Several, however, expressed interest in safety as a double major. A total of 157 indicated they still would not choose safety education as a major, 13 were undecided, and four did not respond to the question. Table 12 offers a comparison of the results.

Table 12. Number and percent of respondents by interest in a safety education major: in-school and survey time

Response	Interest in Safety Education Major			
	In-School		Survey Time	
	N	%	N	%
Yes	80	25.4	141	44.8
No	226	71.8	157	49.8
Undecided	7	2.2	13	4.1
No response	2	.6	4	1.3
Total	315	100.0	315	100.0

The question of major status was pursued further through the seeking of recommendations from each respondent. Choices included recommending both graduate and undergraduate majors, graduate major only, undergraduate major only, or neither major. "Both majors" were favored by 139, or 44.1 percent. "Graduate major only" was second with 117, or 37.1 percent. "Undergraduate only" received 41 "votes", 14 indicated preference for "Neither major", and four failed to respond.

Closely related was a question concerning desirability of requiring a

general safety course of college students in the interests of human conservation. A majority, 166 out of 315, recommended that all college students be required to take a general safety course. Over one-third favored it for students in teacher preparation only. Results are presented in Table 13.

Table 13. Number and percent of respondents by those recommending required safety course

Require of:	N	%
All college students	166	52.6
College students in teacher preparation only	112	35.6
College students in elementary teacher preparation only	4	1.3
No one	27	8.6
(No response)	6	1.9
Total	315	100.0

Occupational Characteristics

Emphasis of the study at this point shifted from personal and educational data to information concerning employment. Respondents were queried with respect to methods of obtaining employment. A choice of nine methods was offered in the interests of identifying the most popular methods. Since the established coding procedure precluded the identification of each method per se, screening was done by hand. Table 14 identifies the number of times each method was used and shows that methods of obtaining employment varied considerably between those employed in education and those who were not, but also reveals some marked similarities. Those in education reported the three most frequently used methods as: "Answered

job ad or listing", Employer contacted you", and "Through friend or relative" in descending order. Those not in education reported the corresponding three to be: "Employer contacted you", "Made direct inquiry (door knocking)", and "Through friend or relative". The largest difference existed in ranking of "Answered job ad or listing"; while educators ranked it first, those not in education ranked it fifth. Friends and relatives emerged as remarkably strong influences.

Table 14. Frequency distribution[a] of respondents by method(s) of obtaining positions: education vs. non-education

Method(s) of Obtaining Positions	Education N	Non-education N
Answered job ad or listing	103	27
Employer contacted you	91	55
Through friend or relative	61	40
Made direct inquiry (door knocking)	49	44
College placement	46	6
Through university faculty	46	8
Internal action (promotion, etc.)	19	31
On-campus interview	11	6
State employment agency	11	6
Other	7	4
Total	444	227

[a]Includes more than one choice per individual.

Subjects were asked to provide their job history, including dates of employment and state in which employment occurred. However, the dates and locale proved too cumbersome to utilize and therefore are not discussed. Since the established coding procedure precluded identification of individual jobs, only the number of jobs held is shown in Table 15. Number of jobs held ranged up to seven; the numbers declined as number of jobs held grew larger except that three more reported seven jobs than reported six;

81 indicated one job only; 86, two jobs; and 67, three jobs. The "No response" category reflects those with no job history.

Table 15. Number and percent of respondents by number of positions held

Number of Positions Held	N	%
One	81	25.7
Two	86	27.4
Three	67	21.3
Four	37	11.7
Five	18	5.7
Six	5	1.6
Seven	8	2.5
No response	13	4.1
Total	315	100.0

One of the most vital concerns of the current study centered around the safety orientation of employment. Five choices were offered as indicated in Table 16. Results showed that 188, or 59.7 percent, had experienced some safety-oriented employment. The remaining 127 reported no formal safety-oriented employment. Those currently employed in safety totaled 125, including the 64, or 20.3 percent, reporting all safety employment.

Table 16. Number and percent of respondents by safety orientation of employment

Safety Orientation of Employment	N	%
All safety employment	64	20.3
Current safety employment but not all	24	7.6
Current safety employment but not previously	37	11.8
Some safety employment but not currently	63	20.0
No safety employment	127	40.3
Total	315	100.0

Reported salaries as of 1972 ranged from less than $6,000 to $65,000 annually. A total of 46, or 14.6 percent, did not disclose annual income. The $10,001-$12,500 category encompassed the most replies with 69; 66 were found in the $7,501-$10,000 bracket; and 62 were in the $12,501-$15,000 range. On the extreme ends of the scale, three reported incomes of $6,000 or less and eight reported more than $25,000 in annual income. Table 17 shows the distribution of reported salaries. The median salary was calculated to be $11,865.94.

Table 17. Frequency distribution of respondents by annual salary

Annual Salary	N
More than $25,000	8
$20,001-$25,000	10
$17,501-$20,000	13
$15,001-$17,500	25
$12,501-$15,000	62
$10,001-$12,500	69
$ 7,501-$10,000	66
$ 6,001-$ 7,500	13
$ 6,000 or less	3
No annual income given	46
Total	315

The salary range for those employed in education was from $6,900 to $23,000 with the median calculated to be $11,634.61. The range for those not employed in education was the same as for the overall salary range since both extremes were found in this category. The median salary for the "Non-education" category was calculated to be $12,864.58. Table 18 shows the results of comparing the two categories: those not in education dominated the two upper salary brackets and also the lower bracket. The

largest group of educators was found in the $10,001-$12,500 bracket as compared to the $12,501-$15,000 bracket for those not in education. The N in both columns reflects the actual number who reported income on a usable basis.

Table 18. Frequency distribution of respondents by annual salary: education vs. non-education

Annual Salary	Education N	Non-education N
More than $25,000	0	8
$20,001-$25,000	2	8
$17,501-$20,000	8	5
$15,001-$17,500	14	11
$12,501-$15,000	41	21
$10,001-$12,500	51	18
$ 7,501-$10,000	45	21
$ 6,001-$ 7,500	5	7
$ 6,000 or less	0	3
Total	166	102

A further comparison of salary was made on the basis of race. Reported salaries for nonwhites ranged from $8,400 to $23,000 indicating that the extremes in salary at both ends of the scale were earned by whites, while median salaries of nonwhites exceeded those of whites both on an overall basis and in the category involving those not employed in education. Table 19 summarizes the results.

Job patterns apparently were quite well established. In response to a question -- "Do you have any immediate plans to enter a safety

Table 19. Summary of median annual salaries by employment and race

Category	Median Annual Salary
Overall	$11,865.94
white	$11,931.82
nonwhite	$12,600.00
Education	
Overall	$11,634.61
white	$11,675.00
nonwhite	$11,000.00
Non-education	
Overall	$12,864.58
white	$12,678.57
nonwhite	$14,650.00

position if not currently employed in one?" -- 11 indicated "yes" and 166, "No", with one being "Undecided".

An attempt was made to identify reasons for non-entry or for termination of employment in safety. Choices were limited to two with no request made for ranking them; Table 20 reflects the results of combining the choices. "Availability of position in major field" was the reason most frequently mentioned. "Salary" ranked second with "No job available" following rather closely. None of the respondents apparently thought "Safety is too hard to sell". Only seven indicated that they had disassociated themselves from safety because of the lack or loss of interest. The number of responses falling into the "Other" category was relatively large and provided a variety of reasons other than those listed; included were: "Better opportunity for advancement elsewhere", "Happy where I am", "Didn't look for one [job in safety]", and "Drafted". The category, "Not qualified", did not appear on the questionnaire; however,

data processing revealed six who cited this reason. This category was included in Table 20 for reporting purposes.

Table 20. Frequency distribution[a] of respondents by reason(s) for non-entry into safety employment or for termination of safety employment

Reasons for Non-entry into Safety or for Termination	N
Found opening in major field	53
Better salary elsewhere	43
No job available	39
Assigned other duties	35
Lack or loss of interest	7
Not qualified	8
Conflicts with administration	3
Personal health	1
Too demanding, timewise	1
Safety is too hard to "sell"	0
Other	21
Total	211

[a]Includes more than one choice per individual.

Professional Characteristics

Respondents were asked to list memberships in professional organizations. The coding procedure utilized did not permit identification of memberships in individual professional organizations, thus only the numbers of memberships are summarized in Table 21. Two respondents reported memberships in nine or more organizations, while three, two, and one in descending order were the most prevalent totals. Almost 30 percent, or 94, either belonged to no professional organizations or failed to respond.

Information was sought relative to memberships specifically in driver and traffic safety education associations. Only eight reported being members of both the American Driver Traffic and Safety Education

Table 21. Number and percent of respondents by number of memberships in professional organizations

Number of Memberships	N	%
One	40	12.7
Two	47	14.9
Three	50	15.9
Four	39	12.4
Five	18	5.7
Six	16	5.1
Seven	5	1.6
Eight	4	1.3
Nine or more	2	.6
None or no response	94	29.8
Total	315	100.0

Association and the corresponding state association. Nineteen indicated membership in "state association" and two in "national association only". This accounted for 29, or 30.9 percent, of respondents who had indicated they were involved in driver and/or safety education.

Another portion of the study sought to identify methods of staying current on the job. Six categories including workshops, conferences, short courses, adult education, independent reading, and "other" were offered, with the number of choices being unlimited. Individual methods were not coded; only the total number of methods for each respondent. Separate tallies were kept for those employed in education and for those not so employed. Comparison of the two revealed that those in education showed some tendency toward utilization of more methods to remain current than their counterparts. The former listed three methods most often as compared to one for the latter.

Education Positions

Respondents were asked to identify their "area of employment" and "position". If either involved more than one choice, respondents were asked to identify the "percentage of time devoted to each" to identify "Primary" and "Secondary" responsibilities. Of the 182 respondents employed in education, 108, or 59.4 percent, reported employment in a senior high school. A total of 41 reported at least one additional area of responsibility. Teaching in a junior high school was the most prevalent second locale. Table 22 provides the results of this questioning. The "Kindergarten-12 (K-12)" category was added, as returns came in, to accommodate superintendents and principals.

Table 22. Number and percent of respondents by primary and secondary area of employment

Area of Employment	Primary		Secondary	
	N	%	N	%
College or university	23	12.6	0	0.0
Community college	8	4.4	1	2.4
Senior high school	108	59.4	12	29.3
Junior high school	29	16.0	19	46.3
Elementary school	6	3.3	5	12.2
Kindergarten-12 (K-12)	4	2.2	0	0.0
Vocational-technical school	3	1.6	2	4.9
Rehabilitation	1	0.5	0	0.0
Other	0	0.0	2	4.9
Total	182	100.0	41	100.0

With respect to current position, Table 23 shows that "Teacher" was cited by 126, or 59.4 percent, of the respondents as the primary current position. "Coach" ranked first as the secondary current position. Even

though 10 specific categories were offered, several chose "Other". The descriptions provided included department chairman, as an example.

Table 23. Number and percent of respondents by primary and secondary current position

Current Position	Primary		Secondary	
	N	%	N	%
College or university faculty	7	3.8	6	5.6
Superintendent	3	1.6	0	0.0
Principal	7	3.8	0	0.0
Coordinator	7	3.8	1	0.9
Teacher	126	69.4	7	6.6
Coach	9	4.9	82	76.7
Supervisor	4	2.2	3	2.8
Counselor	11	6.1	3	2.8
Therapist	0	0.0	1	0.9
Athletic trainer	2	1.1	0	0.0
Other	6	3.3	4	3.7
Total	182	100.0	107	100.0

Further study revealed that 105, or 57.7 percent, of the respondents currently were assigned formal safety responsibilities. Amount of time-commitment to safety was categorized as indicated in Table 24. "Summer only" was the most frequent choice. Inclusion of all those involved with summer programs generated a total of 57, or 54.3 percent. The second highest response-category was "Less than half-time". Only 14, including the one involved in "Full-time plus summer", reported full-time safety employment.

Safety responsibilities were sub-divided into the categories indicated in Table 25. "Driver education only" was by far the most frequently reported area with 77, or 73.3 percent, making this choice; adding the 17 involved in both safety education and driver education raised the number

to 94, or 89.5 percent. The "Other" category included such assignments as rifle safety and water safety.

Table 24. Number and percent of respondents by time-commitment to safety: education

Time Commitment to Safety	N	%
Full-time	13	12.4
More than half-time	10	9.5
Half-time	9	8.6
Less than half-time	16	15.2
Summer only	33	31.4
Full-time plus summer	1	1.0
More than half-time plus summer	10	9.5
Half-time plus summer	3	2.9
Less than half-time plus summer	10	9.5
Total	105	100.0

Table 25. Number and percent of respondents by safety responsibility

Safety Responsibility	N	%
Driver education only	77	73.3
Safety education only	3	2.9
Safety education and driver education	17	16.2
Other	8	7.6
Total	105	100.0

Driver Education Positions

A section of the questionnaire was designed to obtain information and opinions from those teaching driver education. In addition to the 94 indicating this involvement, responses from five others closely associated with driver education programs were included. Of the 99, 15 indicated use

of a multiple-car driving range in their school, while 37 indicated the presence of simulation units in their school. In response to the question, "Are you teaching with a multiple-car range facility and/or driving simulators?", 65 of the 98 who responded indicated that they were involved with neither; 21 reported teaching with simulation only; 3 with multiple-car range only; and 9 reported involvement with both. The relative recency of offering preparation in these two areas prompted a survey of how operational techniques actually had been learned. "Supervisor or peer assistance" was the most frequent method used in learning both phases, with "Formal course or workshop" a close second; "Trial and error" played a fairly large role.

Information was sought relative to use of vehicles with standard transmissions in driver education. One reported exclusive use of standard transmission vehicles but the vast majority, 73 out of 99, reported no standard transmission usage; 16 cited use as between "1 - 25%". Concerning psychophysical testing, the same 99 responded, with 43 reporting its use; however, the majority, or 56, reported no such testing. In regard to their opinion on emphasis placed on psychophysical testing as experienced in the preparation program at Iowa State University, 68 of the 99 responding, or 68.7 percent, felt emphasis to be "About right"; 19, "Too much"; and 12, "Too little".

Occasional queries arise concerning motorcycle rider education. Opinions were sought relative to the need for inclusion of this area in a preparation program. Of the 98 responding, 83, or 84.7 percent, felt that demand was sufficient to warrant such preparation.

Non-education Positions

For those employed in positions other than education, 10 categories were provided to identify the area of employment; these are indicated in Table 26. Original data provided individual employment information, but in the coding operation these were grouped. The largest number, 33, or 28 percent, was found to be engaged in business. The next ranking included those employed in industry, totaling 26, or 22 percent. Together these two categories constituted one-half of the replies. About 12 percent of the respondents were employed by the government, at national, state, or local level. The "Entertainment" group was structured to include professional football or baseball players.

Table 26. Number and percent of respondents by area of employment

Area of Employment	N	%
Business	33	28.0
Industry	26	22.0
Government	14	11.9
Public service	9	7.6
Military	8	6.8
Construction	8	6.8
Agriculture	7	5.9
Social service	6	5.1
Entertainment	4	3.4
Health service	3	2.5
Total	118	100.0

The next step was the identification of job responsibility. If multiple job responsibilities were involved, respondents were asked to provide the percentage of time devoted to each; designations of "Primary"

job responsibility and "Secondary" job responsibility thus were established. Management appeared as the most prevalent "Primary" job responsibility, being cited by 25, or 21.2 percent, of the respondents. Supervision was the next most common choice with 21, or 17.8 percent, involved. Sales also was a frequent choice. Apparently choices were too limited, as indicated by the third high category of "Other" reported in 20 returns. A wide array of activities was indicated including "working", "playing football", and "supportive therapist", as examples. A second area of job responsibility was indicated by 80 respondents. Sales emerged as the most common "Secondary" area with 16, or 20 percent, making this choice; management and supervision followed with 15 percent and 13.8 percent, respectively. Results are presented in Table 27.

Table 27. Number and percent of respondents by primary and secondary job responsibility

Job Responsibility	Primary		Secondary	
	N	%	N	%
Management	25	21.3	12	15.0
Supervision	21	17.8	11	13.8
Sales	15	12.7	16	20.0
Service	9	7.6	9	11.3
Training	5	4.2	5	6.2
Consultation	4	3.4	6	7.5
Guidance/personnel	4	3.4	5	6.2
Farming	4	3.4	0	0.0
Purchasing	3	2.5	2	2.5
Writing	3	2.5	3	3.8
Military duties	2	1.7	4	5.0
Research/development	2	1.7	2	2.5
Engineering	1	0.8	0	0.0
Other	20	17.0	5	6.2
Total	118	100.0	80	100.0

Respondents were asked if they had any assigned safety responsibilities. If the answer was affirmative, they were asked what portion of their time was devoted to safety. A total of 48, or almost 42 percent, indicated having some current safety responsibilities, leaving 70, or 59.4 percent, with no safety assignment. Of the 48, 11 indicated that less than half-time was devoted to safety, while 6 reported full-time safety employment. Table 28 reflects the results. An additional category was added, based on returned questionnaires, to accommodate 28 who apparently were involved in some type of safety activity on the job but not as a formal assignment. No effort was made to identify the amount of time devoted to safety for this added category. One of the requisites for rating the courses in a succeeding phase of the study was "employment experience in safety"; these 28 were deemed eligible to rate the courses.

Table 28. Number and percent of respondents by time-commitment to safety: non-education

Time-commitment	N	%
Full-time	6	5.1
More than half-time	1	.8
Half-time	2	1.7
Less than half-time	11	9.3
Informal assignment only	28	23.7
None	70	59.4
Total	118	100.0

In an open-end request, respondents not in education were asked to ". . . list current job opportunities in your line of work for the safety-trained person". A total of 75 made no response at all and 16 said "None", "Very little", or "Limited"; two reported opportunities as

"Unknown" but one of them followed with ". . . but should be endless". Without exception all 29 other responses were one of a kind including "coordinator of safety", "supervisor of safety", "transportation supervisor", "A.A.A. clubs", and "research" as specific examples; however, most opportunities were expressed in terms too vague to categorize.

General Evaluation of Courses and Programs

Space was available on the questionnaire following each course rating for "Comments or suggestions", but this was not productive. A total of 101 of the 179 who rated the courses left the space blank. For those who did elaborate, the verbal response, as would be expected, tended to closely parallel the numerical value rating given the course. Several courses, however, seemed to evoke responses which might be worthy of note. More lesson-planning and course-planning activity was advocated for Industrial Education 316 (Methods); Industrial Education 317 (Student Teaching), although rated highly and verbally identified as being very valuable and worthwhile was criticized, as expected, for lack of street and road activity and lack of involvement with high school students. Comments concerning Industrial Education 490S (Special Problems) ranged from "Filler" and "Projects of no value" to "Excellent, I still use my projects". It should be noted, however, that students had diverse reasons for taking the course; the reasons may have been reflected in the ratings. Family Environment 254 (Equipment in the Home) was rated rather low as a course; many suggested a need for more emphasis on home safety. Education 501 (Preparation of Educational Media) received diverse comments from "Not really a good course" to "One of the best";

however, it should be pointed out that this course has undergone many changes and the extreme difference in comments could have resulted from rating two essentially different courses. Comments from those not in education closely paralleled those of the educators for most of the courses.

The final three questions on the questionnaire allowed all participants in the survey a chance to express their feelings toward the safety education program in an open-end manner. The first of the three asked -- "Do you feel that your safety education preparation was satisfactory?". To this question, 271 replied "Yes", 29 said "No", 4 were "Undecided", and 11 did not reply. The follow-up question of -- "Why or why not?" -- evoked no response on the part of 117 individuals. Several of those who replied "No" to the first question indicated that the weakness was more due to their own lack of taking sufficient course work than a program fault. Responses ranged from "Too easy to get through" and "It didn't prepare me to face the problems I've been confronted with in teaching" to "Excellent" and "One of the best safety programs in the country". At least six commented to the effect that, by comparison with other teachers in the field, they felt far better prepared, one even saying there was ". . . no comparison". The consensus of opinion seemed to be that preparation was adequate, at least at the time of completion, especially in driver education. Even though a minor area, many commented that they felt as well prepared or better prepared in safety than in other area(s). The quality, enthusiasm, and interest of the safety education staff was mentioned by at least 14 respondents. As would be expected, those not employed in education tended more toward dissatisfaction with preparation

citing weaknesses from their particular vantage point. Lack of broadness, especially in industrially-oriented directions, seemed to be the main criticism although one commented that his safety minor, even though oriented toward driver education, helped ". . . get my foot in the door in industry which led me to promotional status in 1½ years".

The second question asked -- "What changes in the program would you advocate?". A total of 94 made no response and a considerable number of others indicated that they had been away too long to make a meaningful contribution. Comments were extremely varied but for the most part were constructive; one, however, admonished the staff to "quit preparing teachers like we did in 1950". "More workshops" was cited by 39 respondents and constituted by far the most commonly recommended change; however, timing for these and short courses appeared critical with late summer or Saturdays being most often mentioned as preferred possibilities. Short courses were mentioned by 12 individuals, closely followed by nine who recommended more extension courses. A need for more course work in the industrial safety area was suggested by 17. An attempt was made to categorize the open-end responses to gain some organized insight into needs and changes perceived as important by former students. The following resulted:

Suggested Changes

More workshops
More short courses
More extension courses
More evening courses
More staff
Better facilities
Better visibility and public relations
More university administration support

More emphasis on organization, administration, and actual techniques involved in driver education
More on-street driving during student teaching
More opportunity to work with high school students
More course work in the following core areas:
- Industrial safety including O.S.H.A. information
- Simulation and range
- Media and multi-media
- Human relations and human potential
- Silent communication
- Drugs and alcohol
- Defensive driving and emergency driving techniques
- Home safety
- Safety legislation
- General safety
- Adult education
- Handicapped, including slow learner
- Juvenile delinquency
- Recreation and recreational vehicles
- Pollution
- First aid and life saving
- Research by students
- Civil defense and disaster preparedness
- Public transportation
- Motorcycle safety
- Loss prevention
- Industrial hygiene
- Career information

Less course work in the fringe areas especially at the higher level
Introduction of safety major at undergraduate and/or graduate level

The third question asked -- "Has your safety education preparation served any purpose in your life other than vocational? If "Yes", describe." Although 24 said "No", a rather resounding 280 responded with "Yes"; 1 was undecided, and 10 did not respond. There were 20, including some who answered in the affirmative, who did not react to the second portion of the question. Verbal responses for the most part were very positive indicating that avocational and personal benefits were derived even though the preparation was not used vocationally in many instances. Although unstructured, responses tended to fall into categories. Typical

examples were: "Awareness of danger", "Appreciation for safe living", "More safety conscious", "Self preservation", "Basis to influence others", and "Made for safer home for self and family"; by far the most commonly mentioned was "Made me a better or safer driver"; several noted clean driving records evidently attributed in part to safety education activities. One respondent summarized quite well when he said, "When your [sic] young you tend to be reckless - when you get older you tend to be more safety conscious - safety ed. started me thinking old a little earlier than I probably would have."

Value Ratings of Courses

Another major phase of the study involved analysis of the value ratings of courses collected through the questionnaire. An immediately complicating factor was the discovery that not everyone rated each course; only 47, or slightly over 27 percent, of the eligible raters did so. Most respondents rated only the courses they had taken, which constituted an "Actual" value rating based on employment experience. The "Potential" value rating, or value they might perceive in a course without having taken the course, based on employment experience, was ignored to a large extent. Both types of ratings were based on a 9-point scale, with "1" being low and "9" being high. The initial computer run took all ratings, "Actual" as well as "Potential", into account and tabulated the number taking each course, the number rating each course for positions in education, and number rating each course for non-education positions, and computed the medians of the ratings. These median-value ratings were used to generate Table 29, combining the "Actual" and "Potential" ratings.

Table 29. Summary of median-value ratings of courses by employment

Course Title	Dept. & Course No. (Past & Present)	No. taking each course	Employment			
			Education		Non-education	
		N	N	Median	N	Median
Problems of Human Conservation (General Safety - Fall)	Psych. 174, 274 or 270 I. Ed. 216	163	140	6.19	30	6.14
Theory and Principles of Driver Education (Methods: Lecture)	Psych. 470 or 370 I. Ed. 316	179	153	7.59	28	4.67
Theory and Principles of Driver Education (Methods: Laboratory)	Psych. 470 or 370 I. Ed. 316	179	153	8.01	29	4.72
Practices of Driver Education (Student teaching on campus)	Psych. 372 or 371 I. Ed. 317	171	147	8.31	28	6.00
Multiple-Car Range Techniques (Internship at Ames High School)	I. Ed. 418	11	50	7.20	8	2.33
Simulation Techniques (Internship at Ames High School)	I. Ed. 419	11	50	6.86	8	4.00
Special Problems in Safety (Please specify)	Psych. 320 or 499B I. Ed. 490S	119	119	6.38	21	6.13
Administration of Accident Prevention Programs (Summer)	Psych. 570 I. Ed. 570	71	84	6.36	15	6.42
Seminar in the Psychology of Safety	Psych. 571 or 574 I. Ed. 571	124	114	6.35	24	6.50
Seminar in Pupil Transportation	I. Ed. 590M	8	47	5.21	8	4.00

Table 29 (Continued).

Course Title	Dept. & Course No. (Past & Present)	No. taking each course	Employment			
			Education		Non-education	
		N	N	Median	N	Median
Topics in Safety (Please specify)	Psych. 520B or 599B I. Ed. 590S	95	98	6.56	17	5.50
Multiple-Car Range and Simulation Techniques	I. Ed. 590X	11	48	7.14	8	3.00
Advanced Driver Education Techniques (Neyhart)	Psych. 520 or 599B I. Ed. 590S, 593F4 or 590Y	59	74	7.05	19	5.50
Preparation of Educational Media (Audio-Visual)	Ed. 550, 590P, 590Q, 590R or 501	87	95	6.81	14	6.50
Production of Visual Media	Ed. 502	1	44	6.25	7	5.00
Designing of Instructional Systems	Ed. 503	0	44	6.22	6	7.00
Adult Education	Ed. 536/537	13	50	5.82	6	4.00
Educational Statistics I	Ed. 552	38	61	4.56	10	3.50
Educational Statistics II	Ed. 553	16	48	4.57	8	3.50
Research	Ed. 690 or 699	16	46	5.50	8	5.00
Power Mechanics: The Automobile	I. Ed. 261, 361, 368 or 262	66	81	6.59	17	6.50

Table 29 (Continued).

Course Title	Dept. & Course No. (Past & Present)	No. taking each course	Employment			
			Education		Non-education	
		N	N	Median	N	Median
School Laboratory Safety Education (Shop Safety)	I. Ed. 350 or 310	126	122	6.06	22	7.00
Introduction to Mass Communication	Journalism 101	24	58	4.90	10	6.00
Planning of Transportation Facilities	Civil Engr. 352	0	43	4.36	7	3.50
Traffic Engineering	Civil Engr. 450	3	43	5.75	7	5.50
Safety Engineering	Indust. Engr. 421	11	47	5.50	9	7.38
Equipment in the Home (Introduction to Equipment)	Fam. Environ. 254 Household Equip. 154	46	72	4.00	14	3.67
Labor Economics and Labor Relations	Econ. 305	58	77	3.29	12	5.50
Management: Theory and Practice	Econ. 444	0	43	4.35	7	6.83
Collective Bargaining	Econ. 445	0	43	3.50	8	5.00
Principles of Transportation	I. Ad. 360	3	44	4.77	10	5.00
Traffic Management	I. Ad. 460	6	44	5.50	8	3.67
Highway Transportation	I. Ad. 463	6	47	5.50	8	3.67

Table 29 (Continued).

Course Title	Dept. & Course No. (Past & Present)	No. taking each course	Employment			
			Education		Non-education	
		N	N	Median	N	Median
Social Psychology	Psych. 380	2	45	5.44	7	6.00
Psychology of Adolescence	Psych. 430, 424, 414	15	53	6.18	8	6.00
Psychological Measurement I	Psych. 434 or 440	36	65	5.09	10	3.00
Industrial Psychology I	Psych. 362 or 450	23	53	4.59	12	4.60
Industrial Psychology II	Psych. 451	3	44	4.57	7	5.50
Psychology of Adjustment	Psych. 460	5	45	4.77	7	4.00
Advanced Developmental Psychology	Psych. 530	1	44	4.60	6	5.00
Advanced Educational Psychology	Psych. 556 or 533	5	47	4.85	6	5.00
Psychological Measurement II	Psych. 534 or 540	1	43	4.45	6	3.00
Differential Psychology	Psych. 545	0	43	4.50	5	3.00
Performance Measurement	Psych. 550	0	43	4.75	6	5.00
Personality Theories	Psych. 560	0	44	5.00	6	5.00
Sociology of Youth	Soc. 473	5	47	5.50	6	4.00
Sociology of Leisure and Recreation	Soc. 483	3	44	5.18	5	2.50
Methods of Teaching Handicapped to Drive (Experimental)	I. Ed. 590S	6	48	7.33	5	1.50

The nebulous character of the few "Potential" ratings received precluded formal statistical analysis of them; however, it was felt that presentation of the combined results in tabular form would provide at least an overview of former students' feelings toward the courses. As expected, those courses geared directly toward driver education were rated higher by those in education than by those not in education. For example, Methods of Teaching the Handicapped to Drive received a 1.50 median-value rating from those not in education and a 7.33 median-value rating from educators. It should be noted, however, that this course was open only to Iowa teachers thus indicating that all other ratings were "Potential" and completely speculative based on the title. The number taking each course, as indicated in column one of the table, is not intended to be a summation of the number of ratings recorded in the second and fourth columns since the "Potential" ratings were combined with the "Actual" ratings as indicated previously; also respondents may have rated courses for both employment areas if they had employment experience in both. Comparison of the frequency counts in the individual columns will afford some idea of the number of "Potential" ratings involved. As examples, only eight respondents had taken the new course, Industrial Education 590M, at that time, but 55 rated it; assuming that everyone eligible assigned it an "Actual" rating, 47 of the ratings were on a "Potential" value basis. No one had taken Economics 445 but 51 rated it, thus indicating that all of these were "Potential" ratings. Those in education tended to rate courses somewhat higher than those not in education, but there were numerous reversals of this relationship. No definite patterns of weakness emerged related to groups of courses except that core courses offered directly

through the Safety Education Laboratory, in general, commanded considerably higher ratings than those in related areas. Family Environment 254, Equipment in the Home, was rated low as an individual course.

More sophisticated analysis was done on the "Actual" ratings for the core or basic safety education courses. Several of these were eliminated from consideration where insufficient numbers in the sample had taken the courses to afford meaningful results. Those eliminated were the newest courses: Industrial Education 418, Multiple-Car Range Techniques (Internship); Industrial Education 419, Simulation Techniques (Internship); Industrial Education 590M, Seminar in Pupil Transportation; and Industrial Education 590Y, Multiple-Car Range and Simulation Techniques. Industrial Education 316 was sub-divided into lecture and laboratory phases with the laboratory phase being assigned a fictitious number of "316L". Value ratings of the nine remaining core courses, including "316L", served as the basis for testing the five stated hypotheses of the study, namely:

1. No significant difference exists in the value rating of basic preparation courses between group means of regular university students and in-service teachers, as measured by the survey instrument.

2. No significant difference exists in the value rating of basic preparation courses between group means of those employed in education and those not employed in education, as measured by the survey instrument.

3. No significant difference exists in the value rating of basic preparation courses between group means of those teaching safety education full-time and those teaching part-time, as measured by the survey instrument.

4. No significant difference exists in the value rating of basic preparation courses between group means of those teaching driver education exclusively and those teaching a broader spectrum of safety education, as measured by the survey instrument.

5. No significant difference exists in the value rating of basic preparation courses between group means of those with minimal preparation and those with maximal preparation, as measured by the survey instrument.

The hypotheses were tested at the .05 level of significance and the resultant t values were compared at the .05 (significant) and .01 (highly significant) levels. A total of 44 t tests was performed with the following results:

1. Insufficient evidence was found to reject all five hypotheses for Industrial Education 216, 571, and 590Y.

2. Highly significant differences were found in the ratings of Industrial Education 316, "316L", and 317 between those employed in education and those not employed in education with the former providing the higher ratings. The second hypothesis thus was rejected related to these courses.

3. A difference significant at the .05 level was found in the ratings of Industrial Education 317 between regular university students and in-service teachers with the former providing the higher ratings. The first hypothesis thus was rejected related to this course.

4. A highly significant difference was found in ratings of Industrial Education 490S between those teaching driver education exclusively and those teaching a broader spectrum of safety education with the latter providing the course the higher rating. The fourth hypothesis thus was rejected related to this course.

5. A difference significant at the .05 level was found in the ratings of Industrial Education 590S and 570 between those teaching driver education exclusively and those teaching a broader spectrum of safety education with the latter providing the courses the higher rating. The fourth hypothesis thus was rejected related to these courses.

6. Insufficient evidence was found to reject the third and fifth hypotheses for any of the courses.

7. Insufficient evidence was found to reject the hypotheses in 37 of the 44 tests conducted.

Regular university students consistently rated the courses higher than the in-service teachers except for Industrial Education 216. Those not in education rated Industrial Education 571 higher than their counterparts. Those teaching safety education less than full-time rated the courses higher than the full-time teachers with the exception of Industrial Education 570. Excluding Industrial Education 316 and Industrial Education "316L", those teaching a broader spectrum of safety education rated the courses higher than those teaching driver education exclusively. No degree of consistency was apparent between ratings of those with minimal preparation versus those with maximal preparation; the latter rated the courses higher in five of the nine courses analyzed.

In considering the analyses involved and the results reported, it should be noted that in a number of instances the N of one variable or the other was very small.

Tables 30 through 38 show the results of testing the five hypotheses for each of the nine courses with one exception noted concerning Industrial Education 490S which is an undergraduate course only.

Table 30. Means, standard deviations, and t tests pertaining to ratings of the value of Industrial Education 216, Problems of Human Conservation, by various groupings of former students

I. Regular students vs. In-service teachers

Classification	N	Mean Value	Stan. Dev.	t
Regular students	122	6.66	1.52	0.52
In-service teachers	16	6.88	1.58	

II. Those employed in education vs. those not employed in education

Classification	N	Mean Value	Stan. Dev.	t
Education	135	6.67	1.53	1.22
Not in education	29	6.28	1.87	

III. Full-time safety education teachers vs. less than full-time safety education teachers

Classification	N	Mean Value	Stan. Dev.	t
Full-time	13	6.69	1.07	0.21
Less than full-time	75	6.79	1.53	

IV. Driver education teachers vs. those teaching a broader spectrum of safety education

Classification	N	Mean Value	Stan. Dev.	t
Driver education	66	6.65	1.38	1.33
Safety education	22	7.14	1.69	

V. Those with minimal preparation vs. those with maximal preparation

Classification	N	Mean Value	Stan. Dev.	t
Minimal preparation	38	6.79	1.54	0.48
Maximal preparation	100	6.65	1.52	

Table 31. Means, standard deviations, and t tests pertaining to ratings of the value of Industrial Education 316, Theory and Principles of Driver Education (Methods:Lecture), by various groupings of former students

I. Regular students vs. In-service teachers

Classification	N	Mean Value	Stan. Dev.	t
Regular students	126	7.86	1.33	0.96
In-service teachers	27	7.59	1.13	

II. Those employed in education vs. those not employed in education

Classification	N	Mean Value	Stan. Dev.	t
Education	150	7.81	1.30	7.67**
Not in education	28	5.43	2.35	

III. Full-time safety education teachers vs. less than full-time safety education teachers

Classification	N	Mean Value	Stan. Dev.	t
Full-time	13	7.38	1.08	1.68
Less than full-time	84	7.98	1.19	

IV. Driver education teachers vs. those teaching a broader spectrum of safety education

Classification	N	Mean Value	Stan. Dev.	t
Driver education	73	7.96	1.09	0.89
Safety education	24	7.71	1.43	

V. Those with minimal preparation vs. those with maximal preparation

Classification	N	Mean Value	Stan. Dev.	t
Minimal preparation	46	7.70	1.18	0.71
Maximal preparation	107	7.86	1.34	

**$p<.01$.

Table 32. Means, standard deviations, and t tests pertaining to ratings of the value of Industrial Education "316L", Theory and Principles of Driver Education (Methods:Laboratory), by various groupings of former students

I. Regular students vs. In-service teachers

Classification	N	Mean Value	Stan. Dev.	t
Regular students	126	8.11	1.27	0.94
In-service teachers	27	7.85	1.41	

II. Those employed in education vs. those not employed in education

Classification	N	Mean Value	Stan. Dev.	t
Education	150	8.07	1.30	8.34**
Not in education	29	5.48	2.41	

III. Full-time safety education teachers vs. less than full-time safety education teachers

Classification	N	Mean Value	Stan. Dev.	t
Full-time	13	7.92	0.73	0.90
Less than full-time	84	8.23	1.17	

IV. Driver education teachers vs. those teaching a broader spectrum of safety education

Classification	N	Mean Value	Stan. Dev.	t
Driver education	73	8.21	1.16	0.30
Safety education	24	8.13	1.01	

V. Those with minimal preparation vs. those with maximal preparation

Classification	N	Mean Value	Stan. Dev.	t
Minimal preparation	46	7.98	1.21	0.54
Maximal preparation	107	8.10	1.33	

**$p<.01$.

Table 33. Means, standard deviations, and t tests pertaining to ratings of the value of Industrial Education 317, Practices of Driver Education, by various groupings of former students

I. Regular students vs. In-service teachers

Classification	N	Mean Value	Stan. Dev.	t
Regular students	121	8.53	0.94	2.13*
In-service teachers	26	8.04	1.51	

II. Those employed in education vs. those not employed in education

Classification	N	Mean Value	Stan. Dev.	t
Education	145	8.43	1.09	7.51**
Not in education	27	6.15	2.70	

III. Full-time safety education teachers vs. less than full-time safety education teachers

Classification	N	Mean Value	Stan. Dev.	t
Full-time	12	8.33	1.18	0.78
Less than full-time	81	8.58	0.99	

IV. Driver education teachers vs. those teaching a broader spectrum of safety education

Classification	N	Mean Value	Stan. Dev.	t
Driver education	70	8.47	1.12	1.26
Safety education	23	8.78	0.59	

V. Those with minimal preparation vs. those with maximal preparation

Classification	N	Mean Value	Stan. Dev.	t
Minimal preparation	40	8.25	1.34	1.32
Maximal preparation	107	8.51	0.95	

*$p<.05$.

**$p<.01$.

Table 34. Means, standard deviations, and t tests pertaining to ratings of the value of Industrial Education 490S, Special Problems in Safety, by various groupings of former students

I. Regular students vs. In-service teachers

Classification	N	Mean Value	Stan. Dev.	t

(No test possible - course is for undergraduates only)

II. Those employed in education vs. those not employed in education

Classification	N	Mean Value	Stan. Dev.	t
Education	99	6.72	1.85	0.19
Not in education	19	6.63	1.71	

III. Full-time safety education teachers vs. less than full-time safety education teachers

Classification	N	Mean Value	Stan. Dev.	t
Full-time	9	6.33	1.49	0.57
Less than full-time	55	6.73	1.94	

IV. Driver education teachers vs. those teaching a broader spectrum of safety education

Classification	N	Mean Value	Stan. Dev.	t
Driver education	47	6.28	1.82	2.92**
Safety education	17	7.76	1.63	

V. Those with minimal preparation vs. those with maximal preparation

Classification	N	Mean Value	Stan. Dev.	t
Minimal preparation	15	7.07	1.84	0.79
Maximal preparation	85	6.66	1.82	

**$p<.01$.

Table 35. Means, standard deviations, and t tests pertaining to ratings of the value of Industrial Education 570, Administration of Accident Prevention Programs, by various groupings of former students

I. Regular students vs. In-service teachers

Classification	N	Mean Value	Stan. Dev.	t
Regular students	44	6.89	1.30	1.83
In-service teachers	17	6.18	1.42	

II. Those employed in education vs. those not employed in education

Classification	N	Mean Value	Stan. Dev.	t
Education	59	6.69	1.41	0.48
Not in education	9	6.44	1.74	

III. Full-time safety education teachers vs. less than full-time safety education teachers

Classification	N	Mean Value	Stan. Dev.	t
Full-time	7	6.71	1.48	0.38
Less than full-time	34	6.50	1.31	

IV. Driver education teachers vs. those teaching a broader spectrum of safety education

Classification	N	Mean Value	Stan. Dev.	t
Driver education	33	6.33	1.29	2.01*
Safety education	8	7.38	1.22	

V. Those with minimal preparation vs. those with maximal preparation

Classification	N	Mean Value	Stan. Dev.	t
Minimal preparation	12	6.17	1.68	1.47
Maximal preparation	49	6.82	1.26	

*$p<.05$.

Table 36. Means, standard deviations, and t tests pertaining to ratings of the value of Industrial Education 571, Seminar in the Psychology of Safety, by various groupings of former students

I. Regular students vs. In-service teachers

Classification	N	Mean Value	Stan. Dev.	t
Regular students	100	6.75	1.69	0.97
In-service teachers	5	6.00	1.10	

II. Those employed in education vs. those not employed in education

Classification	N	Mean Value	Stan. Dev.	t
Education	101	6.82	1.52	0.36
Not in education	22	6.95	1.76	

III. Full-time safety education teachers vs. less than full-time safety education teachers

Classification	N	Mean Value	Stan. Dev.	t
Full-time	10	6.70	1.49	0.41
Less than full-time	54	6.91	1.46	

IV. Driver education teachers vs. those teaching a broader spectrum of safety education

Classification	N	Mean Value	Stan. Dev.	t
Driver education	49	6.69	1.34	1.81
Safety education	15	7.47	1.67	

V. Those with minimal preparation vs. those with maximal preparation

Classification	N	Mean Value	Stan. Dev.	t
Minimal preparation	23	6.91	1.59	0.47
Maximal preparation	81	6.74	1.54	

Table 37. Means, standard deviations, and t tests pertaining to ratings of the value of Industrial Education 590S, Topics in Safety, by various groupings of former students

I. Regular students vs. In-service teachers

Classification	N	Mean Value	Stan. Dev.	t
Regular students	60	6.92	1.75	0.29
In-service teachers	25	6.80	1.50	

II. Those employed in education vs. those not employed in education

Classification	N	Mean Value	Stan. Dev.	t
Education	83	6.94	1.58	1.65
Not in education	12	6.08	2.27	

III. Full-time safety education teachers vs. less than full-time safety education teachers

Classification	N	Mean Value	Stan. Dev.	t
Full-time	6	6.50	0.96	0.52
Less than full-time	51	6.86	1.65	

IV. Driver education teachers vs. those teaching a broader spectrum of safety education

Classification	N	Mean Value	Stan. Dev.	t
Driver education	47	6.62	1.64	2.19*
Safety education	10	7.80	0.75	

V. Those with minimal preparation vs. those with maximal preparation

Classification	N	Mean Value	Stan. Dev.	t
Minimal preparation	26	7.08	1.41	0.70
Maximal preparation	59	6.80	1.78	

*$p<.05$.

Table 38. Means, standard deviations, and t tests pertaining to ratings of the value of Industrial Education 590Y, Advanced Driver Education Techniques, by various groupings of former students

I. Regular students vs. In-service teachers

Classification	N	Mean Value	Stan. Dev.	t
Regular students	32	6.84	1.72	0.10
In-service teachers	14	6.79	1.66	

II. Those employed in education vs. those not employed in education

Classification	N	Mean Value	Stan. Dev.	t
Education	45	6.78	1.70	1.47
Not in education	15	5.93	2.52	

III. Full-time safety education teachers vs. less than full-time safety education teachers

Classification	N	Mean Value	Stan. Dev.	t
Full-time	2	6.00	2.00	0.56
Less than full-time	31	6.71	1.67	

IV. Driver education teachers vs. those teaching a broader spectrum of safety education

Classification	N	Mean Value	Stan. Dev.	t
Driver education	25	6.36	1.65	1.87
Safety education	8	7.63	1.49	

V. Those with minimal preparation vs. those with maximal preparation

Classification	N	Mean Value	Stan. Dev.	t
Minimal preparation	11	6.55	1.92	0.62
Maximal preparation	35	6.91	1.61	

DISCUSSION

The study was designed to obtain an objective picture of the Safety Education Program at Iowa State University as it has evolved over the years. It was approached with a high degree of interest on the part of the investigator for several reasons: one, the history of the program generally was not well-known and thus not fully appreciated by students and staff members; two, the program by its very nature lends itself to close interpersonal relationships which cause one to wonder what has happened to individual former students rather than a collective total; and three, a fourteen-year personal association with the laboratory as an undergraduate student, a graduate student, an associate, and an instructor prompted an appraisal of the effectiveness of past efforts. It was felt, too, that areas needing improvement would be identified in an objective manner to provide information for projected program improvement. Every effort was made to minimize bias in the items in the questionnaire and in the reporting of the findings. Although anonymity was promised, the fact that the individual's name and other personal data were attached temporarily to the questionnaire may have led to his withholding or modifying some information. Without exception, however, the respondent returned his name with the questionnaire.

Another logical question could be raised with respect to validity of seeking course-value ratings over such an extended period of time. Course changes obviously have occurred, along with the addition of new courses and broadening of emphasis but the basic concepts and philosophy have not

changed appreciably. A memory factor was anticipated related to the students from earlier years especially, which prompted identification of courses by all their previous numbers and checking off on each individual questionnaire, prior to mailing, the courses each student had taken. Several expressed reluctance to rate the courses, or at least had some reservations as to their ratings based on the lapse of time.

The historical account of the Program took the form of collecting and collating existing accounts written by A. R. Lauer and others who had been or are closely associated with the Laboratory. To a large extent the more recent portion was based on first-hand knowledge and experience of Dr. Lillian C. Schwenk, current head of the Safety Education Program, and of the investigator.

Although intent of the study was not to assess faculty as such, considering the longevity of the present staff, the divorcing of faculty and core courses especially, was virtually impossible. Good student reaction to the faculty along with comparison of the qualifications of the present staff to the findings in the Key (20) and Hartman (in 11) studies indicated that the program was strong in this respect.

The assessment necessitated the utilization of a survey instrument to elicit information from former students. The frustrations of this type of research were virtually endless, as attested to by others involved in similar research. Fewer than normal problems were anticipated due to personal acquaintance with most of the subjects involved; however, even with this supposed advantage, there was some difficulty in obtaining responses.

The interest and quality of the 315 former students of safety education who responded were reflected in a number of ways. Over one-third of them were found to have acquired advanced degrees with seven holding the doctorate. A total of 59 indicated intent to pursue further degree work and 94 indicated intent to acquire more preparation in safety education. Most apparently found their preparation at Iowa State University to be adequate in that 278 of the 315 reported no additional preparation at other institutions. The additional preparation indicated by 37 respondents could have taken the form of in-service workshops or seminars, especially for the 15 in the 1-5 quarter hour bracket; this might more properly have been termed "enrichment" rather than formal "additional preparation". An attempt was made to gain a measure of interest in a safety education major by asking respondents if they would have chosen safety education as an undergraduate major if it had been available, and then a secondary question -- "Would you <u>now</u> elect safety education as an undergraduate major if you were to repeat your college education?". The number indicating "Yes" varied from 80 to the first question to 141 for the second. Offering both a graduate and undergraduate major was favored by 139 of the respondents with only 14 opposing either or both majors. These findings tended to support the results of the Iowa Department of Public Instruction survey (13). Over half of the respondents felt that all college students should be required to take a general safety course. Only seven who reported not entering or the subsequent leaving of a safety position claimed loss of interest as a factor; reasons for leaving corresponded closely with those of Bergman (7). Of some significance was the discovery that only 29 of the 94 respondents involved with teaching driver education reported

membership in the related state and/or national professional organizations; however, it should be noted that only 34 respondents indicated more than a half-time safety assignment. Findings related to membership in the state organization again closely agreed with those of Bergman (7). Responses to the final three questions showed positive interest on the part of former students. Slightly over 83 percent, or 271, indicated that their safety education preparation had a positive effect in their private lives by making them more safety conscious and thereby safer individuals. Many offered constructive comments toward improvement of the existing program.

The enrollment of undergraduate students, as indicated by the findings, was heavily dependent upon advisors at the University thereby indicating a critical need to keep this segment of the faculty particularly well-informed.

The employment situation was interesting from a number of standpoints. For example, unemployment was very low with only two reported in this category, and even these were reported as "temporary". Migration away from Iowa was apparent which supported the findings of Bear (6); results indicate greater job potential in other states. It should be noted, however, that a considerable number of outstanding students from out-of-state elected to stay in Iowa upon completion of their education. Findings concerning methods of obtaining positions differed appreciably from those of Wiltsie (63); however his study dealt only with the method of obtaining the first job; the related findings of Lang (21) also differed. Almost 60 percent of the respondents indicated some safety employment at some time in their career with 125 of the 315 reporting current safety employment. The 64 reporting continuous safety employment was somewhat

disappointing numerically; however, it should be remembered that a minor only may be earned in safety education at Iowa State University. "Driver education only" was indicated by over 73 percent of the educators as their safety responsibility indicating that the broader concept of safety education still has not permeated the school systems. Of those teaching driver education only, a rather disappointing 13, or 12.4 percent, were involved full-time with an additional one teaching full-time plus summer. This finding differed extensively from the Key (20) study in which over half were full-time teachers of safety. The prevalence of summer programs was reflected in the 31.4 percent so involved.

For the respondents in positions other than education, only six reported full-time safety employment. A total of 111 reported safety involvement of half-time or less, with 28 having only an informal safety assignment. In response to the query, "Please list current job opportunities in your line of work for the safety trained person", 75 of the 118 in non-education positions failed to respond at all and 16 said "None", "Very little", or "Limited". Results indicated, however, that several students were involved in excellent and influential safety-related positions. One has been employed with Allstate Insurance Company since graduation and currently is Public Affairs Manager. Four were employed by the American Automobile Association upon graduation, two of whom joined the staff of the Motor Club of Iowa. Of the latter, one has advanced to the position of Director, Administrative Services and the other is Manager of the Safety Department. The earliest of these has devoted almost his entire working life to the development of safety-related devices for the American Automobile Association. Another,

since completion of the Ph.D. degree, has been project director of the Program Research in Driver Education (PRIDE) project in the State of Iowa. One is a safety consultant with the Arizona Department of Education. Another has been involved with a pioneer project of developing and programming a new concept for training school bus drivers. Another has been associated continuously with state agencies involved in statistics as related to motor vehicle accidents. Another has been a full-time safety engineer for a major construction for some time. Placement in non-education positions has accelerated since survey time. For example, four have accepted positions as loss control engineers with Kemper Insurance Company, and one has a similar position with Employer's Mutual Casualty Company. Another has been named as Safety Superintendent for Nekoosa Edwards Paper Company. Demand for such graduates currently far exceeds supply, indicating the apparent success of the change in program emphasis.

Reported salaries did not produce any particularly surprising results except perhaps for the excellent showing of earning power of the nonwhites in the study. The discovery that their median salaries exceeded those of the whites both on an overall basis and for the group not employed in education was revealing. However, the very limited number of nonwhites as compared to the number of whites in the study should not be ignored in drawing conclusions. The finding that respondents not in education had higher median salaries than the educators also was not surprising and served to support the findings of Diedrick (10).

The course-value rating section proved very difficult to analyze. Course ratings were sought on the basis of "Actual" value if a student had taken the course or "Potential" value if he had not. Despite no fewer

than five reminders to rate each and every course, only 47, or slightly over 27 percent, did so; most chose to rate only the courses they had taken. This could be interpreted that either respondents ignored the directions or the "Potential" rating did not make sense to them. The plan to develop, for advising purposes, a "Recommendation Scale" for courses, based on the "Potential" ratings, did not seem realistic. Statistical treatment of the "Potential" ratings was terminated after the calculation of median-value ratings based on the pooled "Actual" and "Potential" ratings which provided at least an overview of how respondents value each course. Computation of mean-value ratings was considered, but inspection revealed almost two-thirds of the rating distributions to be at least slightly skewed thus making the median-value rating the more meaningful measure of central tendency. Separate ratings of course-value for education positions and/or non-education positions based on employment experience also proved of no value in that only a relatively small number provided "Actual" value ratings for the latter positions. Analysis of the "Actual" value ratings for the basic preparation courses offered directly through the Laboratory did not provide any particularly surprising results. It was anticipated, for example, that respondents in positions outside of education would rate the "methods" course, Industrial Education 316, and the student teaching course, Industrial Education 317, considerably lower than their counterparts in education. Although the results confirmed the speculation, it should be noted that the ratings of those not in education provided calculated means in excess of five on the 9-point scale for these courses. The mean-value ratings for all the basic courses analyzed exceeded five and in most cases six on the same

scale. As a matter of interest, value ratings for the courses in educational media, auto mechanics, and school laboratory safety were subjected to the same analysis as were the core courses and reflected very similar mean ratings.

Results of testing the five hypotheses in which 37 of 44 t tests indicated insufficient evidence to reject the hypotheses reflected a preponderance of homogeneity in value ratings regardless of the comparisons being made. With certain obvious exceptions previously mentioned, it would appear that the core courses apparently have met the needs of most former students quite well whatever their occupational experience in safety.

Some of the results of the analysis were predictable, as indicated previously, while others were not. The unexpected outcomes lent themselves to some conjecture. The rating of courses higher by those employed in safety education less than full-time versus those employed full-time is difficult to explain; however, it is possible that the full-time employee may have become more perceptive of weaknesses in the preparation program due to his additional exposure on the job or he may have greater need. Although the program has been geared primarily to driver education over the years, those teaching a broader spectrum of safety education rated the courses higher, in general, than those confined to teaching driver education only; the broadening of the teaching base, whether by choice or assignment, may reflect more interest in safety on the part of the individual teacher who thus may have rated the courses higher. The ratings of the special problems courses, Industrial Education 490S and 590S, higher by those involved in more than driver education is perhaps indicative of this line of reasoning. It might be assumed that students

with maximal preparation would rate courses consistently higher than those with the minimal; the findings, however, did not support this assumption in the rating of four of the nine courses. Reasons for the vacillation between groups providing the higher ratings are not readily apparent.

Over 86 percent, or 271, of the 315 respondents felt their safety education preparation to be satisfactory for a variety of reasons. A legitimate question might be -- "Satisfactory as compared to what?". It was interesting to note that a considerable number had compared their preparation to that of others and apparently were well pleased. Also worthy of note was the high incidence, 280 out of 315, of the respondents who indicated in one way or another that their safety education preparation had made them safer individuals.

Although no strong consensus of opinion was found in any specific area for program improvement, the general interest pattern seemed to lean toward more workshops, short courses, extension courses, and evening courses. Timing of the workshops and short courses especially was indicated to be critical in that offerings often are available when instructors are involved in summer school activities. Course revision recommendations were diverse; however, an increase in core offerings appeared paramount especially as related to industrial safety and the Occupational Safety and Health Act. Within existing courses, respondents noted a need for more emphasis in organization, administration, and techniques as opposed to theory. A recent expansion of the "methods" course, Industrial Education 316, to a five quarter-hour course may improve this situation. Several mentioned a need for more on-street driving in the student teaching experience; scheduling problems, insurance complications, and general state

of nonreadiness of foreign students especially, have limited such activity. Another criticism of the student-teaching experience was insufficient involvement with high school students, resulting from the difficulty of scheduling and enrollment limitations imposed by the Iowa Department of Public Instruction. Considerable interest was expressed in motorcycle rider education; 83 of the 98 currently involved with driver education felt that demand warranted inclusion of this activity in the preparation program. Recent data (12) lend support to the need.

Recommendations tended to confirm that changes of a qualitative nature in the Program essentially have been correct. Much of the criticism, especially by the earlier students, has been countered by these changes. Attempts at offering workshops and other in-service activities have been frustrated by the inability to find mutually agreeable times to provide these services to a meaningful number of participants; the problem of insufficient staff complicated the situation further. Among efforts to improve the Program has been an expansion of the "methods" course accompanied by an increase in credit from three, to four, to five credits. Comparing the value ratings of respondents enrolled at the varying credit levels might have provided more favorable results. Further insight also might have been gained by comparing value ratings of those who responded promptly with those who required a number of follow-up attempts to obtain a response.

The study served to re-establish lines of communication with former students. Their input should provide guidelines for improvement of a program, which on the basis of the findings, would have to be considered satisfactory in most respects.

SUMMARY

The study involved assessment, by former students, of the Safety Education Program at Iowa State University. The specific objectives were:

1. To ascertain personal, educational, occupational, and professional characteristics of former students.
2. To obtain information and opinions relating specifically to driver education from former students currently involved with driver education.
3. To obtain "Actual" and "Potential" value ratings, comments, and suggestions concerning courses currently applicable to the safety education minor from former students having current or past safety-related employment, to test five hypotheses.

The mailed questionnaire elicited 315 usable responses from 356 former students who had completed the driver education "methods" course and its prerequisite between 1955 through 1972.

Respondents included 295 white males, 3 white females, and 17 non-white males. The data revealed that only 20 respondents failed to complete a degree and that over one-third now hold advanced degrees. "Ideal combination for teaching" was the main reason cited for entering safety education; continued interest in safety education was evident in that 37 reported additional preparation at 25 other institutions and almost one-third of the respondents stated plans to acquire more; over 44 percent recommended both undergraduate and graduate majors in safety and over 52 percent favored a general safety course requirement for all college students.

A total of 182 was employed in education and 118 in other fields; almost 60 percent, or 188, reported some safety employment at some time in their career; 64 reported continuous safety employment; and 125 were

employed in safety currently. Salaries, as of 1972, ranged from $5,000 to $65,000 annually with the largest group found in the $10,001-$12,500 bracket. Approximately one-third were found to belong to no professional organizations.

Course-value ratings were expressed on a 9-point scale which permitted the testing of five hypotheses relating to nine basic courses utilizing the *t* test. The general form of the hypotheses was: No significant difference exists in the value rating of basic preparation courses between group means of 1) regular university students and in-service teachers, 2) those employed in education and those not employed in education, 3) those teaching safety education full-time and those teaching part-time, 4) those teaching driver education exclusively and those teaching a broader spectrum of safety education, and 5) those with minimal preparation and those with maximal preparation, -- all as measured by the survey instrument. Testing of specific hypotheses using the first general form resulted in only one significant difference. Regular university students rated the student teaching course significantly higher than in-service teachers. Therefore the hypothesis was rejected. In testing the specific hypotheses using the second general form, three highly significant differences were found. Those employed in education rated the two phases of the driver education "methods" course, and the student teaching course, higher than those not employed in education. All three hypotheses were rejected. No significant difference resulted when specific hypotheses were tested using the third and fifth general forms. The testing of the specific hypotheses using the fourth general form revealed a highly significant difference in the rating of the undergraduate special problems course, and

significant differences in the rating of the administration course and the graduate special topics course. Those in safety education provided the higher ratings for all three courses. The three hypotheses were rejected. Insufficient evidence was found to reject the specific hypotheses in 37 of the 44 *t* tests conducted.

On a more general basis, over 85 percent of the respondents indicated that their preparation was "satisfactory" and almost 89 percent indicated that their preparation had made them safer individuals.

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APPENDIX

IOWA STATE
UNIVERSITY

College of Education
Professional Studies
201 Curtiss Hall
Ames, Iowa 50010

Telephone: 515-294-4143

Dear

The safety education faculty at Iowa State University has a genuine interest in you as a former student since you became much more than "just another student" to us. Although gathering educational, vocational, and evaluative data is the main thrust of the attached instrument, it also will serve as a means of becoming reacquainted.

Your educational and occupational experience can serve as a valuable basis for counseling present and future students. Similarly, your assessment of the value of safety related courses you have taken or the potential value you may see in current course offerings as related to employment experience can prove valuable both for counseling and improvement of curriculum.

Your prompt response to this original mailing is urgently sought. Please allow no more than a week from date of receipt to complete and return the questionnaire. Since replies to be of value must be as objective as possible, all individual replies will be treated as CONFIDENTIAL.

As a by-product, I plan to develop a composite list of former students including address, employer, and other pertinent data. Your future assistance in keeping the information current will be appreciated so that it will be readily available should any of you need it.

Since I know most of you personally, this promises to be a particularly interesting undertaking. I eagerly await your reply.

Sincerely,

Loren O. Muench
Instructor: Safety Education
and Research Program

The success of this project is largely in YOUR hands. READ AND WORK CAREFULLY to provide the best and most complete information possible.

Please begin by completing the card to the right. Immediately upon receipt of your returned questionnaire it will be removed and filed to guarantee anonymity.

When finished, fold questionnaire to expose return address, staple (or tape), and mail. No envelope is required.

____

Name _____

Address _____

_____

Birth date _____

Marital status: ☐ Married ☐ Single ☐ Other

Number of children _____

Current employment status: ☐ Employed ☐ Unemployed ☐ Student ☐ Military, non-career

Employer _____

Address _____

Home town & state (before coming to Iowa State):

_____

I. COLLEGE EDUCATION

1. Attendance record:

Institution	Major (s)	Last year of enrollment	Degree Rec'd? Yes	No	Degree	Year
		19___				
		19___				
		19___				

2. Are you actively working toward a degree? ☐ Yes ☐ No

3. What prompted your initial interest in safety education preparation? (Choose no more than 2)

☐ Adviser recommendation
☐ Peer encouragement
☐ Summer employment opportunity
☐ Strong personal interest in human conservation
☐ Ideal combination for teaching
☐ School administration request
☐ Good employment prospects
☐ High school counselor
☐ Other (Please specify) _____

4. What was the last quarter in which you took a safety education course at Iowa State University applicable to the safety education minor? (See Section V) Circle quarter: F W S SS 19___

5. Additional safety education preparation at other institutions:

Institution	Qtr. Hours	Sem. Hours	Year
			19___
			19___
			19___

6. Do your current plans include further safety education preparation? ☐ Yes ☐ No

7. If safety education had been available as an undergraduate major, would you have elected it over the major you chose? ☐ Yes ☐ No Would you now elect safety education as an undergraduate major if you were to repeat your college education? ☐ Yes ☐ No

8. I would recommend that Iowa State University offer: [Check your choice(s)]

☐ an undergraduate major in safety education
☐ a graduate major in safety education
☐ neither of the above majors

I would recommend that a general safety course be required of: [Check your choice(s)]

☐ all college students
☐ all college students preparing to be teachers
☐ all college students preparing to be elementary teachers
☐ none of the preceding

II. GENERAL EMPLOYMENT INFORMATION:

(If in military, non-career or still in college having not been employed full-time, check here ☐ and PROCEED TO SECTION VI.)

9. Job History

NOTE: "How" column refers to means of obtaining position (Use code below to fill out). "State" column refers to state (Ex. - Iowa) in which you were (are) employed. "Safety" column seek to determine if you actually were employed to perform some safety function. "Salary" column seeks latest annual salary or income for each position.

CODE:
1 - College placement
2 - Answered job ad or listing
3 - Made direct inquiry (door knocking)
4 - Employer contacted you
5 - State employment agency
6 - On-campus interview
7 - Through friend or relative
8 - Through university faculty
9 - Internal action (Promotion, etc.)
10 - Other (Please specify) _____

Job History (Begin with current employment and work back. Do not include part-time jobs*).

How?	Position	Employer	State	Safety? Yes	Safety? No	Dates	Annual Salary
___	_____	_____	_____	___	___	19___ - 19___	$_____
___	_____	_____	_____	___	___	19___ - 19___	_____
___	_____	_____	_____	___	___	19___ - 19___	_____
___	_____	_____	_____	___	___	19___ - 19___	_____
___	_____	_____	_____	___	___	19___ - 19___	_____
___	_____	_____	_____	___	___	19___ - 19___	_____
___	_____	_____	_____	___	___	19___ - 19___	_____

*Consider teaching in summer school to be extended contract rather than part-time employment.

10. Do you have any immediate plans to enter a safety position if not currently employed in one? ☐ Yes ☐ No
☐ Currently employed in safety (PROCEED TO QUESTION 12)

11. If you did not enter or have left a safety position, why? (Choose no more than 2)

☐ Lack or loss of interest
☐ Safety is too hard to "sell"
☐ Personal health
☐ Found opening in major field
☐ Better salary elsewhere
☐ Assigned other duties
☐ Conflicts with administration
☐ No job available
☐ Too demanding, timewise
☐ Other (Please specify) _____

12. Please list the professional organizations to which you belong:

_____ _____ _____
_____ _____ _____
_____ _____ _____

13. How do you stay current in your job? (Check those that apply)

☐ Workshops ☐ Short courses ☐ Independent reading
☐ Conferences ☐ Adult education ☐ Other (Please specify) _____

III. TO BE COMPLETED BY THOSE CURRENTLY EMPLOYED IN EDUCATION. ALL OTHERS PROCEED TO SECTION IV.

14. Which of the following best identifies your area of employment? If more than one, indicate in the blank the percentage of time devoted to each.

___ College or University
___ Community College
___ Senior High School
___ Junior High School
___ Elementary School
___ Vocational - Technical School
___ Rehabilitation Program
___ Other (Please specify) _____

15. What is your position? If more than one, indicate in the blank the blank the percentage of time devoted to each.

___ Superintendent ___ Teacher ___ Counselor ___ College or university faculty
___ Principal ___ Coach ___ Therapist ___ Other (Please specify)
___ Coordinator ___ Supervisor ___ Athletic trainer _____

16. Do you have any assigned safety responsibilities? ☐ Yes ☐ No If "No", GO TO SECTION VI.

17. What is your time commitment to safety? (May require more than one check)

☐ Full-time ☐ Half-time ☐ Plus summer
☐ More than half-time ☐ Less than half-time ☐ Summer only

18. What is your safety responsibility?

☐ Driver education only
☐ Safety education only
☐ Safety education including driver education
☐ Other (Please specify) _____

19. Please indicate which of the following your school utilizes:

☐ Multiple-car driving range
☐ Driving simulators Make: _____
☐ Standard transmission vehicles for driver education Percent of training _____%
☐ Psychophysical testing
☐ None of the above

20. Are YOU teaching with a multiple-car range facility and/or driving simulators? ☐ Yes ☐ No
If "Yes", how did you learn operational techniques?

Range	Simulation	
☐	☐	Formal course or workshop
☐	☐	Company sponsored orientation
☐	☐	Supervisor or peer assistance
☐	☐	"Trial and error"
☐	☐	Other (Please specify) _____

21. Do you feel the demand for motorcycle rider education is sufficient to merit inclusion in the teacher preparation program? ☐ Yes ☐ No

22. How would you classify the emphasis placed on psychophysical testing during your preparation at Iowa State?
☐ Too much ☐ About right ☐ Too little

IV. TO BE COMPLETED BY THOSE EMPLOYED BY INDUSTRY, BUSINESS, PUBLIC SERVICE ORGANIZATION, or GOVERNMENTAL AGENCY (including military), as well as those SELF-EMPLOYED.

23. What is the nature of your firm, company, or organization? (Manufacturing, sales, research, public service, etc.)

_____

24. What is your job title? _____

25. Which of the following best describes your major job responsibility? If more than one, indicate in the blank the percentage of time devoted to each.

____ Supervising	____ Sales	____ Guidance/Personnel Work
____ Purchasing	____ Research and Development	____ Farming
____ Managing	____ Service	____ Military Duties
____ Training	____ Engineering	____ Other (Please specify)
____ Writing	____ Consulting	_____

26. Do you have any assigned safety responsibilities? ☐ Yes ☐ No If "No", GO TO SECTION VI.

27. What portion of your time is devoted to safety?
☐ Full-time ☐ More than half-time ☐ Half-time ☐ Less than half-time

28. Briefly describe your safety responsibilities:

29. Please list current job opportunities in your line of work for the safety trained person.

V. TO BE COMPLETED BY THOSE WITH EMPLOYMENT EXPERIENCE IN SAFETY. ALL OTHERS PROCEED TO SECTION VI.

This section involves an evaluation of courses offered at Iowa State University applicable to the safety education minor. For simplicity, only current course titles are listed beginning on next page. Current course numbers as well as those previously used to designate substantially equivalent courses are provided.

Since the evaluation should be based on your own employment experience, two boxes are provided following each course listed. "Ed." refers to positions in education. "N/Ed" refers to non-education positions. Responses should be made in the box which applies to you. If you have had experience in both, you are encouraged to respond in both boxes.

A review of university records indicates that you have taken the courses checked "Yes". If there are errors, please make corrections. PLEASE EVALUATE EACH COURSE on the basis of its ACTUAL value (benefit you have derived) if you have taken the course or its POTENTIAL value (benefit you might envison) if you have not taken the course. For analysis purposes it is imperative that EVERY course be rated.

Your comments or suggestions are encouraged in the space following each course.

PLEASE RATE EACH COURSE using the following scale.

1	2	3	4	5	6	7	8	9
No Value				Moderately Valuable				Extremely Valuable

Course Title	Dept. & Course No. (Past & Present)	Took Course? Yes	No	Value for: Ed.	N/Ed	Comments or suggestions
Problems of Human Conservation (General Safety - Fall)	Psych. 174, 274 or 270 I. Ed. 216					
Theory and Principles of Driver Education (Methods: Lecture)	Psych. 470 or 370 I. Ed. 316					
Theory and Principles of Driver Education (Methods: Laboratory)	Psych. 470 or 370 I. Ed. 316					
Practices of Driver Education (Student teaching on campus)	Psych. 372 or 371 I. Ed. 317					
Multiple-Car Range Techniques (Internship at Ames High School)	I. Ed. 418					
Simulation Techniques (Internship at Ames High School)	I. Ed. 419					
Special Problems in Safety (Please specify)	Psych. 320 or 499B I. Ed. 490S					
Administration of Accident Prevention Programs (Summer)	Psych. 570 I. Ed. 570					
Seminar in the Psychology of Safety	Psych. 571 or 574 I. Ed. 571					
Seminar in Pupil Transportation	I. Ed. 590M					
Topics in Safety (Please specify)	Psych. 520B or 599B I. Ed. 590S					
Multiple-Car Range and Simulation Techniques	I. Ed. 590X					
Advanced Driver Education Techniques (Neyhart)	Psych. 520 or 599B I. Ed. 590S, 593F4 or 590Y					
Preparation of Educational Media (Audio-Visual)	Ed. 550, 590P, 590Q 590R or 501					
Production of Visual Media	Ed. 502					
Designing of Instructional Systems	Ed. 503					
Adult Education	Ed. 536/537					
Educational Statistics I	Ed. 552					
Educational Statistics II	Ed. 553					

PLEASE RATE EACH COURSE using the following scale.

1	2	3	4	5	6	7	8	9
No Value				Moderately Valuable				Extremely Valuable

Course Title	Dept. & Course No. (Past & Present)	Took Course? Yes	Took Course? No	Value for: Ed.	Value for: N/Ed	Comments or suggestions
Research	Ed. 690 or 699					
Power Mechanics: The Automobile	I. Ed. 261, 361 368 or 262					
School Laboratory Safety Education (Shop Safety)	I. Ed. 350 or 310					
Introduction to Mass Communication	Journalism 101					
Planning of Transportation Facilities	Civil Engr. 352					
Traffic Engineering	Civil Engr. 450					
Safety Engineering	Indust. Engr. 421					
Equipment in the Home (Introduction to Equipment)	Fam. Environ. 254 Household Equip. 154					
Labor Economics and Labor Relations	Econ. 305					
Management: Theory and Practice	Econ. 444					
Collective Bargaining	Econ. 445					
Principles of Transportation	I. Ad. 360					
Traffic Management	I. Ad. 460					
Highway Transportation	I. Ad. 463					
Social Psychology	Psych. 380					
Psychology of Adolescence	Psych. 430, 424, 414					
Psychological Measurement I	Psych. 434 or 440					

PLEASE RATE EACH COURSE using the following scale.

1	2	3	4	5	6	7	8	9
No Value				Moderately Valuable				Extremely Valuable

Course Title	Dept. & Course No. (Past & Present)	Took Course? Yes	No	Value for: Ed.	N/Ed	Comments or suggestions
Industrial Psychology I	Psych. 362 or 450					
Industrial Psychology II	Psych. 451					
Psychology of Adjustment	Psych. 460					
Advanced Developmental Psychology	Psych. 530					
Advanced Educational Psychology	Psych. 556 or 533					
Psychological Measurement II	Psych. 534 or 540					
Differential Psychology	Psych. 545					
Performance Measurement	Psych. 550					
Personality Theories	Psych. 560					
Sociology of Youth	Soc. 473					
Sociology of Leisure and Recreation	Soc. 483					
Methods of Teaching Handicapped to Drive (Experimental)	I. Ed. 590S					

DID YOU RATE EVERY COURSE?

VI. SUMMARY OBSERVATIONS

30. Do you feel that your safety education preparation was satisfactory? ☐ Yes ☐ No Why or why not?

31. What changes in the program would you advocate? (Course offerings, emphasis, workshops, short courses, extension, etc.)

(Continue to next page)

32. Has your safety education preparation served any useful purpose in your life other than vocational?
☐ Yes ☐ No If "Yes", describe.

THANK YOU

LOREN O. MUENCH
SAFETY EDUCATION LABORATORY
IOWA STATE UNIVERSITY
AMES, IOWA 50010

CODING KEY

Columns

1- 3 Identification number

4 Preparation: 1 - 5- 7 q.h. 4 - 23-29
2 - 8-14 5 - 30-44
3 - 15-22 6 - 45 and above

5- 6 Year methods completed: Last 2 digits of year

7 Years since methods course completed: 0 - 1- 2
1 - 3- 5 4 - 12-15
2 - 6- 8 5 - Over 15
3 - 9-11

8 Age when methods course taken: 1 - Under 20 5 - 31-35
2 - 20-22 6 - 36-40
3 - 23-25 7 - Over 40
4 - 26-30

9 Present age: 1 - 20-24 3 - 31-40
2 - 25-30 4 - Over 40

10 Sex: 1 - Male (White) 2 - Male (Black) 3 - Female (White only)

11 Marital status: 1 - Married 2 - Single 3 - Other

12 Number of children: Actual number

13 Current employment status: 1 - Employed (Ed.) 5 - Military, non-career
2 - Employed (N/Ed.) 6 - Other
3 - Unemployed
4 - Student

14 Home state: 1 - Iowa 2 - Other

15 Current state: 1 - Iowa 2 - Other 3 - Same as home state

16 Number of institutions attended including I.S.U.: Actual number

17-18 I.S.U. undergraduate major(s):

01 - P. E.
02 - I. Ed.
03 - Gen. Sci.
04 - Voc. Ed, Ed., (In-Service)
05 - C. E.
06 - Agron.
07 - Govt.
08 - P. E. & Math.
09 - Math.
10 - Dist. Studies
11 - P. E. & Hist.
12 - P. E. & I. Ed.
13 - Hist.
14 - P. E. & Biol.
15 - I. Ad.
16 - Soc.
17 - Engl.
18 - C. D.
19 - Psych.
20 - Bus. Ed.
21 - For. L.
22 - P. E. & Gen. Sci.
23 - P. E. & Soc. Sci.
24 - P. E. & Inst. Man.
25 - P. E. & Zool.
26 - Ag. Ed.
27 - P. E. & Recreat.
28 - Undeclared

Columns

19 Number of degrees held: Actual number

20 Highest degree held: 1 - Bachelor's 4 - Doctorate (include D.V.M.)
2 - Master's
3 - Specialist's 0 - N.A.

21 Currently working toward a degree? 1 - Yes
2 - No
0 - No response

22 What promoted initial interest in safety education?

1 - Adviser recommendation
2 - Peer encouragement
3 - Summer employment opportunity
4 - Strong personal interest in human conservation
5 - Ideal combination for teaching
6 - School administration request
7 - Good employment prospects
8 - High school counselor
9 - Other
0 - No response

23 Same as column 22 (alternate choice) 0 - No alternate choice

24 Last quarter of safety education preparation at I.S.U.:

1 - Fall 2 - Winter 3 - Spring 4 - Summer 0 - No response

25-26 Year of last safety education preparation at I.S.U.: Last 2 digits of year 0 - No response

27 Number of institutions attended excluding I.S.U.: (For safety education courses) Actual number
0-2
3 - 3 or more

28 Extent of safety education preparation at other institutions: (in quarter hours)

0 - None
1 - 1- 5
2 - 6-10
3 - 11-15
4 - 16 or more

29 More safety education preparation in current plans? 1 - Yes
2 - No
3 - Perhaps
0 - No response

30 Would you have elected safety education as an undergraduate major if it had been available? 1 - Yes 2 - No 3 - Undecidded
0 - No response

Columns

31 Would you now elect safety education as an undergraduate major if you were to repeat your college education? 1 - Yes
2 - No
3 - Undecided
4 - No response

32 Recommendation for safety education major at Iowa State University:
1 - Neither major 3 - Undergraduate only 0 - No response
2 - Graduate major only 4 - Both majors

33 Recommendation for requirement of a general safety course:
1 - No requirement
2 - Require of all college students preparing to teach elementary
3 - Require of all college students preparing to teach
4 - Require of all college students
0 - No response

34 Number of ways positions obtained: Actual number 0 - No response

35 Number of positions held (job history): Actual number 1-7
8 - 8 or more
9 - Military or college

36 Safety orientation of employment: 0 - No "safety employment
1 - Some "safety employment" but not currently
2 - Current "safety employment" but not previously
3 - Current "safety employment" but not all
4 - All "safety employment"
5 - No response

37 Current annual salary:
1 - $6000 or less 4 - 10001 - 12500 7 - 17501 - 20000
2 - 6001 - 7500 5 - 12501 - 15000 8 - 20001 - 25000
3 - 7501 - 10000 6 - 15001 - 17500 9 - More than 25000
0 - No response

38 Any plans to enter a safety position if not employed in one?
1 - Yes 4 - N.A. (employed in safety)
2 - No 0 - No response
3 - Undecided

39-40 Reason for not entering or for leaving safety position:
01 - Lack or loss of interest
02 - Safety is too hard to "sell"
03 - Personal health
04 - Found position in major field
05 - Better salary elsewhere
06 - Assigned other duties
07 - Conflicts with administration
08 - No job available
09 - Too demanding, timewise
10 - Not qualified 11 - Other 99 - N.A. 00 - No response

Columns

41-42 Second reason based on columns 39-40: 00 - No second reason

43 Number of memberships in professional organizations:
Actual number 0-8 (9 - 9 or more)

44 Membership in driver, traffic and safety education association(s):
0 - None
1 - State only
2 - National only
3 - Both state and national
4 - N.A. (Not involved with traffic safety)

45 Number of ways of staying "current" on job for employees in education: Actual number 0-7 8 - 8 or more 9 - N.A.

46 Number of ways of staying "current" on job for employees not in education: Actual number 0-7 8 - 8 or more 9 - N.A.

NOTE: If not in education, columns 47-71 = 0 (N.A.)

47 Current area of employment:
1 - College or university
2 - Community college
3 - Senior high school
4 - Junior high school
5 - Elementary school
6 - Vocational-technical school
7 - Rehabilitation program
8 - K-12
9 - Other
0 - N.A.

48 Current secondary area of employment based on column 47 (Same code except 0 - no secondary area)

49-50 Current position:
01 - Superintendent
02 - Principal
03 - Coordinator
04 - Teacher
05 - Coach
06 - Supervisor
07 - Counselor
08 - Therapist
09 - Athletic trainer
10 - College or university faculty
11 - Other
00 - N.A.

51-52 Current secondary position based on columns 49-50 (Same code except 00 - no secondary position)

53 Any assigned safety responsibilities? 1 - Yes 2 - No (If "no", columns 54-71 - 0 N.A.) 0 - N.A.

54 Time commitment to safety:
1 - Full-time
2 - More than half-time
3 - Half-time
4 - Less than half-time
5 - Summer only
6 - Full-time plus summer
7 - More than half-time plus summer
8 - Half-time plus summer
9 - Less than half-time plus summer
0 - N.A.

55 Safety responsibility:
1 - Driver education only
2 - Safety education only
3 - Safety education including driver education
4 - Other 0 - N.A.

Columns

56 Does school use multiple-car driving range? 1 - Yes
2 - No
0 - N.A.

57 Does school use sriving simulators?
1 - Yes (Allstate) 4 - Yes (no make given)
2 - Yes (Aetna) 5 - No
3 - Yes (Both) 0 - N.A.

58 Extent of standard transmission usage for driver education:
1 - None 5 - 76-100
2 - 1-25% 6 - No usable response
3 - 26-50 0 - N.A.
4 - 51-75

59 Does school use psychophysical testing? 1 - Yes 2 - No 0 - N.A.

60 Are YOU teaching with a multiple-car range facility and/or driving simulators? 1 - Yes (multiple-car only)
2 - Yes (simulation only)
3 - Yes (both)
4 - No
0 - N.A.

61-64 Method(s) of learning operational techniques for teaching on a multiple-car range:

61 Formal course or workshop: 1 - Yes 2 - No 0 - N.A.

62 Supervisor or peer assistance: 1 - Yes 2 - No 0 - N.A.

63 "Trial and error": 1 - Yes 2 - No 0 - N.A.

64 Other: 1 - Yes 2 - No 0 - N.A.

65-69 Method(s) of learning operational techniques for teaching simulation:

65 Formal course or workshop: 1 - Yes 2 - No 0 - N.A.

66 Company sponsored orientation: 1 - Yes 2 - No 0 - N.A.

67 Supervisor or peer assistance: 1 - Yes 2 - No 0 - N.A.

68 "Trial and error": 1 - Yes 2 - No 0 - N.A.

69 Other: 1 - Yes 2 - No 0 - N.A.

70 Is demand for motorcycle rider education sufficient to include in teacher preparation program? 1 - Yes 2 - No 0 - N.A.

71 Emphasis on psychophysical testing at I.S.U.: 1 - Too little
2 - About right
3 - Too much
0 - N.A.

72 Classification of employment:
0 - Agriculture
1 - Business
2 - Construction
3 - Entertainment
4 - Government
5 - Health Service
6 - Industry
7 - Military
8 - Public Service
9 - Social Service

73-74 Major job responsibility:

01 - Supervising	06 - Sales	11 - Guidance/ Personnel
02 - Purchasing	07 - Research/Development	12 - Farming
03 - Managing	08 - Service	13 - Military Duties
04 - Training	09 - Engineering	14 - Other
05 - Writing	10 - Consulting	00 - N.A.

75-76 Secondary job responsibility based on columns 73-74 (Same code plus 00 - no secondary position)

77 Portion of time devoted to safety:

1 - None	4 - More than half-time
2 - Less than half-time	5 - Full-time
3 - Half-time	6 - No response
	7 - No formal safety assignment but job involves some safety
	0 - N.A.

78 Was safety education preparation satisfactory? 1 - Yes 3 - Undecided 2 - No 0 - No response

79 Has safety education preparation served any non-vocational function?
1 - Yes 3 - Undecided
2 - No 0 - No response

80 Card number (1)

Course Title	Dept. & Course No. (Past & Present)	Column 1-3	Identification number
Problems of Human Conservation (General Safety - Fall)	Psych. 174, 274 or 270 I. Ed. 216	4	1 - Yes 2 - No
		5	Value for education (1-9)
		6	Value for non-education (1-9)
Theory and Principles of Driver Education (Methods: Lecture)	Psych. 470 or 370 I. Ed. 316	7	1 - Yes 2 - No
		8	Value for education (1-9)
		9	Value for non-education (1-9)
Theory and Principles of Driver Education (Methods: Laboratory)	Psych. 470 or 370 I. Ed. 316	10	1 - Yes 2 - No
		11	Value for education (1-9)
		12	Value for non-education (1-9)
Practices of Driver Education (Student teaching on campus)	Psych. 372 or 371 I. Ed. 317	13	1 - Yes 2 - No
		14	Value for education (1-9)
		15	Value for non-education (1-9)
Multiple-Car Range Techniques (Internship at Ames High School)	I. Ed. 418	16	1 - Yes 2 - No
		17	Value for education (1-9)
		18	Value for non-education (1-9)
Simulation Techniques (Internship at Ames High School)	I. Ed. 419	19	1 - Yes 2 - No
		20	Value for education (1-9)
		21	Value for non-education (1-9)
Special Problems in Safety (Please specify)	Psych. 320 or 499B I. Ed. 490S	22	1 - Yes 2 - No
		23	Value for education (1-9)
		24	Value for non-education (1-9)
Administration of Accident Prevention Programs (Summer)	Psych. 570 I. Ed. 570	25	1 - Yes 2 - No
		26	Value for education (1-9)
		27	Value for non-education (1-9)
Seminar in the Psychology of Safety	Psych. 571 or 574 I. Ed. 571	28	1 - Yes 2 - No
		29	Value for education (1-9)
		30	Value for non-education (1-9)
Seminar in Pupil Transportation	I. Ed. 590M	31	1 - Yes 2 - No
		32	Value for education (1-9)
		33	Value for non-education (1-9)
Topics in Safety (Please specify)	Psych. 520B or 599B I. Ed. 590S	34	1 - Yes 2 - No
		35	Value for education (1-9)
		36	Value for non-education (1-9)
Multiple-Car Range and Simulation Techniques	I. Ed. 590X	37	1 - Yes 2 - No
		38	Value for education (1-9)
		39	Value for non-education (1-9)
Advanced Driver Education Techniques (Meyhart)	Psych. 520 or 599B I. Ed. 590S, 593F4 or 590Y	40	1 - Yes 2 - No
		41	Value for education (1-9)
		42	Value for non-education (1-9)
Preparation of Educational Media (Audio-Visual)	Ed. 550, 590P, 590Q 590R or 501	43	1 - Yes 2 - No
		44	Value for education (1-9)
		45	Value for non-education (1-9)
Production of Visual Media	Ed. 502	46	1 - Yes 2 - No
		47	Value for education (1-9)
		48	Value for non-education (1-9)
Designing of Instructional Systems	Ed. 503	49	1 - Yes 2 - No
		50	Value for education (1-9)
		51	Value for non-education (1-9)
Adult Education	Ed. 536/537	52	1 - Yes 2 - No
		53	Value for education (1-9)
		54	Value for non-education (1-9)
Educational Statistics I	Ed. 552	55	1 - Yes 2 - No
		56	Value for education (1-9)
		57	Value for non-education (1-9)
Educational Statistics II	Ed. 553	58	1 - Yes 2 - No
		59	Value for education (1-9)
		60	Value for non-education (1-9)

Course Title	Dept. & Course No. (Past & Present)	Column	
Research	Ed. 690 or 699	61	1 - Yes 2 - No
		62	Value for education (1-9)
		63	Value for non-education (1-9)
Power Mechanics: The Automobile	I. Ed. 261, 361 368 or 262	64	1 - Yes 2 - No
		65	Value for education (1-9)
		66	Value for non-education (1-9)
School Laboratory Safety Education (Shop Safety)	I. Ed. 350 or 310	67	1 - Yes 2 - No
		68	Value for education (1-9)
		69	Value for non-education (1-9)
Introduction to Mass Communication	Journalism 101	70	1 - Yes 2 - No
		71	Value for education (1-9)
		72	Value for non-education (1-9)
Planning of Transportation Facilities	Civil Engr. 352	73	1 - Yes 2 - No
		74	Value for education (1-9)
		75	Value for non-education (1-9)
Traffic Engineering	Civil Engr. 450	76	1 - Yes 2 - No
		77	Value for education (1-9)
		78	Value for non-education (1-9)
		79	Receipt information: 1 - Education: Original + #1 follow-up 2 - Education: #2 follow-up 3 - Education: All other follow-ups 4 - Non-education: Original - #1 follow-up 5 - Non-education: #2 follow-up 6 - Non-education: All other follow-ups 7 - Military, non-career 8 - Student 9 - Unemployed
		80	Card number (2)

PLEASE RATE EACH COURSE using the following scale.

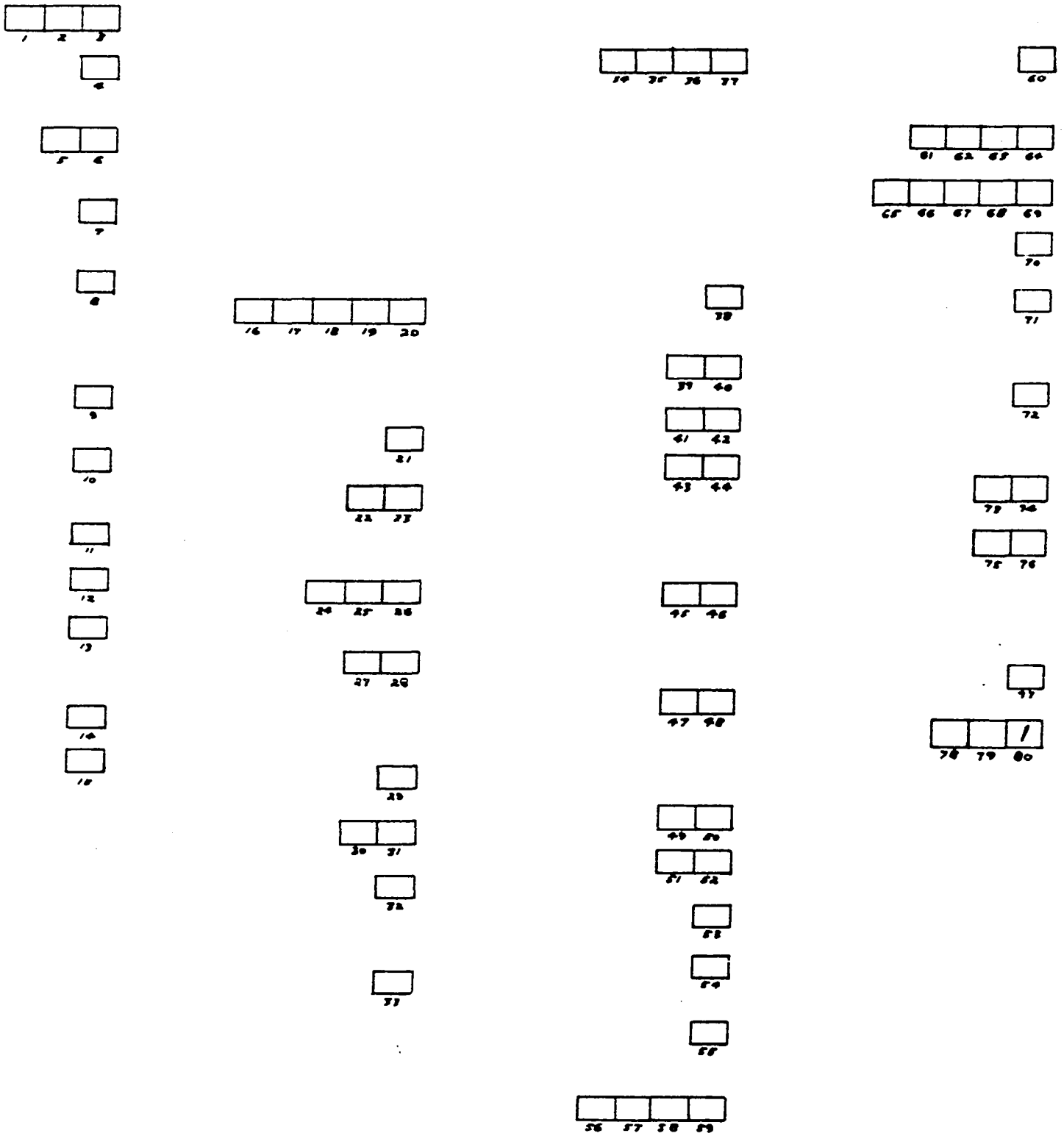
1	2	3	4	5	6	7	8	9
No Value				Moderately Valuable				Extremely Valuable

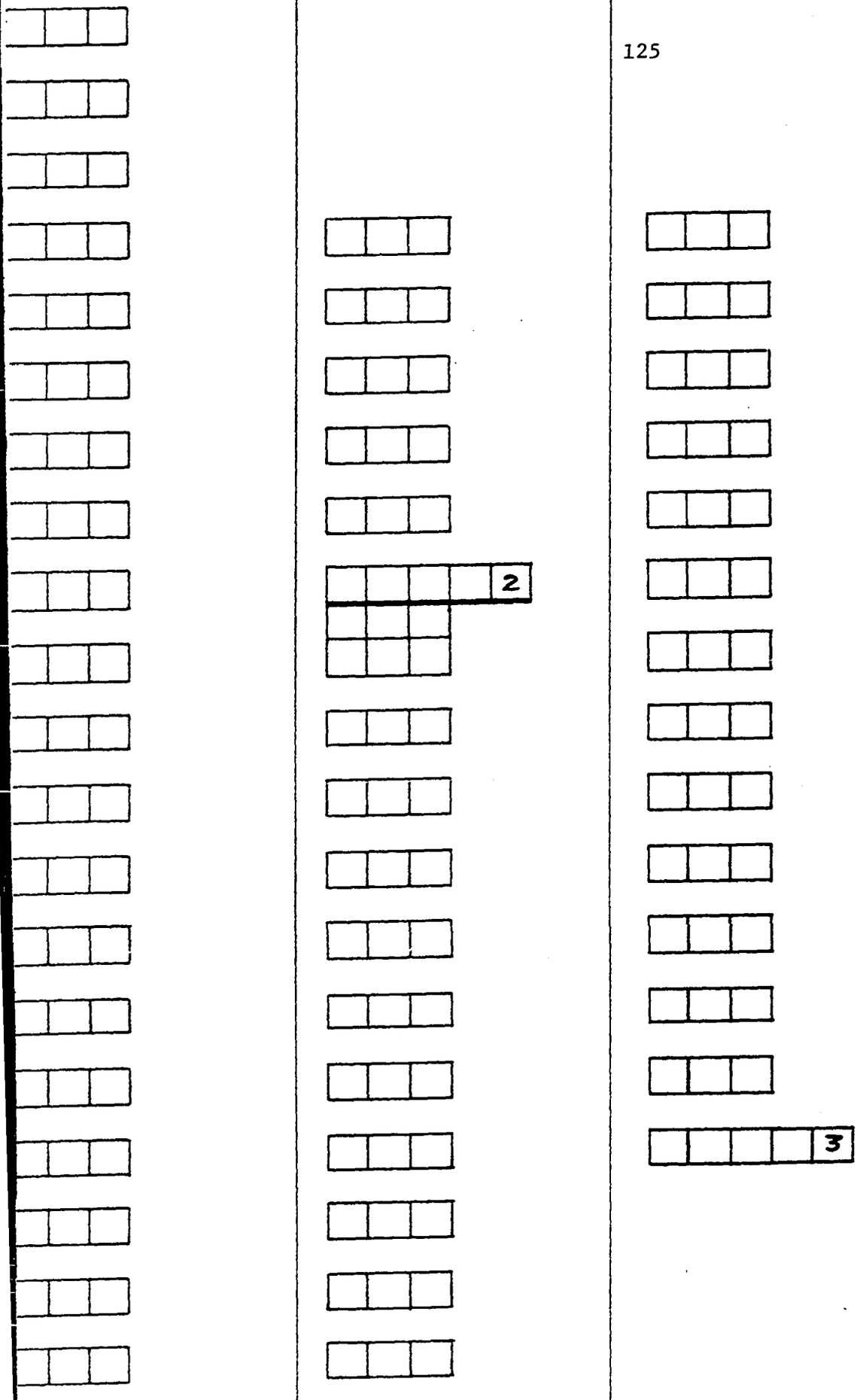
Course Title	Dept. & Course No. (Past & Present)	Column 1-7	Identification number
Safety Engineering	Indust. Engr. 421	4	1 - Yes 2 - No
		5	Value for education (1-9)
		6	Value for non-education (1-9)
Equipment in the Home (Introduction to Equipment)	Fam. Environ. 254 Household Equip. 154	7	1 - Yes 2 - No
		8	Value for education (1-9)
		9	Value for non-education (1-9)
Labor Economics and Labor Relations	Econ. 305	10	1 - Yes 2 - No
		11	Value for education (1-9)
		12	Value for non-education (1-9)
Management: Theory and Practice	Econ. 444	13	1 - Yes 2 - No
		14	Value for education (1-9)
		15	Value for non-education (1-9)
Collective Bargaining	Econ. 445	16	1 - Yes 2 - No
		17	Value for education (1-9)
		18	Value for non-education (1-9)
Principles of Transportation	I. Ad. 360	19	1 - Yes 2 - No
		20	Value for education (1-9)
		21	Value for non-education (1-9)
Traffic Management	I. Ad. 460	22	1 - Yes 2 - No
		23	Value for education (1-9)
		24	Value for non-education (1-9)
Highway Transportation	I. Ad. 463	25	1 - Yes 2 - No
		26	Value for education (1-9)
		27	Value for non-education (1-9)
Social Psychology	Psych. 380	28	1 - Yes 2 - No
		29	Value for education (1-9)
		30	Value for non-education (1-9)
Psychology of Adolescence	Psych. 430, 424, 414	31	1 - Yes 2 - No
		32	Value for education (1-9)
		33	Value for non-education (1-9)
Psychological Measurement I	Psych. 434 or 440	34	1 - Yes 2 - No
		35	Value for education (1-9)
		36	Value for non-education (1-9)
Industrial Psychology I	Psych. 362 or 450	37	1 - Yes 2 - No
		38	Value for education (1-9)
		39	Value for non-education (1-9)
Industrial Psychology II	Psych. 451	40	1 - Yes 2 - No
		41	Value for education (1-9)
		42	Value for non-education (1-9)
Psychology of Adjustment	Psych. 460	43	1 - Yes 2 - No
		44	Value for education (1-9)
		45	Value for non-education (1-9)
Advanced Developmental Psychology	Psych. 530	46	1 - Yes 2 - No
		47	Value for education (1-9)
		48	Value for non-education (1-9)
Advanced Educational Psychology	Psych. 556 or 533	49	1 - Yes 2 - No
		50	Value for education (1-9)
		51	Value for non-education (1-9)
Psychological Measurement II	Psych. 534 or 540	52	1 - Yes 2 - No
		53	Value for education (1-9)
		54	Value for non-education (1-9)
Differential Psychology	Psych. 545	55	1 - Yes 2 - No
		56	Value for education (1-9)
		57	Value for non-education (1-9)

Course Title	Dept. & Course No. (Past & Present)	Column	
Performance Measurement	Psych. 550	58	1 - Yes 2 - No
		59	Value for education (1-9)
		60	Value for non-education (1-9)
Personality Theories	Psych. 560	61	1 - Yes 2 - No
		62	Value for education (1-9)
		63	Value for non-education (1-9)
Sociology of Youth	Soc. 473	64	1 - Yes 2 - No
		65	Value for education (1-9)
		66	Value for non-education (1-9)
Sociology of Leisure and Recreation	Soc. 483	67	1 - Yes 2 - No
		68	Value for education (1-9)
		69	Value for non-education (1-9)
Methods of Teaching Handicapped to Drive (Experimental)	I. Ed. 590S	70	1 - Yes 2 - No
		71	Value for education (1-9)
		72	Value for non-education (1-9)
		73	
		74	
		75	
		76	
		77	
		78	
		79	Receipt information: 1 - Education: Original + #1 follow-up 2 - Education: #2 follow-up 3 - Education: All other follow-ups 4 - Non-education: Original - #1 follow-up 5 - Non-education: #2 follow-up 6 - Non-education: All other follow-ups 7 - Military, non-career 8 - Student 9 - Unemployed
		80	Card number (3)

PLEASE RATE EACH COURSE using the following scale.

1	2	3	4	5	6	7	8	9
No Value				Moderately Valuable				Extremely Valuable




2
3

Dear

Several days ago you should have received a questionnaire concerning the safety education program at Iowa State. Returns have been quite prompt but according to my records, yours is not among them.

Dr. Schwenk and I are most anxious that your experience and opinions be a part of this project. Won't you please help by responding soon?

If your questionnaire has disappeared, please let me know so that I can replace it. Postage will be refunded.

Yours truly,

Loren O. Muench

IOWA STATE
UNIVERSITY

Safety Education and Research Program
Safety Education Laboratory
Ames, Iowa 50010

Telephone 515-294-5940

It has been over nine weeks since the original mailing of the questionnaire concerning safety education and six weeks since a follow-up card was sent urging your participation. To date our records indicate no reply.

Since it appears this research apparently is in jeopardy based on percentage of returns, I come to you again with a most urgent plea for help. To facilitate your reply I have enclosed a duplicate of the questionnaire.

Please pardon my persistence but we can ill-afford to allow a project that has been over two years in the making to fail. This is your chance to make an important contribution toward a better safety education program at Iowa State, especially in these days of high priority for safety.

Dr. Schwenk sends her regards and wishes to add her plea for your assistance.

Sincerely,

Loren O. Muench
Instructor: Safety Education
and Research Program

PLEASE CHECK APPROPRIATE BOXES AND DROP IN RETURN MAIL. #____

☐ The address on the envelope is correct.

If not, my correct address is:

Status of Safety Education questionnaire from Iowa State University (Muench follow-up survey):

☐ Never received

☐ Received but not returned
- ☐ I will return it promptly
- ☐ Misplaced, please send duplicate
- ☐ I do not wish to participate

THANK YOU

EVOLUTION OF SAFETY COURSES

1934-5	Psych. 474 (3)	Psychology of Safety
1939-40	Psych. 474	[New description]
1941-42	Psych. 574 (1)	Seminar in Safety
1945-46	Psych. 174 (3)	Human Conservation
	Psych. 474	[New description]
1947-48	Psych. 274	Changed from 174 & changed to 2 Credits
	Psych. 78 (0)	Automobile Driving added
1949-50	Psych. 274	[New description]; credit back to 3
	Psych. 470 (3)	Practice of and Supervised Teaching in Driver Training Education
1950-51	Psych. 536 (3)	Psychology of Vision & Efficient Seeing
	Psych. 570 (3)	Methods and Materials for Teaching Safety & Accident Prevention
1955-56	Psych. 274	Changed to 2 credits
1956-57	Psych. 536	No longer listed
1957-59	Psych. 174	Changed from 274 & credit raised to 3 [New description]
	Psych. 320	Special Problems in Safety added
	Psych. 470	Dropped
	Psych. 370 (3)	Theory & Principles of Driver Education [title & description changed]
	Psych. 372 (1-3)	Practices of Driver Education added
	Psych. 474 (3)	New title: "Human Utilization"
	Psych. 570 (3)	New title: "Administration & Supervision of Human Conservation and Accident Prevention Program"
1960-63	Psych. 370	Credit raised to 4
	Psych. 474	[New description]
1963-65	Psych. 274	Changed from 174
	Psych. 474	New title: "Employee Development"
	Psych. 574	[New description]
1965-67	Psych. 270	Changed from 274
	Psych. 371	Changed from 372
	Psych. 499B	Changed from 320
	Psych. 599B	Changed from 520
	Psych. 474	Dropped
	Psych. 571	Changed from 574

Continued--Evolution of Safety Courses

1968-69	I. Ed. 18	Automobile Driving; changed from Psych. 78
	I. Ed. 216 (3)	Changed from Psych. 270
	I. Ed. 316 (4)	Changed from Psych. 370
	I. Ed. 317 (1-3)	Changed from Psych. 371
	I. Ed. 490S	Changed from Psych. 499B
	I. Ed. 570	Changed from Psych. 570
	I. Ed. 590S	Changed from Psych. 599B
1969-70	I. Ed. 490Y	Multiple-Car Range Techniques added
	I. Ed. 490Z	Simulation Techniques added
	I. Ed. 590X	Curriculum Development in Safety Education added
1970-71	I. Ed. 590M	Seminar in Pupil Transportation added
1971-72	I. Ed. 316	Credits changed to (5)
	I. Ed. 418	Changed from 490Y
	I. Ed. 419	Changed from 490Z
1973-74	I. Ed. 572X	Changed from I. Ed. 590M
	I. Ed. 575	Changed from I. Ed. 590X

Added since 1955:

320 (now 490S)

372 (now 317)

490Y (now 418)

490Z (now 419)

590M (now 572)

590X (now 575)

DRIVER EDUCATION
[Laboratory School]

School Year	Fall	Winter	Spring	Summer	Total
1955-56	23	9	67	79*	178
1956-57	33	26	44	43	146
1957-58	28	14	36	22	100
1958-59	23	14	41	27	105
1959-60	31	13	40	31	115
1960-61	41	18	49	19**	127
1961-62	27	28	47	39	141
1962-63	52	29	62	31	174
1963-64	38	23	76	46	183
1964-65	54	35	77	31	197
1965-66	47	32	75	61	215
1966-67	45	35	84	73	237
1967-68	52	35	83	54	224
1968-69+	54	54	109	59	276
1969-70	39	32	71	46	188
1970-71	43	36	71	37	187
1971-72	50	22	79	31	182
1972-73	42	31	61	40	174
1973-74	40	22	51	31	144
1974-75	32				

* Both Sessions

** Facilities were limited due to moving

\+ Identified as Psychology 78: 1947-1969; changed to Industrial Education 18.

Graduate Student Enrollments in
Safety Education Credit Courses

Year	Fall	Winter	Spring	Summer	Total
1964-65	2	3	6	13	24
1965-66	4	4	10	31	49
1966-67	8	11	14	50	83
1967-68	5	6	12	36	59
1968-69	9	10	23	50	92
1969-70	9	9	16	41	75
1970-71	7	16	20	59	102
1971-72	14	23	13	36	86
1972-73	6	8	1	18	33
1973-74	5	12	45	14	76
1974-75					

SAFETY EDUCATION

(Minor Program in College of Education) Effective June 1, 1969

All students to qualify also must have preparation in some major area of work. A minimum of 30 quarter hours is required for completion of the Safety Minor.

The first 15 quarter hours must be selected from GROUP I

GROUP I

*I. Ed.	216	3 credits	Human Conservation
*I. Ed.	316	5 credits	Theory and Principles of Driver Education
***I. Ed.	317	1-2 credits	Practices of Driver Education
I. Ed.	418	1-2 credits	Multiple-Car Range Techniques
I. Ed.	419	1-2 credits	Simulation Techniques
*I. Ed.	490S	1-3 credits	Special Problems in Safety
I. Ed.	570	3 credits	Administration of Accident Prevention Programs
**I. Ed.	571	1 credit	Safety Symposium
I. Ed.	572	1 credit	Programming for Pupil Transportation
I. Ed.	590S	1-3 credits	Topics in Safety
I. Ed.	575	3 credits	Curriculum Development in Safety Education
**Education	501	3 credits	Preparation of Educational Media

The additional 15 quarter hours of the 30 to be selected from GROUP I and/or II

GROUP II

EDUCATION

Education 502	3 credits	Production of Visual Media
Education 503	3 credits	Designing of Instructional Systems
Education 530	3 credits	Guidance Principles and Practices
Education 536	3 credits	Adult Education
Education 537	3 credits	Methods of Teaching Adults
Education 552	3 credits	Educational Statistics I
Education 553	3 credits	Educational Statistics II
**Education 699	Var. credits	Research
+Industrial Education 262	3 credits	Introduction to the Automobile
Industrial Education 310	3 credits	School Laboratory Safety Education

ENGINEERING

Agricultural Mechanization 474	3 credits	Agricultural Safety
Biomedical Engineering 510X	2 credits	Electrical Safety
Civil Engineering 228	3 credits	Sanitary Engineering in Environmental Control
Civil Engineering 350	3 credits	Collaborative Transportation Development
Civil Engineering 352	3 credits	Planning of Transportation Facilities
Civil Engineering 450	4 credits	Traffic Engineering
Industrial Engineering 421	3 credits	Safety Engineering
Nuclear Engineering 507	3 credits	Radiation Safety
Nuclear Engineering 566	3 credits	Nuclear Safety

+ Sequence requirements may be disregarded by Safety Education enrollees.

HOME ECONOMICS

Family Environment 254	3 credits	Equipment in the Home

SCIENCES AND HUMANITIES

Economics 305	3-5 credits	Labor Relations
Economics 444	3 credits	Management: Theory and Practice
Economics 445	4 credits	Collective Bargaining
Hygiene 105	1 credit	Emergency Health Care
Industrial Administration 360	3 credits	Principles of Transportation
Industrial Administration 460	3 credits	Traffic Management
Industrial Administration 463	3 credits	Highway Transportation
Journalism 101	2 credits	Introduction to Mass Communications
Psychology 380	5 credits	Social Psychology
Psychology 430	3 credits	Psychology of Adolescence
Psychology 440	3 credits	Psychological Measurement I
Psychology 450	3 credits	Industrial Psychology I
Psychology 451	3 credits	Industrial Psychology II
Psychology 460	5 credits	Psychology of Adjustment
Psychology 530	3 credits	Advanced Developmental Psychology
Psychology 533	3 credits	Advanced Educational Psychology
Psychology 540	3 credits	Psychological Measurement II
Psychology 550	3 credits	Advanced Industrial Psychology
Psychology 560	3 credits	Personality Theories
Sociology 473	3 credits	Sociology of Youth
Sociology 483	3 credits	Sociology of Leisure and Recreation

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*Required courses
**Recommended courses
***Total of 3 needed to meet State Approval requirements; 4 maximum allowed

See companion sheets, Courses in Safety and Human Conservation at Iowa State University, for information as to quarter, days, and hour of offerings.

For information on special workshops to be offered each year, contact the Safety Education Laboratory.

IOWA STATE UNIVERSITY

SAFETY EDUCATION: PAPERS

1941 Lauer, A. R. The problem of night driving in relation to accident prevention. [Abstract] Proc. Iowa Acad. of Science 48: 395-396.

1941 Lauer, A. R. and Uthoff, Lualis. An empirical study of compensation. Proc. Iowa Acad. of Science 48: 357-359.

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1946 Miller, C. and Lauer, A. R. The mechanical aptitude of drivers in relation to performance at the wheel. Proc. Iowa Acad. of Science 53: 273-275.

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1947 Palmer, E. C., Seiser, Marjorie and Lauer, A. R. The relation between ocular dominance, handedness, and visual acuity. Proc. Iowa Acad. of Science 54: 263-265.

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1951 Hoppe, D. A. and Lauer, A. R. Factors affecting the perception of relative motion and distance between vehicles at night. Highway Research Board Bulletin 43: 1-16.

1951 Kjerland, R. N. Age and sex differences in performance in the O'Conner blocks. Proc. Iowa Acad. of Science 58: 341-344.

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1952 Kahl, A. M. and Lauer, A. R. Effect of a financial responsibility law on accident reporting. Traffic Quarterly 6, No. 1: 128-135.

1952 Lauer, A. R. Age and sex in relation to accidents. Highway Research Board Bulletin 60: 25-35.

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1952 Phillips, J. J., Green, M. C. and Kjerland, R. N. The validity of a pencil and paper version of the O'Connor block test. [Abstract] Proc. Iowa Acad. of Science 59: 392.

1952 Schumacher, C. S. and Lauer, A. R. Exploratory study of the Spearman Rank Formula for use in item analysis. [Abstract] Proc. Iowa Acad. of Science 59: 393.

1952 Staider, H. I. and Lauer, A. R. Effect of pattern distribution on perception of relative motion in low levels of illumination. Highway Research Board Bulletin 56: 25-35.

1952 Stone, J. A. and Vavra, L. R. Six differences and reliabilities on two tests of distance judgment. Proc. Iowa Acad. of Science 59: 394-396.

1953 Kjerland, R. N. Age and sex differences in performance in mobility and strength tests. Proc. Iowa Acad. of Science 60: 519-523.

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1953 Stone, J. A. and Lauer, A. R. The effect of certain wave length contrasts on discrimination thresholds in mesopic vision. Highway Research Abstracts 23, No. 11: 65-66.

1953 Suhr, V. W. The Cattell 16 P. F. test as a prognosticator of accident susceptibility. Proc. Iowa Acad. of Science 60: 558-561.

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IOWA STATE UNIVERSITY

SAFETY EDUCATION THESES

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1965 Muench, Loren O. The relationship of demographic variables to fatal motor vehicle accidents. Unpublished M.S. thesis. Library, Iowa State University. Ames, Iowa.

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