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IMPLEMENTATION OF THE FOLLOW-UP SYSTEM OF GRADUATES FROM THE SCHOOL OF TECHNICAL AND APPLIED ARTS AT FERRIS STATE COLLEGE FOR THE PURPOSE OF ANSWERING SELECTED QUESTIONS

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By

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ABSTRACT

IMPLEMENTATION OF THE FOLLOW-UP SYSTEM OF GRADUATES FROM THE SCHOOL OF TECHNICAL AND APPLIED ARTS AT FERRIS STATE COLLEGE FOR THE PURPOSE OF ANSWERING SELECTED QUESTIONS

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Purpose Of The Study

The School of Technical and Applied Arts (STAA) at Ferris State College was concerned about the relevancy of the 31 different vocational-technical programs they were offering at the certificate, associate and bachelor degree levels.

The purpose of this study was to implement the follow-up system of graduates that was developed by the staff of the STAA in order to answer selected questions and make recommendations for possible improvements in the system.

Methods And Sources Used

The survey instrument and all correspondence material were developed by the staff of the STAA, and as such, their design was not a part of this study.

The population for the study consisted of the entire Fall, 1977 graduating class of the STAA. Ninety-three former students received the questionnaire and of these 59 or 63.4 percent returned the instrument. The mailing sequence consisted of five separate operations: 1) alert notice with change of address card, 2) questionnaire with cover

letter, 3) thank-you/reminder, 4) new questionnaire and cover letter to non respondents, and 5) final reminder to non respondents. A "Bulldog" lapel pin was enclosed with the initial questionnaire as an incentive and gift of appreciation for graduates to complete and return the instrument.

Findings

1. Nearly all (97%) of the STAA graduates surveyed were either employed full time or were full time students.
2. Approximately 50 percent of the STAA graduates surveyed continued in some type of educational program. Certificate graduates continued at a higher rate than associate or bachelor degree graduates.
3. The educational settings were varied but of those who continued their education 52 percent transferred to another program at Ferris State College.
4. Sixty-six percent of the STAA graduates surveyed were either very satisfied or satisfied with their present employment. Bachelor degree graduates were more satisfied with their employment than were associate or certificate graduates.
5. Ninety-three percent of the STAA graduates surveyed felt that their current employment was in or related to their major area of training at Ferris State College.
6. Nearly one-half (45%) of the STAA graduates surveyed found their present employment by themselves. The higher the degree the more the graduate used sources other than themselves to find employment.
7. Eighty-six percent of the STAA graduates surveyed felt that the

facilities and equipment at Ferris were similar to or superior to that which they used at their place of employment. Of those who felt the facilities and equipment were inferior, fifty percent selected reasons other than those on the questionnaire.

8. Nearly all (98%) of the STAA graduates surveyed felt that most of their major lab/shop instructors taught well or the same number taught well as did not.
9. Nearly all (98%) of the STAA graduates surveyed felt that their major lab/shop instructors were up-to-date in their area of expertise or about the same number were up-to-date as were not.
10. Fifty-six percent of the STAA graduates surveyed felt that the quality of ancillary services provided by Ferris State College were good or adequate. The higher the degree the more satisfied the graduate was with ancillary services.

This dissertation is dedicated to Kelly Jean and Kari Jo; my wish is that they discover as much joy and happiness in learning as I have.

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This project may never have been undertaken without the loving support of my wife Judith Ann who has helped me to discover my own potentials. Thank you dear.

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CHAPTER 1

THE PROBLEM

Introduction

A student follow-up study is one method to determine what graduates are doing once they leave an educational institution. It is also a tool that can be used to provide valuable information regarding the graduates' perceptions concerning the educational process that they have recently completed.

The administration and faculty of the School of Technical and Applied Arts (STAA) at Ferris State College are constantly involved in activities that will lead to the improvement of the school's vocational-technical programs. A follow-up study of graduates was recognized as one means of gaining information that could be utilized for program planning and improvement. The Wisconsin Board of Vocational, Technical and Adult Education (1970, ii) stated that:

> Startling developments in science and technology and a rapidly expanding economy are spelling out important changes in the structure of the occupational world. Specific jobs become obsolescent more frequently, old occupations disappear, and new occupations emerge, not always in foreseeable fashion. The pressures of a rapidly changing technological society make career decision making by youth, curriculum revisions by staff, and program planning by administrators even more dependent on research and follow-up of students to furnish appropriate data and information needed in developing plans, solving problems, improving instruction, and assessing progress toward achieving the goals of the system.

A student follow-up system had been designed by the school that would allow for the continual monitoring of graduates on a quarterly basis. This system allowed the personnel within the STAA to determine the extent to which they had succeeded in meeting their goals and

objectives. To determine the effectiveness of college programs, O'Connor (1965, Forward) feels that:

> There must be "follow-up" - from the day the student enters the institution until, and even after, he gains employment or transfers to another institution. Simply defined, follow-up is a process by which an educational institution seeks to determine how effectively it is meeting the needs of those it serves. Introspective by nature, it determines how well the stated objectives of the college are being achieved.

The utlimate goal for conducting a student follow-up study was to gather responses from the graduates that could be utilized for curriculum revision. Former students are in a very good position to provide data on the strong and weak points of their former educational programs. Wentling and Lawson (1975, 124) provide a good summation when they state that:

> Follow-up studies are designed to evaluate the product of career programs - the graduate. The primary goal of such education, the preparation of individuals for employment, can best be assessed by examining the placement records of graduates and gathering job performance data from employers. In addition, very important information regarding the strengths and weaknesses of a program may be gathered from the former students, who are in the best position to judge such characteristics.

The school is making plans to develop and conduct an employer survey as well as a survey of drop-outs. Data collected will be utilized to complete the picture of the students who have had contact with programs within the STAA.

Statement Of The Problem

This study implemented the follow-up system developed at Ferris State College for the purpose of answering selected questions and making recommendations on possible improvements in the system. The question-

naire and cover letters were previously established by staff within the STAA. The researcher implemented the newly developed system by collecting and analyzing data on a selected group of graduates.

This study provides information to answer the following research questions which were selected as being representative of the type of information that the Faculty of the STAA are interested in gaining through the follow-up system. Each question is analyzed by the three degree levels offered through the school.

RESEARCH QUESTIONS

Question	Data From Instrument
1. What is the current employment status of graduates?	Section 1, Question 7
2. Do graduates continue their formal education?	Section 2, Question 1
3. What type of school or program do graduates select for further education?	Section 2, Question 1
4. How satisfied are graduates with their present employment?	Section 3, Question 1
5. Do graduates feel that their education was relevant to their current position?	Section 3, Question 2
6. Who was the greatest help to the graduates in securing their present employment?	Section 3, Question 3B
7. What is the approximate salary of graduates?	Section 3, Question 6
8. What is the relationship between the graduates' current salaries and method used to find present employment?	Section 3, Question 3B and Section 3, Question 6
9. How do graduates rate the equipment and facilities at Ferris as compared to the equipment and facilities found in their places of employment?	Section 3, Question 8&9
10. How do graduates rate the teaching quality of the instructors they had in	Section 4, Question 1

their major labs or shops?

11.	How do graduates rate the extent to which their major lab/shop instructors were up-to-date in their areas of expertise?	Section 4, Question 4
12.	How do graduates rate the quality of ancillary services offered by Ferris State College?	Section 5, Question 1

Need For The Study

Ferris State College was founded in 1884 by Woodbridge N. Ferris as the "Big Rapids Industrial School". It was known as "The Ferris Industrial School", until 1899 when its name was changed to "The Ferris Institute". In 1949 Ferris Institute was offered to the State of Michigan as a memorial of its founder. The name was changed to Ferris State College effective July 1, 1963.

Ferris State College, a pioneering educational institution, is recognized as one of the unique colleges of Michigan. It is also recognized as one of the distinctive forerunner schools for much educational activity today, geared to vocational, occupational and technical instruction to meet the technological requirements of a rapidly changing complex society. The Ferris State College Faculty Handbook (1976, 10) states that:

> Ferris State College was begun as an unorthodox 'opportunity school' to provide advanced practical education to mature individuals, many of whom have not even finished the elementary grades. Its purpose was to provide people with specially targeted occupational training for the practical work-a-day world. Among its other primary objectives was preparing individuals for professional pursuits at the university level. The institution itself offered an array of programming for certain professional and occupational pursuits which, at that time, did not call for a baccalaureate degree.

In recent years Ferris State College has received both regional and national acclaim for its leadership in specialized higher education of a vocational and technical nature.

This study has its basis from Item 4a of the Objectives Developed to Meet the Goals of Ferris State College as taken from the faculty handbook (1976, 17).

> 4. To conduct extensive industrial and technical educational programs in selected vocational and occupational areas.
>
>> a. Provide for trade-industrial-technical curricula of a post-secondary and collegiate nature, applicable to the needs of the individual and the changing needs of our state and national economy, of varied length from one year through the baccalaureate degree.

In order to meet this objective, the STAA required an information system that would allow for the collection of necessary data upon which educational decisions could be based. The information provided by a follow-up study of program completers was seen as a portion of this system and would help the administrators and teachers to meet the "applicable to the needs of the individual and the changing needs of our state and national economy" portion of the above stated objective. The data collected will help the STAA to determine their success at meeting the needs of graduates as well as allowing these graduates the opportunity to keep the school abreast of the changing needs within their respective professions.

The STAA offers both two-year and four-year degree programs, as well as one-year certificates in over 30 uniquely different vocational programs. Students who take the four-year programs build upon the foundations obtained in their two-year curriculas. Those who go into supervisory positions as a result of their B.S. degree preparation are

considered highly proficient as supervisors because of their "hands on" knowledge.

Some of the students who complete two-year programs in the STAA elect to take an additional two years in the School of Education and Learning Resources and become teachers of trade technical education in skill centers, high schools, and community colleges.

B.S. degree programs are offered in:

1) Automotive and Heavy Equipment Technology
2) Broadcast Electronics Technology
3) Manufacturing Technology
4) Occupational Safety and Health
5) Printing Management
6) Surveying

Associate degree programs are offered in:

1) Architectural Drafting
2) Automotive Body
3) Automotive Service
4) Avionics
5) Building Construction Technology
6) Civil Technology - Surveying
7) Civil Technology - Highway
8) Cosmetology
9) Electrical Power Technology
10) Heavy Equipment Service
11) Industrial Electronics Technology
12) Machine Tool
13) Mechanical Engineering Technology
14) Occupational Safety and Health Technology
15) Plastics Technology
16) General Printing
17) Radio-Television Service
18) Refrigeration, Heating and Air Conditioning Technology
19) Technical Drafting and Tool Design
20) Technical Illustration
21) Welding Technology

Certificate programs are offered in:

1) Automotive Machine
2) Automotive Painting
3) Graphic Reproduction
4) Technical Drafting - Detailing
5) Welding

STAA had never had a student follow-up that attempted to ascertain

the type of data that were relevant to major programming decisions. A college wide study was conducted by the School's Office of Institutional Studies during the years 1973 through 1978. This longitudinal study was designed "to gain insight into the 'holding power' of the various programs at Ferris and the degree to which these programs attract students from other programs and send students to other programs". (1978, 1)

Another study was conducted by the Office of Institutional Studies in the Spring of 1977. This was a five year follow-up of Technical and Applied Arts graduates from the 1971-72 academic year. While this study provided valuable information, it did not allow for the continual monitoring of graduates that is required to allow for a suitable "data bank" from which the best possible programming decisions can be made. A five year lapse between graduation and follow-up is generally considered to be too lengthy of a period of time to elicit the type of information that is needed for current curriculum modification. In addition, this fifth year follow-up did not ask questions in a manner that would have provided data for modifications to specific programs or ancillary services.

Significance Of The Problem

This study is important for the following reasons. First, former students can be a great asset in the process of program improvement. This study allowed former students of the STAA the opportunity to relate their perceptions about the "strong" and "weak" points of their educational experience as well as indicate ways that the programs can be improved to more closely reflect the needs of the recent graduate in

meeting current employment requirements.

The "product" of an educational institution is its graduates. This student follow-up survey was also utilized to determine how marketable the "product" is from the STAA in light of current industrial demands. In other words, how successful were graduates in securing employment and succeeding in the labor market.

Curriculum improvement and revision is the primary reason that the school developed the student follow-up system. Subsequent graduates will be surveyed to establish a data base from which intelligent programming decisions can be made. This study implemented the system to answer selected questions and make recommendations in the total system.

The results of the study, once a data base is established, could prove useful in the process of accrediting individual programs or the entire school. Many accrediting bodies require follow-up information about the success of former graduates.

Tax limitations, accountability, and other pressures have increased the public's interest in how schools are utilizing their tax support. A follow-up study is one measure of how successful a school is in doing what it said it would do. Results could be utilized in the legislative funding process as a rationale for increased support.

The college provides many ancillary services to the STAA. Placement services, counseling, and student employment activities are a few of the items that graduates have had a chance to rate. Follow-up information could be used to provide information for college-wide changes in these services for greater student benefit or utilization.

Many graduates from the STAA continue in educational programs at Ferris State College or other colleges or universities. The follow-up

will help the STAA determine the pattern for this continual training and thus allow for programming changes that will help those students who continue their education. It might also provide a data base that could be utilized to justify new programming or eliminate existing programming at Ferris State College.

The results of this study may have impact beyond the STAA at Ferris State College. The follow-up system has implications for use in other similar post-secondary institutions. The survey instrument, correspondence material, computer program, and print-out format could be utilized with only slight modification, for vocational-technical programs at other schools.

Basic Assumptions

This study was based upon the following assumptions:

1. STAA at Ferris State College has a need for the information that was gained from the study.

The Acting Dean of the School has stated that "An easy to utilize, effective and efficient follow-up system is essential to our efforts in providing the best possible programs to meet the needs not only of Ferris students but the human resource demands of the State and Nation."

2. The concept of a follow-up study was supported by the faculty and administration of the STAA at Ferris.

Several of the present faculty of the school had been conducting follow-up studies on a hit-and-miss basis. Others were interested but either did not have sufficient expertise or time to develop a system for conducting a follow-up study. The questionnaire and cover letters were

developed with input from instructors, administrators and students.

3. A mailed questionnaire was the most efficient means for the STAA to gather data from former students.

Surveys can be conducted by personal interview, telephone interview or mailed questionnaire. The number of former students, close to 800 per year, made personal or telephone interviews cost prohibitive. The mailed questionnaire reached the population, wherever they were, at a reasonable cost.

4. A suitable number of questionnaires would be returned to provide valid data.

Every effort was made by the researcher to gain the highest possible response rate. An alert notice was mailed one month before the initial instrument was sent. Subsequent follow-up letters helped to increase the return.

5. Graduates' names and addresses could be located in order to mail the questionnaires.

Addresses were available from records kept both in the school's graduation files and the College's Alumni Association office. An alert notice, mailed one month in advance of the instrument, included a change of address card that nineteen (19) graduates used to notify us of new addresses.

6. One year elapse time between graduation and follow-up was considered an ideal span of time to secure the information sought through this follow-up study.

The school felt that a one year elapse period allowed the graduate time to become employed yet still retain sufficient memory of the Ferris program to provide relevant data.

7. Data provided by the graduates could be utilized to meet the goals and objectives set up for the follow-up system.

The questionnaire was developed and carefully screened by personnel and students from the STAA to ensure responses that could be used to meet the goals and objectives established for the survey.

Terms And Definitions

Definitions of key terms used in this study are provided for a common basis of understanding.

1. Graduates - Graduates are former students who have completed a Technical and Applied Arts Program. Graduates were surveyed one year after their date of graduation. This study surveyed the graduates of Fall Quarter, 1977.
2. Ancillary Services - These are services provided by the college to students from all six schools. It included such areas as placement, counseling, career guidance and financial aid.
3. Bachelor of Science Degree - A degree awarded to those students who have successfully completed four years of planned instruction at the collegiate level and have met the requirements for the degree as specified by Ferris State College. Approximately 200 quarter hours of instruction.
4. Associate of Applied Science Degree - A degree awarded to those students who have successfully completed two years of planned instruction at the collegiate level and have met the requirements for the degree as specified by Ferris State College.

Approximately 100 quarter hours of instruction.

5. Certificate - A certificate is awarded to students in selected programs who have successfully completed four quarters of planned instruction and have met the requirements for the certificate as specified by Ferris State College. Approximately 70 quarter hours of instruction.
6. Curriculum - Is defined as an orderly arrangement of integrated subjects, activities and experiences which students pursue for the attainment of a specific goal.

Limitations Of The Study

This continuous student follow-up system was designed exclusively for the STAA at Ferris State College as it existed during the 1978-79 academic year. The system was designed for a specific institution, therefore, it was necessary to conduct the survey within the perimeters already established by the administration of the institution. In addition, the results were applicable only to Ferris State College.

Since the follow-up system was ready for implementation early in 1979, the fall graduates of the 1977-78 academic year were selected as the initial group to receive the questionnaire. These former students had been graduated for approximately one year at the time the questionnaire was mailed. One year between graduation and survey allowed the graduate an opportunity to secure employment and become accustomed to their job requirements yet still be able to recall specifics about their educational experiences.

The data collected in this study may not be reliable since this is

the first time such data has been collected by STAA. A reliability study was not conducted by the researcher but face validity was determined through returned questionnaires that were distributed to STAA administrators, faculty and selected students.

The data were analyzed on the data processing equipment of Ferris State College. The existing Bio-Medical Statistical Package (BMD) was utilized.

Originally, the survey system was planned to utilize the college's IBM 1230 Optical Scanner in order to facilitate the easy reading of returned questionnaires. This piece of equipment did not allow the versatility that would have been required to optically scan the instrument so it was necessary to redesign the questionnaire to be easily keypunched. When suitable equipment becomes available at the college the survey instrument could be redesigned and printed for optical scanning.

Summary

This study implemented the follow-up system of graduates developed at Ferris State College. Selected questions were answered for the primary purpose of curriculum improvement.

Chapter 2 will focus on a review of the literature pertaining to: 1) what is vocational follow-up?, 2) why conduct follow-up studies?, and 3) using follow-up data. Chapter 3 is entitled "Research Procedures" and describes the methodology used to conduct the research study. The findings of the study are discussed in Chapter 4. Chapter 5 gives a summary of the study as well as recommendations and conclusions. A copy of the instrument is located in Appendix A, cover letters in Appendix B, and responses to research question number 9 are listed in Appendix C.

CHAPTER 2

REVIEW OF THE LITERATURE

A perusal of current literature has revealed a vast amount of information dealing with follow-up studies conducted by various educational institutions. The ERIC system and Dissertation Abstracts International also has many entries concerning the development of follow-up studies. There appears, however, to be a paucity of information on the topic of effective utilization of follow-up data or for that matter, the benefits to be derived from the addition of follow-up studies to other data gathering methods to form a total information gathering network.

In this section the researcher has reviewed and synthesized the available current literature concerning the following topics: 1) What is Vocational Follow-Up?, 2) Why Conduct Follow-Up Studies? and 3) Using Follow-Up Data.

What Is Vocational Follow-Up?

"Vocational education has been growing, changing and developing to meet the needs of present day society. Millions of students are enrolled and billions of dollars are being spent each year on vocational education. Within the United States, local state and federal governments are actively involved in support of these programs." (Grant & Lind, 1978, 143-145) It is easy to see that today's commitment to vocational education is on a very large scale.

Taxpayers want to know how their dollars are being utilized.

Legislators are concerned about vocational education's part in meeting societal needs. Students are interested in information about what schools and which programs are best suited to meet their goals. Vocational teachers and educators want valid data on which to base decisions concerning programming, curriculum and other educational matters. Employers are asking about the training their future employees are receiving. The list seems to go on and on.

Follow-up is not the answer but can play a substantial role in supplying answers to these questions. Good (1973, 246) defines follow-up as "An organized plan for ascertaining the employment and educational status of graduates from vocational programs in order to establish the relationship between employment and the vocational training received".

Can follow-up surveys provide the type of information that is needed and useful to the planners and decision makers of vocational education? The answer appears to be an unequivocal yes. Allen (1975, 25) concluded that "there is no doubt that follow-up studies can provide schools with data and information necessary for instructional modification and improvement".

The Committee on Vocational Education of the National Research Council (Assembly of Behavioral and Social Sciences) (1976, 110) has stated that "at least two basic kinds of information to serve two different purposes can be collected in student follow-up studies; students' opinions about their program can be used directly to alter the programs, and data on students' performance (employment information) can be used to evaluate the success of the programs."

Follow-up studies are generally conducted through one of three different methods: 1) mailed questionnaire, 2) telephone interview,

and 3) personal interview. Cost of the study and rate of return will vary with each method. Post-secondary institutions usually rely on the mailed survey because their students are drawn from an extremely wide area and the dispersion of their graduates form an equally wide range. This factor will most likely make telephoning or personal contact cost prohibitive unless only a small sample is surveyed.

Early planning is essential if a follow-up study is to provide the type of information that will be utilized by those who can have an effect on vocational education programming. The follow-up study needs to be developed from a well thought out clear-cut plan so that maximum useable information can be secured with a minimum amount of human and fiscal resources. The Center for Vocation Education's (1978, 9) Module A-10 (Conduct a Student Follow-Up Study) from their Professional Teacher Education Module Series has listed several steps to aid the developer of a follow-up system.

The plan should contain the following types of information.

- written objectives for the study
- responsibilities of the groups to be involved in conducting the study
- identification of group(s) to be surveyed
- activities to be conducted to assist in attaining the objectives of the follow-up study
- budget items and estimated costs
- schedule of activities
- reporting procedures
- plans for implementing the findings

The literature is full of "how to" information for developing follow-up studies. Since this research project was not concerned with the developmental stages of follow-up, the researcher will not go into great depth concerning the beginning stages of follow-up studies. There is, however, one important point that should be remembered if a

follow-up is going to produce useable results. The most effective follow-up system is worthless unless the results are utilized. O'Connor (1965, 51) stresses this point when he says that "Follow-up studies are not, and should not be, undertaken merely to compile records. Their ultimate objective is to gain information which will enable educators to do a better job."

The classroom teacher has ultimate control over the implementation of any changes that are to be made in the curriculum. Therefore, if results of follow-up studies are to be ultimately utilized to bring about change, teachers, administrators, advisory committees, and anyone else involved in the vocational education program must be linked together from day one. O'Connor (1965, 51) sets down a rationale for total cooperation in the development of a follow-up study.

> In order to convert the information derived from follow-up studies into action which will bring improvement there must be an attitude shared by both faculty and administration which will encourage objective analysis of the junior college, its purposes, and procedures. There must be wholehearted cooperation in implementing its findings. Therefore, to be effective, all staff must be involved in follow-up studies. There is a trend today among junior colleges to assign administrative assistants to institutional research which includes systematic follow-up studies. While this may be expedient, an efficient means of identifying responsibility for organizing such studies, it is nevertheless true that participation by the entire staff is necessary if the studies are to result in change. Total responsibility should not be vested in one person, particularly one who usually represents administration.

A follow-up study can involve a single survey or on the other end of the continuum could develop as a part of a continuous on-going data collection system. Follow-up should be thought of as one segment of a total information gathering network. A very important segment, but none the less, a portion of a total plan. Eble (1978, 42) feels that the gathering and dissemination of information is an important part of an

administrator's function.

> Deans, chairpersons, directors, and vice-presidents -- all are responsible for a systematic gathering and making use of relevant information . . . .
> Universities probably pay too little serious attention to the increase of information and the consequences for those who work with it or are affected by it.

Follow-up then, as a part of this total on-going information collection system, should receive proper attention during the developmental stages as well as in the dissemination and useage of the collected data. Lightfield (1976, introduction) sees "the need to develop an ongoing system for the collection of follow-up data on students who leave the community college, either through graduation or attrition..."

Possibly the best summation of this idea is given by Krishan (1975, 1) when he stated that:

> . . . in any information system in which planning and evaluation of vocational education are essential parts, follow-up of former students occupies a central position. It provides a periodic feedback mechanism for evaluation and accountability of vocational programs, establishes trends for planning, helps to determine manpower supply, and provides an important input for resource allocation decisions. It can also provide data input for research in cost-effectiveness of vocational education and mobility data for manpower demand projections.

Summation - What Is Vocational Follow-Up?

Follow-up, as in this study, is a systematic means to determine the status and selected attitudes of former students of a particular vocational education program. The information gathered from these studies are utilized along with other information to aid planners and decision makers. Follow-up provides valuable data that can be used by many different sources including administrators, teachers, students,

parents, counselors, advisory committees, school boards, and the general taxpayer.

Why Conduct Follow-Up Studies?

The reasons for conducting a follow-up study are many and varied. It is, however, not so much a question anymore of why to conduct a follow-up study as how to conduct the best possible study to meet the needs of a given institution. Lightfield (1976) and Gold and Morris (1977) both feel that the need for the type of data that can be provided by a follow-up study is imperative to the proper functioning of modern institutions of higher education. Gold and Morris (1977, 1) state that:

> It is almost universally agreed that information from and about students after they leave college is important to a college in evaluating its program and in planning for the future. It is also almost universally agreed that the task of obtaining "follow-up" information that is reliable, valid and useful is a difficult one.

The information collected from follow-up studies are useful to an increasing number of individuals involved in the former students' educational process. Bower and Renkiewicz (1977, 4) indicate that:

> The post secondary education institution of today is faced with increasing demands for information about its students. Legislators, budget and financial officers, planners, department heads, faculty, institutional researchers, students and many others all have needs for information about the students enrolled in the institution . . . . All of these needs, and many others that might be listed, have in common the facts that the needed information concerns students and that in most cases students must be surveyed or interviewed in order to obtain reliable answers.

The federal government recognizes the need for the type of information gained from follow-up studies and has expanded the requirements for collection of data. Public Law 94-482, (1978, 2187) Title II

Vocational Education, Section 112 (b) states:

> (1) In order for the States to assist local educational agencies and other recipients of funds in operating the best possible programs of vocational education --
>
> (A) each State shall, during the five-year period of the State plan, evaluate the effectiveness of each program within the State being assisted with funds available under this Act; and the results of this evaluation shall be used to revise the State's programs, and shall be made readily available to the State advisory council; and
>
> (B) each State shall evaluate, by using data collected, wherever possible, by statistically valid sampling techniques, each such program within the State which purports to impart entry level job skills according to the extent to which program completers and leavers--
>
> (i) find employment in occupations related to their training, and
>
> (ii) are considered by their employers to be well-trained and prepared for employment, except that in no case can pursuit of additional education or training by program completers or leavers be considered negatively in these evaluations.
>
> (2) Each State, in formulating its plans to fulfill these requirements, shall annually consult with the State advisory council which shall assist the State in developing these plans, monitor the evaluations conducted by the State, and use the results of these evaluations in compiling its annual report required by Section 105.

In addition, the National Center for Educational Statistics', proposed Vocational Education Data System (VEDS) has stirred new interest into the need for follow-up information. This data collection system would include the information from the evaluations conducted under the direction of the above listed section of Public Law 94-482, as well as specific information on vocational: 1) students (including information of their race and sex), 2) programs, 3) program completers and leavers, 4) staff, 5) facilities, and 6) expenditures.

Data collected would be, as much as possible, compatible with the

occupational information collected by the National Occupational Information Coordinating Committee.

All of the federal, state and local dollars that are utilized to support vocational education ultimately come out of the taxpayer's pocket. The past several years has seen an increasing demand on the part of these taxpayers to limit the amount of money for activities that they feel are not worthwhile and relevant. Vocational education like the welfare system and political junkets have come under the close scrutiny of these new consumer watchdogs. The planning and management activities of the present vocational administrator must be predicated on valid objective data. Follow-up studies can provide a portion of this data needed to justify current programming to those demanding accountability.

State and Federal legislators, who ultimately have to answer to the taxpayer, are asking for firm data upon which to make decisions concerning funding policies. Educational institutions can place themselves in the best possible position to receive vocational education dollars by keeping their senators and representatives informed of the success of their graduates. Follow-up studies can provide these results.

Students of today are very interested in the results that they can expect upon successful completion of a particular vocational education program. Counselors can use follow-up studies to show them what has happened to previous graduates; such items as employment rate, expected salary and working conditions are of particular interest.

Teachers and administrators can use the results of follow-up studies to alter the present curriculum, add new programs, or delete programs no longer meeting the goals and objectives of the institution. Classroom equipment, assignments, facilities, time allocations, or

course content are all possible areas that could be altered because of the data collected through follow-up studies.

Employers are concerned that their employees have received a quality educational experience. Follow-up studies can show them how well previous graduates have fared.

Advisory committees, to do a proper job of helping schools to offer the best possible educational programs, can use follow-up studies as a "check" on the existing program.

The educational institution itself can determine how well it has done in helping the students through their educational programs. This can be done by checking the graduates attitudes and perceptions toward the services offered by the school.

As with any data base, follow-up studies are proving useful to an ever wider range of individuals and are continually being utilized in an ever increasing number of ways.

Different sources cite different reasons for conducting follow-up studies. A study conducted by Deem (1969, 44) showed that "the three primary purposes indicated by a statistically significant number of the 40 institutions were as follows: improve curriculum (29), evaluate the institutions performance of stated objectives (28) and improve counseling and guidance services (27)". Most of the sources that one finds in the literature share commonalities of reasons and Headrick (1977, 3) sums it up well in the following four major purposes: "(1) to improve programs; (2) to provide a basis for accountability; (3) to aid in planning; and (4) to aid in decision making". He further goes on to state that:

It should be noted that, although these general purposes may be distinct objectives of certain follow-up programs, they are nevertheless highly interrelated and interdependent. For example, it is possible to gather and employ data only for the specific purpose of improving programs. But since program improvement is a direct result of planning and decision making, it is difficult and possibly self-defeating to segregate these processes and consider them separately.

Summation - Why Conduct Follow-Up Studies?

Follow-up studies can provide a portion of the total information required by planners and decision makers of vocational education. Taxpayers demand accountability; federal laws mandate compliance; students need information to make career decisions; teachers and administrators have to make decisions; employers would like to know about the program before employing graduates; these are a few of the many reasons why follow-up studies are being conducted.

Using Follow-Up Data

An effective follow-up system of graduates should start with a determination of what use the collected data will serve. It is critical to make these decisions early since they will have an effect on the entire development and use of the system. In all too many cases, the absences of this early planning concerning the intended outcomes of the follow-up study has had an adverse effect on the validity of the data collected and subsequent use of that data.

Data must be collected in a planned manner if those in a position to use the information are to feel confident in it and receptive to its use. Headrick (1977, 2) feels that follow-up information is of little value if it is not used.

Obviously, if follow-up information is not used, it has little, if any value. Data collected in the most effective follow-up programs are of questionable worth when they are relegated to virtual non-use and merely shelved for future reference. An effective follow-up program is comprised of several processes, one of which, and unquestionably the most important, is the actual utilization of the information collected.

The Wisconsin Board of Vocational, Technical and Adult Education (1970, 7) has listed several uses for the information that can be gained from follow-up studies:

> Uses of Information: Follow-up reports provide the current or potential student with information regarding the success of former students transferring from school to school, entering employment, or attaining some other position in society. Follow-up information can be used to justify subject requirements for graduation, give incentive for developing traits and competence in ways shown to be requisite for future success.
>
> Follow-up provides the instructor with first-hand evidence of the effectiveness of his teaching, the reasonableness of his standards, and the relevance of the material he includes in his courses.
>
> Follow-up gives the counselor a factual basis for advising students regarding career choices, sources of advance study, course selection, extra-curricular participation and success expectations.
>
> Follow-up provides the school with facts upon which to base admissions policies, develop an organized course content, establish performance standards and to improve articulation with parents, high schools, colleges and industry; and suggests a means of planning new curriculums and other extensions of educational effort.
>
> Follow-up offers the community, local and state agency and legislative decision makers a means of identifying gaps and duplication in educational service, creates confidence in the efforts of the district, increases the productivity of trained graduates, and provides a means of insuring effective occupational grading.
>
> Studies of this type are particularly helpful to advisory committees. When a committee has substantial data about graduates, it frequently is in a better position to interpret findings and recommend changes in employment practices, as well as to recommend changes in curriculum, instruction, or

> other services. When the bonds of partnership between the school and industry are strengthened in this way, all who are involved benefit, especially the students.

It is important to recognize the increasing demand of substantiating the worth of vocational programming to students, parents, legislators and a host of other people. One method used to measure a program's worth would be to take a look at the graduates of that vocational program and determine their employability. Henard (1978, 4) feels that:

> Accountability demands on institutions of higher education increasingly focus on outcomes of the educational process related to the income and employment potential for degree recipients. The survey of graduates of colleges or universities can provide valuable information about these outcomes and the other benefits that result from the educational experience.

People are much more receptive to claims that can be backed-up by fact rather than that old standby the "educated guess". Pospesel (1975, 8) stated that "our state legislature has been very appreciative of the data we have been able to provide through the Minnesota Vocational Follow-Up study. Hard data is much more convincing than claims or generalities".

Some researchers including Headrick (1977, 6) are puzzled at the lack of concern for the information gathering potential of follow-up studies.

> It seems rather incredible in a nation that places considerable emphasis on the development and maintenance of quality products and services in business and industry, that relatively little attention has been given to educational "products". Certainly, the use of follow-up data for comparative purposes has helped improve the quality of some programs and consequentially its graduates.

There are many examples of the ways that follow-up studies have provided useful information from which to make a change in programming. Headrick (1977, 15) has listed several excellent examples from which

the following was extracted.

> Enrollments in a machinist program at a small vocational school had been steadily declining for three successive years and had reached such a low level that the entire program was about to be phased out. While considering the fate of the program, the director checked follow-up information to note if any trends might appear. Student comments revealed that many graduates complained of poor facilities and the use of obsolete, run-down equipment. Employer data indicated that most graduates had to be extensively retrained, apparently due to minimal skill training within the program. Additional checks of employment trends and graduate placements, however, revealed that a definite need for machinists existed in the community.
>
> Through consultations with other administrators and representatives from the State Department of Education, a decision was reached to attempt to revise and update the program. A state grant was obtained to aid in the revision of curricular material, and a federal grant was also awarded to increase funding for new equipment and facilities. Input from the local vocational advisory committee was elicited and utilized during the rennovation of the program. The program now places a very high percentage of its graduates in jobs for which they are trained, and negative comments about the program have markedly decreased.

Planning educational change is a major area in which follow-up information can play a vital role. Henard (1978, 4) stated that "Just as outcomes data has become important for accountability purposes, it can also provide information for academic planning and for decision-making about resource allocation".

It is a fact that some decisions are made without the use of available information. "Decisions are being made and will continue to be made without regard for the availability of information to support or to assist in decision making. Decisions do not wait until information comes along - problems are solved and questions answered as they occur." (Stevenson, Bowers and Morton, 1978, 123) An effective data collection system, including follow-up data, would provide planners and decision makers with the type of information to make the best possible decision

in any given situation.

It appears to this researcher and to many others that decision makers and planners will be forced more and more to operate with the use of some type of data information system. Seitz (1978, 1-2) sums this up well when he states that:

> The signs for the future seem clear. If, as the evidence indicates, higher education has entered an era which will become increasingly marked by tight budgets, competition for enrollment, and both faltering and failing institutions, then intrainstitutional competition for dollars and students among departments and programs will increase just as surely as competition for those essentials will continue to increase among the institutions. At the same time, many who have viewed with complacency the demand for accountability in performance will come to realize the impact of the public outcry. Faculty, program planners, and of course college presidents who are either unwilling or unable to do the rigorous planning required and to establish strict performance standards for their areas of responsibility may soon find their security threatened by those in the market aspiring to do the job. More and more the judgements of educators will be held in open review, and the acceptable margin of error for decisions made will correspondingly diminish. The achievement of probable, appropriate results may soon be the common standard of evaluation.

Planning educational change is a major area in which follow-up information can play a vital role. Henard (1978, 4) stated that "Just as outcomes data has become important for accountability purposes, it can also provide information for academic planning and for decision-making about resource allocations". Moss and Pucel (1978, 49) define planning as "The process of making decisions about future actions . . . It is a process that uses information in an organized, rational way to make decisions about the future which are designed to attain desired ends more efficiently".

Various decision-making models have been developed throughout the years in an effort to bring some reliability and effectiveness into

program planning. Seitz (1978, 5) in a speech at the annual conference of the American Association of Community and Junior Colleges stated that "the planner should keep informed by continually gathering and interpreting information". Seitz goes on to state that program planning entails two basic components. 1) Data gathering and 2) decisions based upon information collected. Data gathering would undoubtedly encompass the use of follow-up surveys to determine what has happened to program completers and their perceptions of their recently completed educational programs.

Summation - Using Follow-Up Data

The decision to conduct a follow-up study should be made only after serious consideration is given to the question of how the collected data can be utilized to bring about change in the educational process. Data that is only collected to meet legal requirements or in an attempt to "prove" a program's worth is not being utilized to its fullest extent. Worse yet would be data that is collected and never utilized at all.

Follow-up surveys can provide information to aid new students in career decision making, to allow instructors feedback on course content and teaching methods, to assist administrators in making decisions, to help local, state and federal agencies in providing proper educational programming, and to allow advisory committees to recommend changes in the existing curriculum. The list of possibilities goes on and on.

The central core thread that runs through most of these uses is the area of planning. Follow-up studies provide valuable information that is needed for effective decision making. It is important to note that

this information needs to be "on hand" and ready for the decision maker. There is not enough time to develop an instrument and collect data in order to meet the decision maker's needs for today's problems. An established data collection system, of which follow-up is a part, needs to be in operation so that data is continually ready when needed.

With declining enrollments, tight money, and continued demands for accountability, edcational decision makers will require as much information as possible on which to base their determinations. Follow-up studies can provide one important segment of this information system.

CHAPTER 3

RESEARCH PROCEDURES

The survey instrument and all correspondence material were developed by the researcher in the capacity of Program Director, STAA, Ferris State College. These items were developed to meet the needs of the School, and as such, their design was not part of this study. The author does believe, however, that a brief explanation of the steps followed in the development of the questionnaire and cover letters will add greater understanding to the remainder of this study.

The following steps were utilized by the Program Director of the STAA in the development of the follow-up system.

1. Establish Goals and Objectives. The first task, after the decision to develop the follow-up study, was to develop a listing of goals and objectives. This provided a "road map" for the remainder of the developmental portion of the follow-up project.

2. Review Literature. The Program Director did a complete review of the literature including a:

   a) computerized ERIC search
   b) computerized dissertation search
   c) review of the Michigan State University and Ferris State College card catalogs

The literature review provided a sound educational basis upon which the current Technical and Applied Arts follow-up system was developed.

3. Develop Questionnaire. The questionnaire was developed with input from students, faculty and administrators to elicit information based upon the goals and objectives set for the study.

4. Determine Face Validity of the Instrument. The questionnaire was reviewed by all faculty and administrative members within the School of Technical and Applied Arts. In addition, a sample of advance level students were asked to complete the instrument and comment on the layout, question design, ambiguity of questions and sensitivity of questions. The final questionnaire reflects changes as indicated by the reviewers.

5. Write Cover Letter and Other Correspondence Material. There were five pieces of correspondence developed for this study. (Sample letters in Appendix B)

a) An alert letter - to notify graduate that the questionnaire was coming and allow them to notify the STAA of their current address through an enclosed address change postcard.

b) First cover letter - introducing the follow-up study and questionnaire.

c) Thank you/reminder - to thank those graduates who complete and return the questionnaire and remind those who have not yet done so.

d) Second cover letter - a second letter reintroducing the instrument and urging the graduate to complete and return the questionnaire.

e) Second reminder - a final letter to those who have not yet completed and returned the instrument.

6. Develop Computerized Analysis System. A program was developed to analyze and print the results of the returned questionnaires.

Instrumentation

The Researcher developed and utilized the following list of general objectives to serve as a guide for the development of the continuous student follow-up system. These objectives were approved by and meet the felt needs of, the administration within the STAA.

1. To determine the career patterns of Technical and Applied Arts graduates.
   a) Determine descriptive information (sex, age, area of residence, graduation date, degree received, program completed)
   b) Determine employment status
   c) Determine job satisfaction
   d) Determine number of jobs held since graduation
   e) Determine approximate salary
   f) Determine continuing education status
2. To determine the adequacy of Technical and Applied Arts programming in preparing individuals for employment.
   a) Determine how well Technical and Applied Arts prepared the graduate for employment
   b) Determine rate of advancement
   c) Determine graduate's opinion of instruction received at Ferris State College in light of present employment conditions
   d) Determine the extent to which the equipment the graduate uses on the job matches that which was used for training at Ferris State College
   e) Determine whether employment is related to training taken at Ferris State College
   f) Determine if graduate would still select to attend Ferris State College
3. To determine the adequacy of ancillary services provided to

Technical and Applied Arts graduates by Ferris State College.

a) Determine how they found their present job

b) Determine how helpful the graduate's academic advisor was in program planning

c) Determine how the graduate rates the quality of the ancillary services provided by Ferris State College

d) Determine how the graduate perceives the basic educational skills components of their Ferris State College program

4. To emphasize the primary objectives of the School of Technical and Applied Arts to administrators, faculty, staff, students and other interested personnel.

a) Analyze data and make results known to all Technical and Applied Arts personnel

b) Develop recommendations, based upon data, that will aid the School of Technical and Applied Arts to improve the curriculum

c) Provide data useful to both short and long term planning

5. Develop a follow-up survey format and computerized analysis program that will allow for the continual monitoring of Technical and Applied Arts graduates.

a) Develop all necessary forms for the follow-up program

b) Have a computer program developed to read, analyze and provide a print-out of follow-up questionnaire data

c) Develop a guidebook explaining the follow-up program that will allow the School of Technical and Applied Arts to continually monitor graduates

The instrument was divided into five sections. Each section was designed to elicit information in a particular area of interest to the School of Technical and Applied Arts.

Section 1, "Personal Information", was designed to gather general information regarding the graduates age, sex, area of residence, gradu-

ation date, present status, program completed and degree received.

Section 2, "Further Education", was designed to seek information from graduates who are presently or have previously been enrolled in some type of further education program. This section is only concerned with the type of school or program that the graduate is/was attending.

Section 3, "Employed", was designed to obtain information from only those graduates who are employed. This section looked at general information about employment as well as the relationship between employment and experiences gained at Ferris. Information regarding equipment used on the job as compared to that used at Ferris was also requested.

Section 4, "Instruction", was designed to gather information regarding the graduates' perceptions of the instructors and instruction received at Ferris.

Section 5, "Ancillary Services", was designed to allow graduates to rate the quality of such college-wide services as job placement and professional organizations for the students in Technical and Applied Arts. This section also sought information regarding the former students' perceptions concerning the quality and quantity of basic educational skills received at Ferris State College. A general comments section was provided to allow former students the opportunity to express additional comments or concerns not covered on the questionnaire.

The instrument was printed on a single sheet of 11" x 17" paper that was folded in two so as to form a standard 8½" x 11" format that provides two pages front and back or a total of four sides. It was printed on light green colored paper.

A sample survey instrument is provided in Appendix A.

Data Gathering

Every student who graduates from the STAA must process their graduation request through the Dean's Office. A part of the graduation clearance form requests name and address for mailing of diplomas. These records were available for use with the follow-up study. The School also works closely with the Alumni Office and has access to their files for purposes of updating mailing lists.

Graduates received advance notice about the follow-up study through an alert notice sent during November, 1978. This notice, shown in Appendix B, served two purposes; first, to notify graduates that the survey instrument was coming and a brief description of the follow-up project and second, a postage paid postcard was provided for address corrections from those graduates whose addresses were different from the information the STAA had on file.

The exact mailing sequence is shown in Figure 1.

Figure 1

Mailing Sequence of Follow-Up Survey

Date	Event
November 1978	First Mailing
	Alert Notice
Jan. 5, 1979	Second Mailing
	a) Questionnaire b) Cover Letter
Jan. 17, 1979	Third Mailing
	Thank you/reminder

Figure 1 (cont'd.)

Jan. 24, 1979 — Fourth Mailing

New questionnaire and cover letter to non-respondents

Feb. 2, 1979 — Fifth Mailing

Reminder to non-respondents with cut off date of February 9, 1979

The STAA follow-up survey was designed to be implemented one year after a student's graduation. The Fall Quarter, 1977, graduates completed their programs just before Thanksgiving of 1977. Since the Christmas season is not considered an acceptable time to be conducting a mail survey, the initial survey instrument was not mailed until just after January 1, 1978. The cover letter (Appendix B) and survey instrument (Appendix A) were mailed to the 93 Fall 1977 graduates to arrive at the beginning of the second week of January 1979.

A Ferris State College "Bulldog" lapel pin was enclosed with the initial questionnaire as an incentive and gift of appreciation for graduates to complete and return the instrument.

Population

The student follow-up survey was implemented beginning with the entire Fall 1977 graduating class of the STAA. Ninety-three students graduated that quarter and were all included in the survey. This group included ten students who earned Bachelor degrees, seventy-eight who earned Associate degrees and five who earned Certificates. An exact breakdown is shown in Table 1.

Table 1

Fall Quarter Actual Graduation List, 1977

Bachelor Degrees
N = 10

Program	Number
Automotive and Heavy Equipment Technology	7
Broadcast Electronics Technology	1
Printing Management	2

Associate of Applied Science Degrees
N = 78

Program	Number
Automotive Service	28
Heavy Equipment Service	17
Architectural Drafting	1
Building Construction Technology	6
Highway Technology	1
Refrigeration, Heating and Air Conditioning	9
Surveying	3
Industrial Electronics Technology	1
Radio-Television Service	1
Cosmetology	2
General Printing	6
Machine Tool	1
Occupational Safety and Health	1
Technical Drafting and Tool Design	1

Table 1 (cont'd.)

Certificates
N = 5

Program	Number
Certificate in Automotive Machine	4
Certificate in Automotive Painting	1

Validity

The face validity of the instrument was checked through the use of two groups of people. First, a copy of the instrument was distributed to every faculty member (118 people) and administrators (8 people) within the STAA. These people were asked to review the instrument and determine its applicability in gathering the type of information that would prove useful to meet the goals and objectives as established for the study. This group provided several suggestions that were incorporated into the final instrument. For example:

1. Directions to Section 2 - replaced "Ferris" with "your Technical and Applied Arts Program"
2. Section 3 - Question 6 - increased salary scale from under $3.00 - over $ 8.00 to under $4.00 - over $9.00
3. Section 5 - Question 2 - changed "academic advisor" to "faculty advisor"
4. Added "thank you for your cooperation" to the end of the survey

The second group of people that reviewed the instrument were a selected group of fifth and sixth quarter students (40 people) who were

nearing graduation. They were asked to review the instrument for ambiguity and ease of answering. As with the previous group, several suggestions were incorporated into the final questionnaire.

For example:

1. Section 1 - Question 7 - added the variable "employed part/ student part"
2. Section 2 - Question 1 - added the variable "continuing at Ferris"
3. Section 5 - Question 3 - changed the word "development" to read "improvement"

The Researcher feels that these groups have added to the questionnaire's validity and that the final instrument is easier to understand and complete. Subsequently, the data more closely reflect the feelings and attitudes of the respondents.

Summary

The survey instrument and cover letters were developed by and met the needs of the STAA. The following steps were utilized in their development: 1) establishment of goals and objectives, 2) review of literature, 3) development of questionnaire, 4) determination of face validity, 5) development of cover letters, and 6) development of computer program.

The population for the study was the entire Fall Quarter, 1977 graduating class from the STAA. This group was composed of ten bachelor degree graduates, 78 associate degree graduates and five certificate graduates. Five separate mailings were utilized.

Face validity was checked with the help of the STAA administrators, faculty and a select group of students.

CHAPTER 4

FINDINGS

This chapter presents the analysis of the responses from the follow-up survey. The tables are arranged to follow in sequence with the research questions. Most tables are designed to present the number of responses (N), frequencies (F) and percentages (%) per degree level plus totals. Percentages (%) may not total 100 percent due to errors in rounding off the numbers.

Response Rate

There were 59 returned questionnaires from the 93 graduates for a response rate of 63.4 percent.

Although it was difficult to determine exactly, due to the lag time for questionnaires in the mail, the breakout of returned questionnaires was as follows:

From first mailing of instrument:	33 questionnaires	=	35%
From second mailing of instrument:	26 questionnaires	=	28%
Total returns:	59 questionnaires	=	63.4%

Background Of The Respondents

The responses came from the following degree groups: six bachelors, forty-nine associates and four certificates. In addition, fifty-three males responded compared to five females with one giving no indication of sex. Average age for the respondents were: bachelor, 22.7 years; associate, 22.4 years; and certificate, 23.0 years. Since the survey

was mailed one year after graduation, it was necessary to subtract one year from the average age given to arrive at the respondent's age at graduation. This extrapolation yielded the following ages at the time of graduation: bachelor, 21.7 years; associate, 21.4 years and certificate, 22.0 years.

Thirty-four graduates, or 36.6 percent of the total, did not return the survey instrument. While high response rates are desirable, the nonresponse factor has been studied by Leslie (1972) and he concluded (1) when surveying populations with a common group identity (e.g., parents from one school, teachers in a school district), response differences between respondents, nonrespondents, and late respondents are unlikely; and (2) the most likely exception to the above is the case when the topic overrides importance to group membership, e.g. highly personal or sensitive areas.

RESEARCH QUESTION #1: What is the current employment status of graduates?

Table 2 gives the number of responses (N), frequencies (F), and percentages (%) per degree of bachelor, associate, certificate and totals for research question number 1. The variables were (1) employed full time, (2) employed part time, (3) employed part/student part, (4) unemployed - looking, (5) unemployed - not looking, (6) full time student, (7) part time student, (8) military, (9) homemaker.

There were a total of 56 responses to this question; six responses were from bachelor degree graduates, 46 from associate degree graduates and four from certificate graduates.

All six bachelor degree graduates (100%) were employed full time while the associate degree group had 32 graduates (70%) employed full

time with 13 full time students and one employed part time. The other variables had no responses from these groups.

The certificate group had two full time students (50%) with one each in the employed full time and unemployed - not looking categories. The other variables had no responses from this group.

The majority of the graduates (70%) were employed full time. There were no responses in any degree group for the variables (3) employed part/student part, (4) unemployed - looking, (7) part time student, (8) military, or (9) homemaker.

RESEARCH QUESTION #2: Do graduates continue their formal education:

Table 3 was designed to provide the reader with the number of responses (N), frequencies (F), and percentages (%) per degree of bachelor, associate, certificate and totals for research question number 2.

There were 59 responses to this question; six responses were from bachelor degree graduates, 49 from associate degree graduates and four from the certificate graduates.

Two bachelor degree graduates (33%) continued their formal education while four (67%) had not. The associate degree group had 24 graduates (49%) continuing their formal education while 25 (51%) had not. Lastly, the certificate group had four graduates (100%) continuing their formal education.

A slight majority of the graduates (51%) had continued or were in the process of continuing their formal education.

Table 2

Current Employment Status of Graduates

Status	Degree Level							
	Bachelor		Associate		Certificate		Total	
	F	%	F	%	F	%	F	%
1) Employed full time	6	100	32	70	1	25	39	70
2) Employed part time	0	0	1	2	0	0	1	2
3) Employed part/Student part	0	0	0	0	0	0	0	0
4) Unemployed - looking	0	0	0	0	0	0	0	0
5) Unemployed - not looking	0	0	0	0	1	25	1	2
6) Full time student	0	0	13	28	2	50	15	27
7) Part time student	0	0	0	0	0	0	0	0
8) Military	0	0	0	0	0	0	0	0
9) Homemaker	0	0	0	0	0	0	0	0
N =	6		46		4		56	

Table 3

Graduates Who Continue Their Formal Education

Continued/Continuing Education	Degree Level							
	Bachelor		Associate		Certificate		Total	
	F	%	F	%	F	%	F	%
1) Yes (Continued/Continuing education)	2	33	24	49	4	100	30	51
2) No (Has not continued education)	4	67	25	51	0	0	29	49
N =	6		49		4		59	

RESEARCH QUESTION #3: What type of school or program do graduates select for further education:

Table 4 was set up to provide the number of responses (N), frequencies (F), and percentages (%) per degree of bachelor, associate, certificate, and totals for research question number 3. The variables were (1) continued at Ferris, (2) community or junior college, (3) four year college or university, (4) private school, (5) apprenticeship, (6) on-the-job training, (7) specialized occupational military training, (8) other.

There were a total of 30 responses to this question; two responses were from bachelor degree graduates, 24 from associate degree graduates and four from the certificate graduates.

The bachelor degree holders had one graduate (50%) in a community or junior college and one graduate (50%) in the on-the-job training category. The other variables had no responses from this group.

The associate degree holders had 15 graduates (63%) continuing their education at Ferris while only one graduate (4%) was at a community or junior college. The private school, apprenticeship, specialized occupational military training, and other variables had no response from this group.

The certificate holders had two graduates (50%) continuing at Ferris with one graduate (25%) each in a four year college or university and on-the-job training. The other variables had no responses from this group.

The majority of graduates (57%) continued their formal education at Ferris while only 7 percent continued at a community or junior college. There were no responses for variables (4) private school, (5) apprenticeship, (7) specialized occupational military training or (8) other.

Table 4

Type of School or Program Graduates Select for Further Education

Type of School or Program	Degree Level							
	Bachelor		Associate		Certificate		Total	
	F	%	F	%	F	%	F	%
1) Continued at Ferris	0	0	15	63	2	50	17	57
2) Community or Junior College	1	50	1	4	0	0	2	7
3) Four Year College or University	0	0	4	16	1	25	5	17
4) Private School	0	0	0	0	0	0	0	0
5) Apprenticeship	0	0	0	0	0	0	0	0
6) On-the-job Training	1	50	4	16	1	25	6	20
7) Specialized Occupational Military Training	0	0	0	0	0	0	0	0
8) Other	0	0	0	0	0	0	0	0
N =	2		24		4		30	

RESEARCH QUESTION #4: How satisfied are graduates with their present employment?

Research question number 4 is shown in Table 5 which lists the number of responses (N), frequencies (F), and percentages (%) per degree of bachelor, associate, certificate and totals. The variables were (1) very satisfied, (2) satisfied, (3) neither satisfied nor dissatisfied, (4) dissatisfied, (5) very dissatisfied.

There were a total of 44 responses to this question; six responses were from bachelor degree graduates, 37 from associate degree graduates and one from a certificate graduate.

The bachelor degree graduates had four responses (67%) in the variable very satisfied with no graduates responding neither satisfied nor dissatisfied or very dissatisfied, while the associate degree graduates had 12 responses (32%) in the variable neither satisfied nor dissatisfied with no responses for the dissatisfied variable.

The certificate group had one graduate (100%) who responded neither satisfied nor dissatisfied. There were no responses to any of the other variables.

RESEARCH QUESTION #5: Do graduates feel that their education was relevant to their current position?

Table 6 gives the number of responses (N), frequencies (F) and percentages (%) per degree of bachelor, associate, certificate and totals for research question number 5. The variables were (1) what you were trained to do at Ferris State College, (2) related to your training at Ferris State College, (3) not related to your training at Ferris State College.

There were a total of 43 responses to this question; six responses

Table 5

Satisfaction of Graduates With Their Present Employment

	Degree Level							
	Bachelor		Associate		Certificate		Total	
	F	%	F	%	F	%	F	%
1) Very Satisfied	4	67	15	41	0	0	19	43
2) Satisfied	1	17	9	24	0	0	10	23
3) Neither Satisfied nor Dissatisfied	0	0	12	32	1	100	13	30
4) Dissatisfied	1	17	0	0	0	0	1	2
5) Very Dissatisfied	0	0	1	3	0	0	1	2
N =	6		37		1		44	

were from bachelor degree graduates, 36 from associate degree graduates and one from a certificate graduate.

The bachelor degree graduates had three responses (50%) each for the variables what you were trained to do at Ferris State College and related to your training at Ferris State College. There were no responses to the variable not related to your training at Ferris State College.

The associate degree graduates had 21 responses (58%) for the variable what you were trained to do at Ferris State College with only three responses (8%) for the variable not related to your training at Ferris State College.

The certificate group had one graduate (100%) who responded to the variable what you were trained to do at Ferris State College. There were no responses to any of the other variables.

The majority of graduates (58%) responded that their employment was what they were trained to do at Ferris State College while only 7 percent felt that they were employed in an area not related to their training at Ferris State College.

RESEARCH QUESTION #6: Who was the greatest help to the graduate in securing their present employment?

The graduates' responses to research question number 6 are shown in Table 7. The number of responses (N), frequencies (F) and percentages (%) per degree of bachelor, associate, certificate and totals are given in this table. The variables were (1) friend or relative, (2) I found it myself, (3) Ferris instructor, (4) Ferris placement office, (5) private employment office, (6) state employment office, (7) other.

There were a total of 42 responses to this question; seven responses

Table 6

Graduates Feelings Concerning the Relavance of Their Education to Current Position

Relationship to FSC Training	Degree Level							
	Bachelor		Associate		Certificate		Total	
	F	%	F	%	F	%	F	%
1) Employment in major area	3	50	21	58	1	100	25	58
2) Employment related to major area	3	50	12	33	0	0	15	35
3) Employment not related to major area	0	0	3	8	0	0	3	7
N =	6		36		1		43	

were from bachelor degree graduates, 34 responses from associate degree graduates and one from a certificate graduate.

The bachelor degree graduates had two responses (29%) each to the variables friend or relative and found it themselves. There were no responses to the variables Ferris placement office or state employment office.

The associate degree graduates had 16 responses (47%) to the variable found it themselves with no one responding to the variable private employment office, while the certificate group had one graduate (100%) who responded to the variable found it themselves with no responses to any of the other variables.

The largest group of graduates (45%) found their present job by themselves while 2 percent of the graduates utilized a private employment office and 2 percent utilized the state employment office.

RESEARCH QUESTION #7: What is the approximate salary of graduates?

Table 8 gives the number of responses (N), frequencies (F) and percentages (%) per degree of bachelor, associate, certificate and totals for research question number 7. The variables were (1) under $4.00, (2) $4.01-4.50, (3) $4.51-5.00, (4) $5.01-5.50, (5) $5.51-6.00, (6) $6.01-6.50, (7) $6.51-7.00, (8) $7.01-7.50, (9) $7.51-8.00, (10) $8.01-8.50, (11) $8.51-9.00, (12) over $9.00.

There were a total of 41 responses to this question; four responses were from bachelor degree graduates, 36 responses from associate degree graduates and one from a certificate graduate.

The bachelor degree graduates had one response (25%) each to the variables $4.01-4.50, $5.01-5.50, $8.01-8.50 and over $9.00. There were

Table 7

The Greatest Help to the Graduate in Securing Their Present Employment

Help in Securing Employment	Degree Level							
	Bachelor		Associate		Certificate		Total	
	F	%	F	%	F	%	F	%
1) Friend or Relative	2	29	11	32	0	0	13	31
2) Found it Themselves	2	29	16	47	1	100	19	45
3) Ferris Instructor	1	14	1	3	0	0	2	5
4) Ferris Placement Office	0	0	4	12	0	0	4	9
5) Private Employment Office	1	14	0	0	0	0	1	2
6) State Employment Office	0	0	1	3	0	0	1	2
7) Other	1	14	1	3	0	0	2	5
N =	7		34		1		42	

no responses to any of the other variables.

The associate degree graduates had six responses (17%) each to the variables $5.01-5.50 and $7.51-8.00. There were no responses to the variable $6.51-7.00.

The certificate group had one graduate (100%) who responded to the variable $4.01-4.50. The other variables had no responses.

The salary for graduates varied widely with the largest group being seven graduates (17%) who marked the variable $5.01-5.50. There were no responses to the variable $6.51-7.00.

RESEARCH QUESTION #8: What is the relationship between the graduate's current salary and method used to find present employment?

There were a total of five bachelor degree graduates who responded to this question. Two graduates (40%) found their present employment through a friend or relative. One of these responded to the variable $4.01-4.50 and the other responded to the variable $7.51-8.00. There were no responses to any of the other variables for this method.

One graduate (20%) found their present employment by themselves. The single response was to the variable $5.01-5.50.

One graduate (20%) found their present employment through a Ferris instructor. The response was to the variable over $9.00.

One graduate (20%) found their present employment through a private employment office. The single response was to the variable $8.01-8.50.

There were no bachelor graduates who found their present employment through the Ferris placement office, private employment, state employment office, or other means.

The small number of bachelor graduates does not provide sufficient

Table 8

The Approximate Salary of Graduates

Salary		Degree Level							
Hourly	Monthly	Bachelor		Associate		Certificate		Total	
		F	%	F	%	F	%	F	%
1) Under - $4.00	Under - $688	0	0	4	11	0	0	4	10
2) $4.01 - $4.50	$689 - $774	1	25	1	3	1	100	3	7
3) $4.51 - $5.00	$775 - $860	0	0	4	11	0	0	4	10
4) $5.01 - $5.50	$861 - $946	1	25	6	17	0	0	7	17
5) $5.51 - $6.00	$947 - $1032	0	0	5	14	0	0	5	12
6) $6.01 - $6.50	$1033 - $1118	0	0	2	6	0	0	2	5
7) $6.51 - $7.00	$1119 - $1204	0	0	0	0	0	0	0	0
8) $7.01 - $7.50	$1205 - $1290	0	0	1	3	0	0	1	2
9) $7.51 - $8.00	$1291 - $1376	0	0	6	17	0	0	6	15
10) $8.01 - $8.50	$1377 - $1462	1	25	2	6	0	0	3	7
11) $8.51 - $9.00	$1463 - $1548	0	0	3	8	0	0	3	7
12) Over - $9.00	Over - $1548	1	25	2	6	0	0	3	7
	N =	4		36		1		41	

information from which to establish generalities about current salary based upon means used to find employment.

Table 9 gives the number of responses (N), frequencies (F) and percentages (%) of the associate degree graduates for research question number 8. The row variables were (1) under $4.00, (2) $4.01-4.50, (3) $4.51-5.00, (4) $5.01-5.50, (5) $5.51-6.00, (6) $6.01-6.50, (7) $6.51-7.00, (8) $7.01-7.50, (9) $7.51-8.00, (10) $8.01-8.50, (11) $8.51-9.00, (12) over $9.00. The column variables were (1) friend or relative, (2) found it themselves, (3) Ferris instructor, (4) Ferris placement office, (5) private employment office, (6) state employment office, (7) other.

There were a total of 34 responses. Ten graduates (29%) found their present employment through a friend or relative. Three variables had responses from two graduates each (20%); one group was in the under $4.00 range, one in the $5.51-6.00 range and one in the $8.51-9.00 range. There were no responses to the variables $4.01-4.50, $5.01-5.50, $6.51-7.00, $7.01-7.50, and $8.01-8.50.

Sixteen (16) graduates (47%) found their present employment by themselves. Two variables had responses from three graduates each (19%); one group was in the $5.01-5.50 range and one group was in the $7.51-8.00 range. There were no responses to the variables $6.51-7.00, and over $9.00.

One graduate (3%) found their present employment through a Ferris instructor. The single response was to the variable $5.01-5.50.

Five graduates (15%) found their present employment through the Ferris placement office. Two graduates (40%) responded to the variable $5.01-5.50. There were no responses to the variables under $4.00, $4.01-4.50, $5.51-6.00, $6.01-6.50, $6.51-7.00, $7.01-7.50, $8.01-8.50, or

$8.51-9.00.

One graduate (3%) found their present employment through a state employment office. The single response was to the variable $4.51-5.00.

One graduate (3%) found their present employment through some means other than those listed on the instrument. The single response was to the variable $5.51-6.00.

There were no associate graduates who found their present employment through a private employment office.

There were more associate graduates who found their present employment by themselves (47%) than by any other means. The least used methods were Ferris instructors, state employment offices, or other means all with one graduate apiece. There is not sufficient data from which to establish any possible relationship between current salary and method used to find present employment.

There was only one certificate graduate who responded to research question number 8. The single response was from a graduate who found their present employment by themselves and who responded to the variable $4.01-4.50.

The small number of certificate graduates does not provide sufficient information from which to establish generalities about current salary based upon means used to find employment.

The composite of all the graduates from the STAA in regard to research question number 8 is shown in Table 10 which gives the number of responses (N), frequencies (F) and percentages(%).

There were a total of 40 responses. Twelve graduates (30%) found their present employment through a friend or relative. Four variables had responses from two graduates each (17%); one group for each of the

Table 9

The Relationship Between the Associate Degree Graduates' Current Salaries and Method Used to Find Present Employment

Salary		Method Used to Find Present Employment													
		Friend or Relative		Found it Themselves		Ferris Instructor		Ferris Placement Office		Private Employment Office		State Employment Office		Other	
Hourly	Monthly	F	%	F	%	F	%	F	%	F	%	F	%	F	%
1) Under - $4.00	Under - $688	2	20	2	13	0	0	0	0	0	0	0	0	0	0
2) $4.01 - $4.50	$689 - $774	0	0	1	6	0	0	0	0	0	0	0	0	0	0
3) $4.51 - $5.00	$775 - $860	1	10	1	6	0	0	1	20	0	0	1	100	0	0
4) $5.01 - $5.50	$861 - $946	0	0	3	19	1	100	2	40	0	0	0	0	0	0
5) $5.51 - $6.00	$947 - $1032 ...	2	20	2	13	0	0	0	0	0	0	0	0	1	100
6) $6.01 - $6.50	$1033 - $1118 ...	1	10	1	6	0	0	0	0	0	0	0	0	0	0
7) $6.51 - $7.00	$1119 - $1204 ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8) $7.01 - $7.50	$1205 - $1290 ...	0	0	1	6	0	0	0	0	0	0	0	0	0	0
9) $7.51 - $8.00	$1291 - $1376 ...	1	10	3	19	0	0	1	20	0	0	0	0	0	0
10) $8.01 - $8.50	$1377 - $1462 ...	0	0	1	6	0	0	0	0	0	0	0	0	0	0
11) $8.51 - $9.00	$1463 - $1548 ...	2	20	1	6	0	0	0	0	0	0	0	0	0	0
12) Over - $9.00	Over - $1548 ...	1	10	0	0	0	0	1	20	0	0	0	0	0	0
	N =	10		16		1		5		0		1		1	

following variables; under $4.00, $5.51-6.00, $7.51-8.00, and $8.51-9.00. There were no responses to the variables $5.01-5.50, $6.51-7.00, $7.01-7.50, and $8.01-8.50.

Eighteen graduates (45%) found their present employment by themselves. Four graduates (22%) responded to the variable $5.01-5.50. There were no responses to the variables $6.51-7.00 or over $9.00.

Two graduates (5%) found their present employment through a Ferris instructor. One response was recorded to the variable $5.01-5.50 and one response to variable over $9.00.

Five graduates (13%) found their present employment through the Ferris placement office. Two graduates (40%) responded to variable $5.01-5.50 while one apiece (20%) responded to the variables $4.51-5.00, $7.51-8.00, and over $9.00.

One graduate (3%) found their present employment through a private employment office. The single response (100%) was to the variable $8.01-8.50.

One graduate (3%) found their present employment through a state employment office. The single response (100%) was to the variable $4.51-5.00.

One graduate (3%) found their present employment through some means other than those listed on the instrument. The single response was to the variable $5.51-6.00.

Close to half (45%) of the total graduated group found their present employment by themselves. There is, however, a wide diversity in methods used by graduates to secure employment.

Table 10

The Relationship Between All of the STAA Graduates' Current Salaries and Method Used to Find Present Employment

Salary		Method Used to Find Present Employment													
Hourly	Monthly	Friend or Relative		Found it Themselves		Ferris Instructor		Ferris Placement Office		Private Employment Office		State Employment Office		Other	
		F	%	F	%	F	%	F	%	F	%	F	%	F	%
1) Under - $4.00	Under - $688	2	17	2	11	0	0	0	0	0	0	0	0	0	0
2) $4.01 - $4.50	$689 - $774	1	8	2	11	0	0	0	0	0	0	0	0	0	0
3) $4.51 - $5.00	$775 - $860	1	8	1	6	0	0	1	20	0	0	1	100	0	0
4) $5.01 - $5.50	$861 - $946	0	0	4	22	1	50	2	40	0	0	0	0	0	0
5) $5.51 - $6.00	$947 - $1032 ...	2	17	2	11	0	0	0	0	0	0	0	0	1	100
6) $6.01 - $6.50	$1033 - $1118 ...	1	8	1	6	0	0	0	0	0	0	0	0	0	0
7) $6.51 - $7.00	$1119 - $1204 ...	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8) $7.01 - $7.50	$1205 - $1290 ...	0	0	1	6	0	0	0	0	0	0	0	0	0	0
9) $7.51 - $8.00	$1291 - $1376 ...	2	17	3	17	0	0	1	20	0	0	0	0	0	0
10) $8.01 - $8.50	$1377 - $1462 ...	0	0	1	6	0	0	0	0	1	100	0	0	0	0
11) $8.51 - $9.00	$1463 - $1548 ...	2	17	1	6	0	0	0	0	0	0	0	0	0	0
12) Over - $9.00	Over - $1548 ...	1	8	0	0	1	50	1	20	0	0	0	0	0	0
	N =	12		18		2		5		1		1		1	

RESEARCH QUESTION #9: How do graduates rate the equipment and facilities at Ferris as compared to the equipment and facilities found in their place of employment?

Table 11 gives the number of responses (N), frequencies (F) and percentages (%) per degree of bachelor, associate, certificate and totals for research question number 9. The variables were (1) facilities and equipment at Ferris were superior to those on the job, (2) facilities and equipment at Ferris were similar to those on the job, (3) facilities and equipment at Ferris were inferior to those on the job.

There were a total of 41 responses to this question; four responses were from bachelor degree graduates, 36 from associate degree graduates and one from certificate graduates.

Three of the bachelor graduates (75%) felt that the facilities and equipment at Ferris were similar to those found on the job while one graduate (25%) felt that they were superior to those found on the job. There were no responses to the other variable.

Twenty-six of the associate graduates (72%) felt that the facilities and equipment at Ferris were similar to those found on the job while five graduates (14%) felt that they were superior and five graduates (14%) felt that they were inferior to those found on the job.

The single certificate graduate felt that the facilities and equipment at Ferris were inferior to those found on the job.

The majority of graduates (86%) felt that the facilities and equipment at Ferris were similar or superior to those found on the job.

To further clarify research question number 9, the researcher has provided Table 12 which takes a look at why the respondents selected variable three (facilities and equipment at Ferris were inferior to

Table 11

Graduates' Rating of the Equipment and Facilities at Ferris as Compared to the Equipment and Facilities Found in Their Place of Employment

	Degree Level							
	Bachelor		Associate		Certificate		Total	
	F	%	F	%	F	%	F	%
1) Facilities and equipment at Ferris were superior to those on the job	1	25	5	14	0	0	6	15
2) Facilities and equipment at Ferris were similiar to those on the job	3	75	26	72	0	0	29	71
3) Facilities and equipment at Ferris were inferior to those on the job	0	0	5	14	1	100	6	15
N =	4		36		1		41	

those on the job) from the previous table (Table 11).

The number of responses (N), frequencies (F) and percentages (%) per degree of bachelor, associate, certificate and totals are given. The variables were (1) facilities and equipment at Ferris were obsolete, (2) facilities and equipment at Ferris were in need of repair, (3) facilities and equipment at Ferris were not of the quality that you use on the job, (4) facilities and equipment at Ferris were not available in sufficient quantities to allow adequate availability to students, (5) other. This table examines the motive for those who marked variable (3) on Table 11.

There were a total of six responses to this question, all of which came from associate degree graduates. Three graduates (50%) responded to the variable other with two graduates (33%) responding that the facilities and equipment at Ferris were obsolete. One graduate (17%) responded that the facilities and equipment at Ferris were not of the quality that they used on the job.

The low number of responses makes any type of meaningful analysis impossible.

RESEARCH QUESTION #10: How do graduates rate the teaching quality of the instructors they had in their major labs or shops?

The graduates' responses to research question number 10 are shown in Table 13 which provides the following information: number of responses (N), frequencies (F) and percentages (%) per degree of bachelor, associate, certificate and totals. The variables were (1) most of the instructors taught very well, (2) about the same number taught well as did not, (3) most of the instructors did not teach well.

Table 12

Reasons Given for the Inferior Rating of the Equipment and Facilities at Ferris as Compared to the Equipment and Facilities Found in the Raters Place of Employment

	Degree Level							
	Bachelor		Associate		Certificate		Total	
	F	%	F	%	F	%	F	%
1) Facilities and equipment at Ferris were obsolete	0	0	2	33	0	0	2	33
2) Facilities and equipment at Ferris were in need of repair	0	0	0	0	0	0	0	0
3) Facilities and equipment at Ferris were not of the quality that were used on the job ..	0	0	1	17	0	0	1	17
4) Facilities and equipment at Ferris were not available in sufficient quantities to allow adequate availability to students	0	0	0	0	0	0	0	0
5) Other	0	0	3	50	0	0	3	50
N =	0		6		0		6	

There were a total of 59 responses to this question; six responses were from bachelor degree graduates, 49 from associate degree graduates and four from certificate graduates.

Three bachelor degree graduates (50%) responded that most of the instructors taught very well with the remaining three graduates (50%) responding that about the same number taught well as did not.

Thirty-seven associate degree graduates (76%) responded that most of the instructors taught very well while only one graduate (2%) felt that most of the instructors did not teach well.

Three certificate graduates (75%) responded that most of the instructors taught very well. The remaining certificate graduate responded that about the same number taught well as did not.

The majority of graduates (73%) felt that most of the instructors in their major laboratories and shops taught very well while only one graduate (2%) felt that most of the instructors did not teach well.

RESEARCH QUESTION #11: How do graduates rate the extent to which their major lab/shop instructors were up-to-date in their area of expertise?

Table 14 gives the number of responses (N), frequencies (F) and percentages (%) per degree of bachelor, associate, certificate and totals for research question number 11. The variables were (1) most instructors were up-to-date, (2) about the same number were up-to-date as were not, (3) most instructors were not up-to-date.

There were a total of 58 responses to this question; six responses were from bachelor degree graduates, 48 from associate degree graduates and four from certificate graduates.

Three bachelor degree graduates (50%) responded that most instruc-

Table 13

Graduates' Rating of the Teaching Quality of the Instructors
They Had in Their Major Laboratories and Shops

	Degree Level							
	Bachelor		Associate		Certificate		Total	
	F	%	F	%	F	%	F	%
1) Most of the instructors taught very well	3	50	37	76	3	75	43	73
2) About the same number taught well as did not ..	3	50	11	22	1	25	15	25
3) Most of the instructors did not teach well	0	0	1	2	0	0	1	2
N =	6		49		4		59	

tors were up-to-date with the remaining three graduates (50%) responding that about the same number were up-to-date as were not.

Thirty-six associate degree graduates (75%) responded that most instructors were up-to-date while only one graduate (2%) felt that most instructors were not up-to-date.

Three certificate graduates (75%) responded that most instructors were up-to-date while only one graduate (25%) felt that about the same number were up-to-date as were not.

The majority of graduates (72%) felt that most instructors were up-to-date in their area of expertise while only one graduate (2%) felt that most instructors were not up-to-date.

RESEARCH QUESTION #12: How do graduates rate the quality of ancillary services offered by Ferris State College?

Table 15 is designed to provide the reader with the following information: number of responses (N), frequencies (F), and percentages (%) for the bachelor degree graduates' responses to research question number 12. The row variables were (1) job placement, (2) counseling with personal problems, (3) help in making career decisions, (4) help in securing part time employment, (5) help in obtaining financial assistance, (6) professional organizations, (7) study, library and other learning resource facilities, (8) student developmental services. The column variables were (1) good, (2) adequate, (3) poor, and (4) no opinion.

Six bachelor degree graduates responded to each row variable for question number 12.

Three graduates (50%) felt that job placement was good while one graduate (17%) felt it was adequate. Two graduates (33%) had no opinion about this service.

Table 14

Graduates' Rating of the Extent to Which Their Major Laboratory/Shop Instructors Were Up-To-Date in Their Area of Expertise

	Degree Level							
	Bachelor		Associate		Certificate		Total	
	F	%	F	%	F	%	F	%
1) Most instructors were up-to-date	3	50	36	75	3	75	42	72
2) About the same number were up-to-date as were not	3	50	11	23	1	25	15	26
3) Most instructors were not up-to-date	0	0	1	2	0	0	1	2
N =	6		48		4		58	

Four graduates (67%) felt that counseling with personal problems was adequate while one graduate (17%) had no opinion about this service.

Two graduates (33%) felt that help in making career decisions was adequate while one graduate each (17%) felt that this service was either good or poor. Two graduates (33%) had no opinion concerning this service.

Five graduates (83%) felt that help in securing part time employment was good while one graduate (17%) felt it was poor.

Three graduates (50%) felt that help in obtaining financial assistance was good while three graduates (50%) had no opinion concerning this service.

Four graduates (67%) felt that professional organizations were good while two graduates (33%) felt it was adequate.

Six graduates (100%) felt that study, library and other learning resource facilities were good.

Four graduates (67%) felt that student developmental services were good while one graduate (17%) felt it was poor. One graduate (17%) had no opinion concerning this service.

There were a total of 26 responses from bachelor degree graduates (54%) rating ancillary services as good, nine responses (19%) rating them as adequate and four responses (8%) rating them as poor. There were a total of nine responses (19%) indicating no opinion concerning the quality of ancillary services.

Table 16 gives the number of responses (N), frequencies (F) and percentages (%) of the associate degree graduates responses to research question number 12. Row and column variables are the same as in Table 15 (bachelor degree group).

Table 15

Bachelor Degree Graduates' Ratings of the Quality of Ancillary Services Offered by Ferris State College

Ancillary Service	Good		Adequate		Poor		No Opinion		
	F	%	F	%	F	%	F	%	N
1) Job placement	3	50	1	17	0	0	2	33	6
2) Counseling with personal problems	0	0	4	67	1	17	1	17	6
3) Help in making career decisions	1	17	2	33	1	17	2	33	6
4) Help in securing part time employment	5	83	0	0	1	17	0	0	6
5) Help in obtaining financial assistance	3	50	0	0	0	0	3	50	6
6) Professional organizations	4	67	2	33	0	0	0	0	6
7) Study, library and other learning resource facilities	6	100	0	0	0	0	0	0	6
8) Student developmental services	4	67	0	0	1	17	1	17	6
Total Rating of Ancillary Services =	26	54	9	19	4	8	9	19	

Forty-nine associate degree graduates responded to each row variable for research question number 12.

Nineteen graduates (39%) felt that job placement was good while five graduates (10%) felt it was poor. Fourteen graduates (29%) had no opinion about this service.

Eighteen graduates (37%) felt that counseling with personal problems was adequate while three graduates (6%) felt it was good. Twenty-three graduates (47%) had no opinion about this service.

Eighteen graduates (37%) felt that help in making career decisions was adequate while five graduates (10%) felt it was good. Fifteen graduates (31%) had no opinion about this service.

Thirteen graduates (27%) felt that help in securing part time employment was adequate while ten graduates (20%) each rated this service good or poor. Sixteen graduates (33%) had no opinion about this service.

Eleven graduates (22%) felt that help in obtaining financial assistance was poor while nine graduates (18%) felt this service was good. Nineteen graduates (39%) had no opinion about this service.

Fourteen graduates (29%) felt that professional organizations were adequate while five graduates (10%) felt it was poor. Twenty-one graduates (43%) had no opinion about this service.

Twenty-eight graduates (57%) felt that study, library and other learning resource facilities were good while only one graduate (2%) felt they were poor. Four graduates (8%) had no opinion about this service.

Seventeen graduates (35%) felt that student developmental services were good while fourteen graduates (29%) felt that they were adequate. Eighteen graduates (37%) had no opinion concerning this service.

There were a total of 100 responses from Associate degree graduates

Table 16

Associate Degree Graduates' Ratings of the Quality of Ancillary Services Offered by Ferris State College

Ancillary Service	Good		Adequate		Poor		No Opinion		
	F	%	F	%	F	%	F	%	N
1) Job placement	19	39	11	22	5	10	14	29	49
2) Counseling with personal problems	3	6	18	37	5	10	23	47	49
3) Help in making career decisions	5	10	18	37	11	22	15	31	49
4) Help in securing part time employment	10	20	13	27	10	20	16	33	49
5) Help in obtaining financial assistance	9	18	10	20	11	22	19	39	49
6) Professional organizations	9	18	14	29	5	10	21	43	49
7) Study, library and other learning resource facilities	28	57	16	33	1	2	4	8	49
8) Student developmental services	17	35	14	29	0	0	18	37	49
Total Rating of Ancillary Services =	100	26	114	29	48	12	130	33	

(26%) rating ancillary services good, 114 responses (29%) rating them as adequate and 48 responses (12%) rating them as poor. There were a total of 130 responses (33%) indicating no opinion concerning the quality of ancillary services.

Table 17 gives the number of responses (N), frequencies (F) and percentages (%) of the certificate graduates responses to research question number 12. The row and column variables are the same as for the bachelor degree group (Table 15).

Four certificate graduates responded to each row variable for research question number 12.

Two graduates (50%) felt that job placement was good while one graduate (25%) felt it was poor. One graduate (25%) had no opinion concerning this service.

Two graduates (50%) felt that counseling with personal problems was adequate while one graduate (25%) felt it was poor. One graduate (25%) had no opinion concerning this service.

Three graduates (75%) felt that help in making career decisions was poor while one graduate (25%) felt it was good.

Two graduates (50%) felt that help in securing part time employment was poor while one graduate (25%) felt it was good. One graduate (25%) had no opinion concerning this service.

Two graduates (50%) felt that help in obtaining financial assistance was poor while one graduate (25%) felt it was good. One graduate (25%) had no opinion concerning this service.

One graduate (25%) felt that professional organizations were good and one graduate (25%) felt that they were adequate. Two graduates (50%) had no opinion concerning this service.

Two graduates (50%) felt that study, library and other learning resource facilities were good while one graduate (25%) felt they were adequate. One graduate (25%) had no opinion concerning this service.

Two graduates (50%) felt that student developmental services were adequate while one graduate (25%) felt it was good. One graduate (25%) had no opinion concerning this service.

There were a total of nine responses from certificate graduates (28%) rating ancillary services as good, six responses (19%) rating them as adequate and nine responses (28%) rating them as poor. There were a total of eight responses (25%) indicating no opinion concerning the quality of ancillary services.

The composite of all the graduates from the STAA in regard to research question number 12 is shown in Table 18 which provides the reader with the number of responses (N), frequencies (F) and percentages (%). The variables are the same as for the bachelor responses (Table 15).

Fifty-nine STAA graduates responded to each row variable for research question number 12.

Twenty-four graduates (41%) felt that job placement was good while six graduates (10%) felt it was poor. Seventeen graduates (29%) had no opinion concerning this service.

Twenty-four graduates (41%) felt that counseling with personal problems was adequate while three graduates (5%) felt it was good. Twenty-five graduates (42%) had no opinion concerning this service.

Twenty graduates (34%) felt that help in making career decisions was adequate while seven graduates (12%) felt it was good. Seventeen graduates (29%) had no opinion concerning this service.

Table 17

Certificate Degree Graduates' Ratings of the Quality of Ancillary Services Offered by Ferris State College

Ancillary Service	Good		Adequate		Poor		No Opinion		
	F	%	F	%	F	%	F	%	N
1) Job placement	2	50	0	0	1	25	1	25	4
2) Counseling with personal problems	0	0	2	50	1	25	1	25	4
3) Help in making career decisions	1	25	0	0	3	75	0	0	4
4) Help in securing part time employment	1	25	0	0	2	50	1	25	4
5) Help in obtaining financial assistance	1	25	0	0	2	50	1	25	4
6) Professional organizations	1	25	1	25	0	0	2	50	4
7) Study, library and other learning resource facilities	2	50	1	25	0	0	1	25	4
8) Student developmental services	1	25	2	50	0	0	1	25	4
Total Rating of Ancillary Services =	9	28	6	19	9	28	8	25	

Sixteen graduates (27%) felt that help in securing part time employment was good while thirteen graduates (22%) each felt that it was adequate or poor. Seventeen graduates (29%) had no opinion concerning this service.

Thirteen graduates (22%) each felt that help in obtaining financial assistance was either good or poor while ten graduates (17%) felt it was adequate. Twenty-three graduates (39%) had no opinion concerning this service.

Seventeen graduates (29%) felt that professional organizations were adequate while five graduates (8%) felt it was poor. Twenty-three graduates (39%) had no opinion concerning this service.

Thirty-six graduates (61%) felt that study, library and other learning resource facilities were good while one graduate (2%) felt they were poor. Five graduates (8%) had no opinion concerning this service.

Twenty-two graduates (37%) felt that student developmental services were good while one graduate (2%) felt they were poor. Twenty graduates (34%) had no opinion concerning this service.

There were a total of 135 responses from all STAA graduates (29%) rating ancillary services as good, 129 responses (27%) rating them as adequate, and 61 responses (13%) rating them as poor. There were a total of 147 responses (31%) indicating no opinion concerning the quality of ancillary services.

Table 18

All STAA Graduates' Ratings of the Quality of Ancillary Services
Offered by Ferris State College

Ancillary Service	Good		Adequate		Poor		No Opinion		
	F	%	F	%	F	%	F	%	N
1) Job placement	24	41	12	20	6	10	17	29	59
2) Counseling with personal problems	3	5	24	41	7	12	25	42	59
3) Help in making career decisions	7	12	20	34	15	25	17	29	59
4) Help in securing part time employment	16	27	13	22	13	22	17	29	59
5) Help in obtaining financial assistance	13	22	10	17	13	22	23	39	59
6) Professional organizations	14	24	17	29	5	8	23	39	59
7) Study, library and other learning resource facilities	36	61	17	29	1	2	5	8	59
8) Student developmental services	22	37	16	27	1	2	20	34	59
Total Rating of Ancillary Services =	135	29	129	27	61	13	147	31	

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

The School of Technical and Applied Arts at Ferris State College offered thirty-one different vocational-technical programs. The diversity and complexity of each of these programs required a management plan to insure maximum benefit to the students who enroll in the various curricula. Before it was possible for the School to begin updating and changing curriculas, it was necessary to determine how well the present programs were meeting the goal of preparing graduates for employment. Therefore, one step in this management information system was to conduct a follow-up study of the STAA graduates.

This study involves a follow-up survey of a selected group of graduates from the STAA. The researcher conducted the survey of fall quarter, 1977 graduates during January and February of 1979.

The Problem

The STAA was concerned about the relevancy of the educational programs they were offering. What were the students doing after graduating? What were the graduates' perceptions of their programs, instructors, ancillary services and basic educational skills? What was the graduates' success rate in securing employment in their profession? These are some of the questions to which the STAA was seeking answers.

This study implemented the follow-up system developed at Ferris State College for the purpose of answering selected questions and making

recommendations on possible improvements in the existing system.

Research Procedures

The survey instrument and all correspondence material were developed by the researcher in the capacity of Program Director, STAA, Ferris State College. These items were developed to meet the needs of the school, and as such, their design was not part of this study.

The study was conducted using the entire 1977 fall quarter graduating class of the STAA. The mailing sequence consisted of five separate operations: 1) alert notice, 2) questionnaire with cover letter, 3) thank-you/reminder, 4) new questionnaire and cover letter to nonrespondents, and 5) final reminder to nonrespondents. A "bulldog" lapel pin was enclosed with the initial questionnaire as an incentive and gift of appreciation for graduates to complete and return the instrument.

The STAA follow-up survey was designed to be implemented one year after the student's graduation. The one year elapsed time would allow graduates time to secure employment and try out their newly learned skills but hopefully they would still remember enough about their Ferris program to provide information useful to the School's planning needs. The initial survey was mailed in January rather than exactly one year after graduation which would have placed the questionnaire in the mail during the Christmas Season.

The 93 graduates which composed the fall 1977 class had ten Bachelor degree holders, seventy-eight Associate degree holders and five Certificate holders.

Profile Of Respondents

The responses came from the following degree groups: six bachelors - 60% of the total bachelor group, forty-nine associates - 63% of the total associate group and four certificates - 80% of the certificate group. There were a total of 59 returned questionnaires from the 93 graduates for a total response rate of 63.4 percent. The 59 returns came from the following mailings:

First mailing - 33 returns - 33%

Second mailing - 26 returns - 28%

The returns were composed of 53 males, 5 females and 1 person giving no indication of sex. The average age of respondents at the time of graduation was bachelors - 21.7, associates - 21.4 and certificates - 22 years.

Findings

RESEARCH QUESTION #1: What is the current employment status of graduates?

One hundred percent of the bachelor graduates, seventy percent of the associate graduates, and twenty-five percent of the certificate graduates were employed full time. Ninety-seven percent of all TAA graduates were either employed full time or are full time students.

RESEARCH QUESTION #2: Do graduates continue their formal education?

Thirty-three percent of the bachelor graduates, forty-nine percent of the associate graduates and one hundred percent of the certificate graduates had continued or were continuing their formal education. Fifty-one percent of the total group were in these categories.

RESEARCH QUESTION #3: What type of school or program do graduates select for further education?

Of those graduates who continued their education, fifty-seven percent continued at Ferris. Twenty percent received some type of on-the-job training.

RESEARCH QUESTION #4: How satisfied are graduates with their present employment?

Eighty-four percent of the bachelor graduates and sixty-five percent of the associate graduates were either very satisfied or satisfied with their present employment. Sixty-six percent of the total group were in these categories.

RESEARCH QUESTION #5: Do graduates feel that their education was relevant to their current position?

One hundred percent of the bachelor and certificate graduates, and ninety-one percent of the associate graduates felt their employment was in or related to their major area of training received at Ferris. Ninety-three percent of the total group were in these categories.

RESEARCH QUESTION #6: Who was the greatest help to the graduates in securing their present employment?

Twenty-nine percent of the bachelor graduates, forty-seven percent of the associate graduates and one hundred percent of the certificate graduates found their present employment by themselves. Forty-five percent of the total group was in this category.

RESEARCH QUESTION #7: What is the approximate salary of graduates?

The low cell frequency makes any type of evaluation difficult for this question. As a generality, there were a slightly higher percentage of graduates in the lower third of the salary range (under $4.00-5.50)

than in the other groups. Seventeen percent of all graduates were earning somewhere between $5.01-5.50 per hour.

RESEARCH QUESTION #8: What is the relationship between the graduates' current salaries and method used to find present employment?

The low cell frequency for this question makes interpretation of the data extremely questionable.

RESEARCH QUESTION #9: How do graduates rate the equipment and facilities at Ferris as compared to the equipment and facilities found in their places of employment?

One hundred percent of the bachelor group and eighty-six percent of the associate group felt that the facilities and equipment at Ferris were similar to or superior to that which they used on the job. Eighty-six percent of the total group were in this category. Of those who felt the facilities and equipment were inferior, fifty percent selected reasons other than those found on the questionnaire. (See Appendix C)

RESEARCH QUESTION #10: How do graduates rate the teaching quality of the instructors they had in their major labs or shops?

One hundred percent of the bachelor and certificate graduates and ninety-eight percent of the associate graduates felt that most of their major lab/shop instructors taught well or the same number taught well as did not. Ninety-eight percent of the total group were in these categories.

RESEARCH QUESTION #11: How do graduates rate the extent to which their major lab/shop instructors were up-to-date in their areas of expertise?

One hundred percent of the bachelor and certificate graduates and

ninety-eight percent of the associate graduates felt that most of their major lab/shop instructors were up-to-date as were not. Ninety-eight percent of the total group were in these categories.

RESEARCH QUESTION #12: How do graduates rate the quality of ancillary services offered by Ferris State College?

Seventy-three percent of the bachelor graduates, fifty-five percent of the associate graduates and forty-seven percent of the certificate graduates rate the quality of ancillary services as good or adequate. Fifty-six percent of the total group were in these categories.

CONCLUSIONS

Based upon the findings of this study, the researcher formulated the following conclusions about the fall quarter 1977 graduates of the STAA:

1. The response rate of 63.4%, comprised of 60% of the bachelor, 63% of the associate and 80% of the certificate graduates, accurately reflected the feelings and attitudes of the entire population.
2. Graduates were successful at securing employment in their major area or closely related areas.
3. Most graduates were satisfied with their present employment.
4. Graduates continued their education through a variety of sources including many who continued at Ferris State College.
5. Graduates utilized a wide range of sources to find employment but to a large extent found jobs through their own efforts.
6. Facilities and equipment in the STAA were adequate for instructional purposes.

7. STAA instructors were up-to-date in their major areas and were viewed as good teachers.
8. The various ancillary services offered to college students met the needs of STAA graduates.

RECOMMENDATIONS

Based upon the results of this study, the researcher makes the following recommendations:

1. Program evaluation. The STAA should utilize the results of the survey along with data collected from other sources, to begin the process of evaluating their present program offerings. The survey results can also be utilized to substantiate the quality of the existing programs.
2. Continuation of the follow-up process. The follow-up process as established by the STAA should be continued for at least three complete years in order to insure a sufficient data base from which to base decisions, extrapolate trends and make comparisons.
3. Increase response rate. An effort should be made to increase the response rate to as near as practical to 100%. This might be accomplished through an offer to send the graduate a "Bulldog" lapel pin upon swift return of the completed questionnaire.
4. Reliability study. The reliability of data should be determined. This could be established through the implementation of recommendation number 2.
5. Fifth year follow-up. The STAA should develop plans to conduct

a fifth year follow-up study of the same group of students who were surveyed in this study. This could supply information concerning the mobility, promotional rate, rate of salary increases, educational pursuits, and other data about long-term STAA graduates.

6. Program leavers. Follow-up studies of graduates provide one piece of information about the overall STAA programming. To complete the picture, a study should be conducted on those students who do not complete their STAA program. Program leavers can give a unique perspective about a particular curriculum.
7. Employer follow-up. The final follow-up piece can be added through a survey of employers. The researcher recommends that the STAA survey a sample of employers for the group of students who took part in this study. The employer can share valuable information about the graduates' ability to function within their organization.
8. Address correction cards. The address correction cards returned by the graduates should be sent to the Alumni Office for the purpose of updating the alumni mailing list. This would help to insure that the graduate would receive the Alumni Journal.
9. Specific program information. A format should be developed to collect graduates' responses concerning the specific courses that composed their educational program.

REFLECTIONS

The follow-up study of graduates has been implemented by the STAA at Ferris State College and is producing data that will eventually prove useful to the students, faculty and administration. I do not feel that the data collected from this study, one quarter's worth of responses, was sufficient for any type of meaningful curriculum change. It will, however, eventually be utilized, along with the data collected from subsequent surveys and additional sources, for the purposes of curriculum revision, program planning and evaluation.

The study should be continued for at least a three or four year period to allow for the extrapolation of trends. A further recommendation would be to implement a fifth year follow-up of the same group of graduates surveyed in this study. This information would help to determine mobility and promotional patterns of the STAA graduates. Finally, I would recommend that an employer survey and a survey of program leavers be conducted to facilitate the STAA planning efforts.

The instrument could have been developed to seek responses to specific courses within each program. This was not done because of the difficulty of developing a suitable instrument and anticipated problems tabulating the results. This feature might be added in the future if the school feels that the information is worth the effort to secure. I am of the opinion that this data is important and would recommend its inclusion in the study in order to aid in the revision and/or development of programs.

It might be worthwhile to seek funding for the survey from the STAA Alumni Association. Since the information comes from alumni and benefits

the STAA as a whole, it seems only natural that the alumni association be asked to pick up expenses.

I feel that the Bulldog lapel pin could be utilized as an effective tool for increasing the response rate. I would, however, send the pin to the graduate after they have returned the completed instrument.

The findings of the survey only had one item that I found particularly surprising. That was the fact that 45% of the respondents felt that they had found their present employment by themselves while less than 10% had used the Ferris Placement Office. I'm sure that this is one question that will be watched carefully in subsequent surveys.

I believe that the study will have a major impact on the planning and evaluation efforts of the STAA. Preliminary results have already been utilized in presentations to the Board of Control and in the development of a new program within the school.

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APPENDIX A

Identification Number (1-9)

FERRIS STATE COLLEGE
SCHOOL OF TECHNICAL AND APPLIED ARTS

STUDENT FOLLOW-UP QUESTIONNAIRE
ALL RESPONSES WILL BE KEPT STRICTLY CONFIDENTIAL

GENERAL DIRECTIONS: **Please complete ALL sections that apply by filling in the blank or placing an "X" in the appropriate box. Your frank response is very important in order that the School of Technical and Applied Arts may continue to improve its programs.**

SECTION 1 - PERSONAL INFORMATION

EVERYONE SHOULD COMPLETE THIS SECTION

1. When did you graduate? (10) [1] Fall [2] Winter [3] Spring [4] Summer 19☐☐ (11-12)

2. Age? (13-14) ☐☐ 3. Zip Code? (15-19) ☐☐☐☐☐

4. Sex? (20) [1] M [2] F 5. Degree Received? (21) [1] Certificate [2] AAS [3] BS

6. Program Completed? _____ ☐☐☐☐ office use only (22-25)

7. Which statement best describes your present status? (26)
   - [1] Employed full time (35 hours or more per week)
   - [2] Employed part time (less than 35 hours per week)
   - [3] Employed part time plus part time student
   - [4] Unemployed - looking for a job
   - [5] Unemployed - not looking for a job
   - [6] Full time student
   - [7] Part time student
   - [8] In, or soon to be in, the military
   - [9] Homemaker

SECTION 2 - FURTHER EDUCATION

IF YOU ARE ENROLLED OR HAVE BEEN ENROLLED IN SOME TYPE OF FURTHER EDUCATION PROGRAM SINCE GRADUATING FROM YOUR TECHNICAL AND APPLIED ARTS PROGRAM, PLEASE COMPLETE THIS SECTION OF THE QUESTIONNAIRE, OTHERWISE GO DIRECTLY TO SECTION 3 - EMPLOYED.

1. What type of school or program are you/were you attending? (27)
   - [1] Continued at Ferris in _____ program
   - [2] Community or junior college
   - [3] Four year college or university
   - [4] Private school
   - [5] Apprenticeship
   - [6] On-the-job training
   - [7] Specialized occupational military training
   - [8] Other _____ (please specify)

SECTION 3 - EMPLOYED

IF YOU ARE EMPLOYED FULL OR PART TIME PLEASE COMPLETE THIS SECTION OF THE QUESTIONNAIRE, OTHERWISE GO DIRECTLY TO SECTION 4 - INSTRUCTION.

1. How satisfied are you with your present job?
(28)
- [1] Very satisfied
- [2] Satisfied
- [3] Neither satisfied nor dissatisfied
- [4] Dissatisfied
- [5] Very dissatisfied

2. Would you say that your present employment is:
(29)
- [1] What you were trained to do at Ferris State College
- [2] Related to your training at Ferris State College
- [3] Not related to your training at Ferris State College

3. Who was the greatest help to you in securing employment?

A. First employment after graduation (30)	B. Present employment if different than A (31)
[1] Friend or relative	[1] Friend or relative
[2] I found it myself	[2] I found it myself
[3] Ferris instructor	[3] Ferris instructor
[4] Ferris placement office	[4] Ferris placement office
[5] Private employment office	[5] Private employment office
[6] State employment office	[6] State employment office
[7] Other _____ (please specify)	[7] Other _____ (please specify)

4. How many jobs have you held since graduation from Ferris State College?
(32) [1] One [2] Two [3] Three [4] Four [5] Over Four

5. Have you had a formal advancement in job classification (other than salary increase) since starting your present job?
(33)
[1] No [2] Yes After _____ months of being employed (34-35)

6. What is your current approximate salary?
(36-37)

Hourly	UNDER 4.00	$4.01 4.50	$4.51 5.00	$5.01 5.50	$5.51 6.00	$6.01 6.50	$6.51 7.00	$7.01 7.50	$7.51 8.00	$8.01 8.50	$8.51 9.00	OVER 9.00
Monthly	UNDER $688	$689 774	$775 860	$861 946	$ 947 1032	$1033 1118	$1119 1204	$1205 1290	$1291 1376	$1377 1462	$1463 1548	OVER 1548
Check One	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]

QUESTIONS 7 - 9 REFER TO MAJOR LABS ONLY

7. The equipment at Ferris was such that:
(38)
- [1] I found it very easy to adapt to the equipment on the job
- [2] I had some problems adapting to the equipment on the job
- [3] I found it very difficult to adapt to the equipment on the job

8. In comparison to the facilities and equipment used on your present job, how would you rate the facil-
(39) ities and equipment at Ferris?
- [1] Facilities and equipment at Ferris were superior to those on the job
- [2] Facilities and equipment at Ferris were similar to those on the job
- [3] Facilities and equipment at Ferris were inferior to those on the job

9. If you answered response "3" (inferior) in questions number 8, was your response due to:
(40)
- [1] Facilities and equipment at Ferris were obsolete
- [2] Facilities and equipment at Ferris were in need of repair
- [3] Facilities and equipment at Ferris were not of the quality that you use on the job
- [4] Facilities and equipment at Ferris were not available in sufficient quantities to allow adequate availability to students
- [5] Other _____
(please specify)

SECTION 4 - INSTRUCTION

EVERYONE SHOULD COMPLETE THIS SECTION

QUESTIONS 1 - 4 REFER TO MAJOR LABS ONLY

1. How would you rate the teaching quality of the instructors you had at Ferris? (major labs only)
(41)
- [1] Most of the instructors taught very well
- [2] About the same number taught well as did not
- [3] Most of the instructors did not teach well

2. How would you rate the knowledge of the instructors you had at Ferris? (major labs only)
(42)
- [1] Most were very knowledgeable
- [2] About the same number were knowledgeable as were not
- [3] Most were not knowledgeable

3. How would you rate the interest shown by your instructors in your work progress? (major labs only)
(43)
- [1] Most instructors were very interested in my progress
- [2] About the same number were interested as not interested in my progress
- [3] Most instructors did not seem interested in my progress

4. How would you rate the extent to which your instructors at Ferris were up-to-date in their field?
(44) (major labs only)
- [1] Most instructors were up-to-date
- [2] About the same number were up-to-date as were not
- [3] Most instructors were not up-to-date

5. How would you rate the extent to which your program at Ferris State College prepared you for employ-
(45) ment?
- [1] Very Good
- [2] Good
- [3] Adequate
- [4] Poor
- [5] Very Poor

6. If you had it to do all over again, would you still choose to attend Ferris State College?
(46) [1] Yes [2] No

7. If you answered "yes" to the question above (number 6), would you choose the same program in which
(47) you received your degree or certificate?
[1] Yes [2] No

SECTION 5 - ANCILLARY SERVICES

EVERYONE SHOULD COMPLETE THIS SECTION

1. How would you rate the quality of the following services as provided at Ferris State College?

		Good	Adequate	Poor	No Opinion
(48) a.	Job placement	1	2	3	4
(49) b.	Counseling with personal problems	1	2	3	4
(50) c.	Help in making career decisions	1	2	3	4
(51) d.	Help in securing part time employment	1	2	3	4
(52) e.	Help in obtaining financial assistance	1	2	3	4
(53) f.	Professional organizations?	1	2	3	4
(54) g.	Study, library and other learning resource facilities	1	2	3	4
(55) h.	Student developmental services	1	2	3	4

2. How helpful was your faculty advisor in assisting you to plan your program?

(56)
- 1 Very helpful
- 2 Somewhat helpful
- 3 Not very helpful

3. How would you rate your improvement of basic educational skills as a result of courses taken at Ferris State College?

		Very Good	Good	Adequate	Poor	Very Poor
(57)	Math skills	1	2	3	4	5
(58)	Reading skills	1	2	3	4	5
(59)	Writing skills	1	2	3	4	5
(60)	Verbal communication skills	1	2	3	4	5

4. How would you rate the emphasis placed upon basic educational skills in your program at Ferris State College?

		Very High	High	Adequate	Low	Very Low
(61)	Math skills	1	2	3	4	5
(62)	Reading skills	1	2	3	4	5
(63)	Writing skills	1	2	3	4	5
(64)	Verbal communication skills	1	2	3	4	5

Comments and/or Suggestions: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

THANK YOU FOR YOUR COOPERATION

APPENDIX B

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-9971

SCHOOL OF TECHNICAL AND APPLIED ARTS

November 30, 1978

Dear Graduate,

The Fall Quarter 1977-78 graduates from the School of Technical and Applied Arts at Ferris State College have been selected as the first group to receive the School's new continuous student follow-up questionnaire. As a graduate from that quarter, you will receive a survey form shortly after the beginning of the new year. I am asking you to cooperate in this project by completing and returning the survey instrument as soon as possible.

The new follow-up system will survey each student from the School of Technical and Applied Arts one full year after their graduation. The data collected will be utilized by the School to improve the curriculum. Our goal is to develop the best possible vocational-technical education programs available anywhere.

Your name will not be used in any way and your responses will only be utilized in descriptive tables. We will keep individual responses strictly confidential.

The enclosed prepaid postcard should be returned with your new address if different from the one shown on the front of this envelope.

Please have a safe and happy Christmas Holiday Season. Thank you for your help and cooperation.

Sincerely,

David L. Csokasy
Program Director

DLC/dm

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-9971

SCHOOL OF TECHNICAL AND APPLIED ARTS

January 5, 1979

Dear Graduate,

You will carry memories of your experiences here at Ferris State College with you for the rest of your life. Likewise, we will remember you and all those who attended with you. This magical relationship can continue to grow and develop as you progress in life.

In addition to memories, you also have valuable information that can help us to further refine and improve the program offerings within the School of Technical and Applied Arts. Please share your ideas and progress since graduation with us by filling out the enclosed Student Follow-Up Questionnaire. In just a few minutes you will have provided information that can be gained from NO ONE ELSE BUT YOU. Please do it right now and return in the enclosed stamped envelope by January 12, 1979.

We have enclosed a Bulldog lapel pin as a token of our thanks for your prompt attention in returning the survey instrument.

The identification number is for statistical purposes only; your responses will be kept strictly confidential.

Thank you for helping us build better programs.

J. C. Vander Molen
Acting Dean
School of Technical
and Applied Arts

D. L. Csokasy
Program Director
School of Technical
and Applied Arts

/dm

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-9971

SCHOOL OF TECHNICAL AND APPLIED ARTS

January 15, 1979

Dear Graduate,

I want to thank you for promptly completing and returning the School of Technical and Applied Arts Student Follow-Up Questionnaire. The responses you gave are already being tabulated and along with those of other Fall 1977 graduates will provide valuable information for curriculum improvement.

Results from the student follow-up survey will begin to appear in the School's Alumni Journal as soon as sufficient relevant data is available.

Again, thank you for your continued interest in Ferris State College.

Sincerely,

J. C. Vander Molen
Acting Dean
School of Technical
and Applied Arts

JCVM/dm

P. S. Perhaps your questionnaire is one of the few still not received. As you can imagine, a high response rate is essential to our efforts. We hope that you will complete and return the questionnaire to us as quickly as possible.

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-9971

SCHOOL OF TECHNICAL AND APPLIED ARTS

January 24, 1979

Dear Graduate,

The response rate to the School of Technical and Applied Arts student follow-up survey has been most gratifying. The returned questionnaires are being analyzed and will provide faculty and administration with a valuable source of information that can be used to improve the programming offered to future graduates.

It is important that we have as close to a 100% response rate as possible so that the data will reflect the feelings and attitudes of all graduates.

Perhaps the first questionnaire you received has been mislaid, so we have enclosed a new questionnaire and return envelope for your convenience. Please complete the survey instrument and return it to us as quickly as possible. Your responses will be kept strictly confidential and only used in tabulated totals.

Thank you for your help and cooperation.

J. C. Vander Molen
Acting Dean
School of Technical
and Applied Arts

D. L. Csokasy
Program Director
School of Technical
and Applied Arts

/dm

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-9971

SCHOOL OF TECHNICAL AND APPLIED ARTS

January 31, 1979

Dear T&AA Alumnus,

This is your last chance to provide the School of Technical and Applied Arts with information that will be used for the continued improvement of programming. We are nearing our goal of having all selected graduates return the completed Student Follow-Up Questionnaire but still need YOUR help.

DO IT NOW!

Please sit down, dig out the questionnaire from that stack of papers, and complete it right now. This is your last chance; we must receive your survey form no later than February 9, 1979.

Thank you for providing us with information that no one else can.

Sincerely,

J. C. Vander Molen
Acting Dean
School of Technical
and Applied Arts

JCVM/dm

APPENDIX C

The following is a summary of responses of those graduates who felt that the facilities and equipment at Ferris State College were inferior to those on the job and felt that the reason why was something other than that listed on the survey instrument. (Section 3, Question 9, Response 5)

The total responses to the category "other" was Bachelor - 0, Associate - 3, Certificate - 0.

1. "Cascade Systems"
   (Heating, Refrigeration and Air Conditioning graduate)
2. "I don't use them - air box"
   (Automotive Service graduate)
3. "More special tools"
   (Heating, Refrigeration and Air Conditioning graduate)